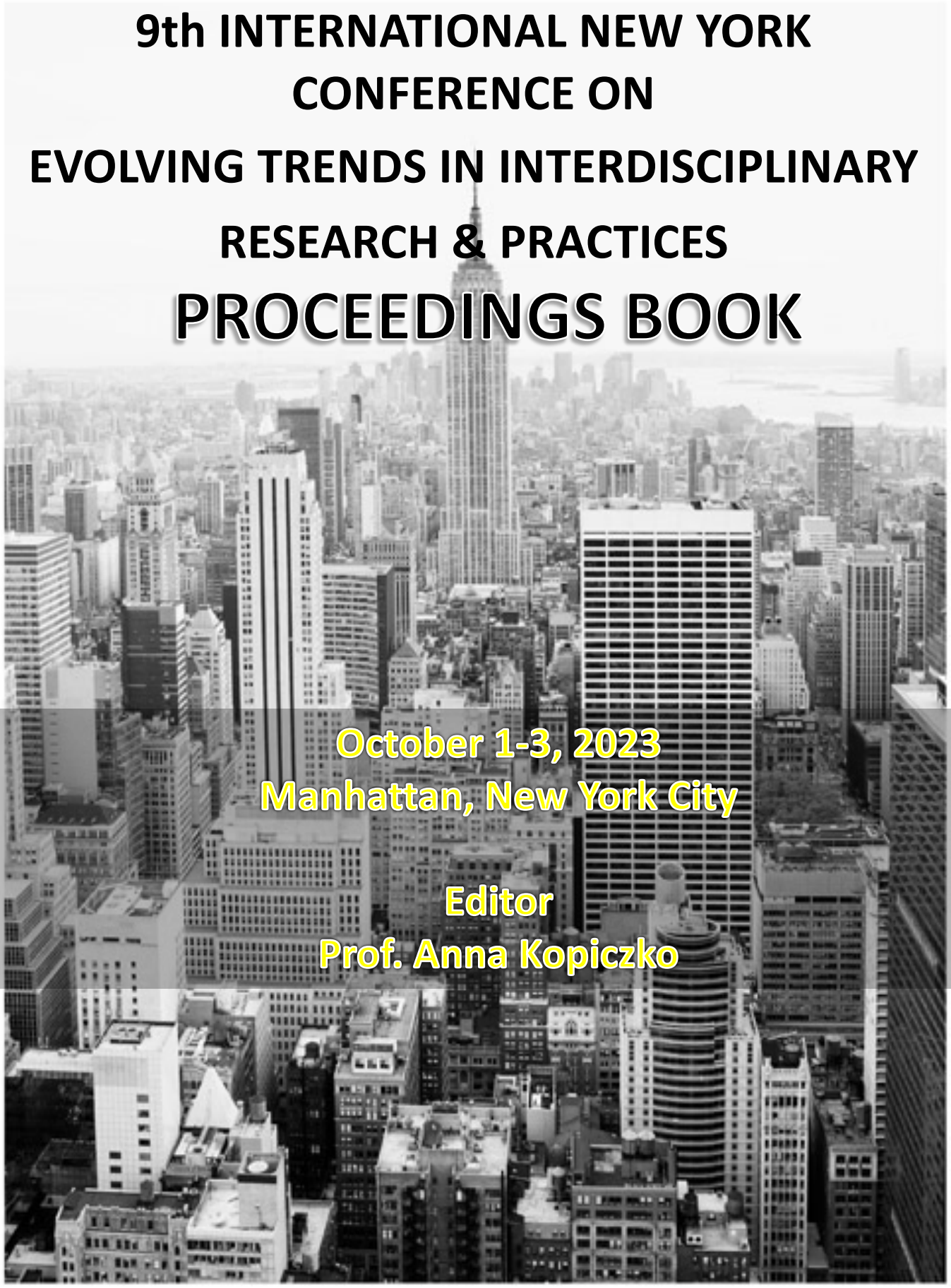
9th INTERNATIONAL NEW YORK CONFERENCE ON EVOLVING TRENDS IN INTERDISCIPLINARY RESEARCH & PRACTICES

PROCEEDINGS BOOK



October 1-3, 2023
Manhattan, New York City

Editor
Prof. Anna Kopiczko

15.10.2023
ISBN: 978-1-955094-52-8

9th INTERNATIONAL NEW YORK CONFERENCE ON EVOLVING TRENDS IN INTERDISCIPLINARY RESEARCH & PRACTICES

October 1-3, 2023

Manhattan, New York City

www.nyconference.org

PROCEEDINGS BOOK

Editor

Prof. Anna Kopiczko

By
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Conference Identification

CONFERENCE NAME

9th INTERNATIONAL NEW YORK CONFERENCE ON EVOLVING TRENDS IN INTERDISCIPLINARY RESEARCH & PRACTICES

DATE AND PLACE

October 1-3, 2023
Manhattan, New York City

ORGANIZATION

IKSAD - Institute of Economic Development and Social Research &
Liberty Publishing House

PARTICIPANT COUNTRIES-26

USA, Türkiye, Nigeria, Algeria, Brazil, Georgia, Italy, Kosovo, Republic of North Macedonia, India, Albania, Poland, Serbia, Azerbaijan, Vietnam, Bosnia and Herzegovina, Kazakhstan, South Africa, Ethiopia, Hungary, Greece, Republic of Croatia, Ukraine, Mongolia, Slovenia, Uzbekistan.

NUMBER OF ACCEPTED PAPERS: 80
NUMBER OF REJECTED PAPERS: 30
TOTAL NUMBER OF PAPERS FROM TURKEY: 29
TOTAL NUMBER OF INTERNATIONAL PARTICIPANTS: 51

EVALUATION PROCESS

All applications have undergone a double-blind peer review process

CONFERENCE LANGUAGES

English, Turkish

PRESENTATION

Oral Presentation/ Face to Face and Virtual

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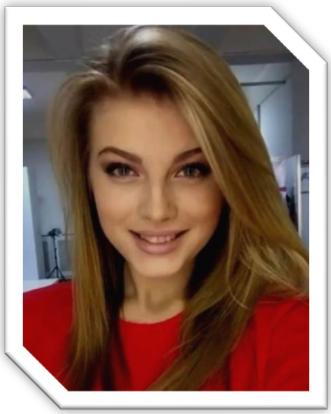

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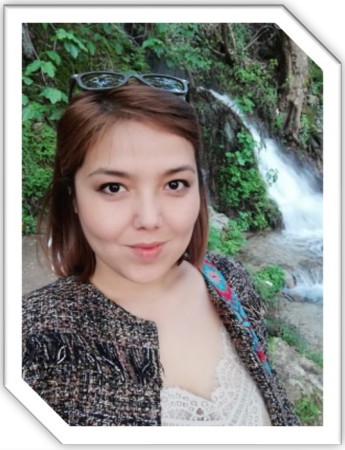
Methodist Hospital



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Burdwan University, India



SEDA YAZGAN HADZIBULIC, PhD
Northeastern Illinois University

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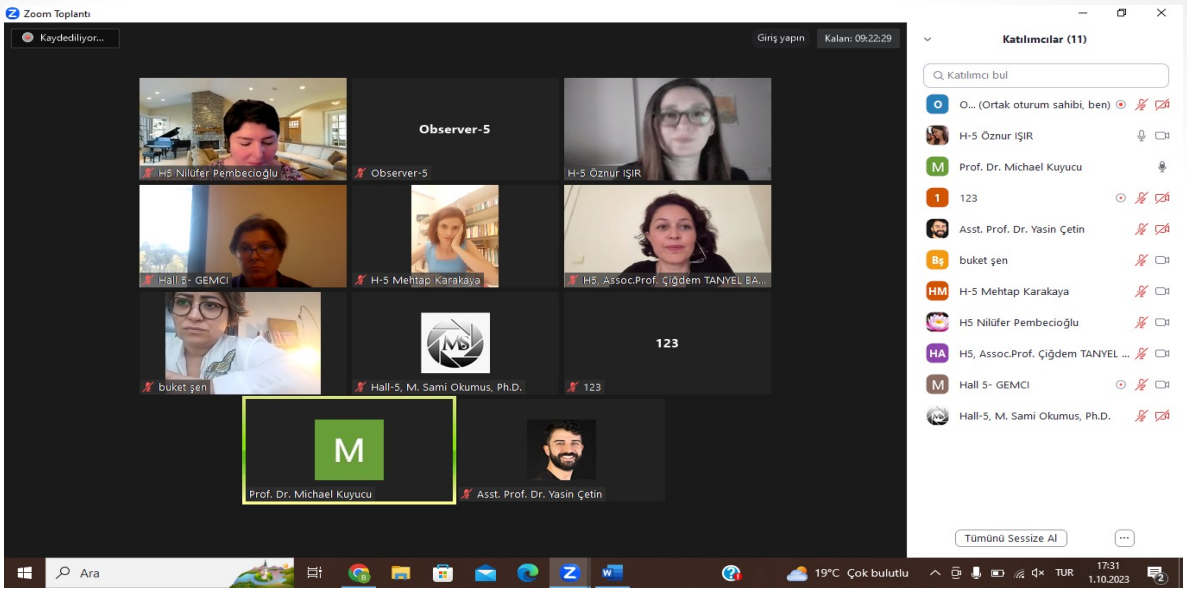



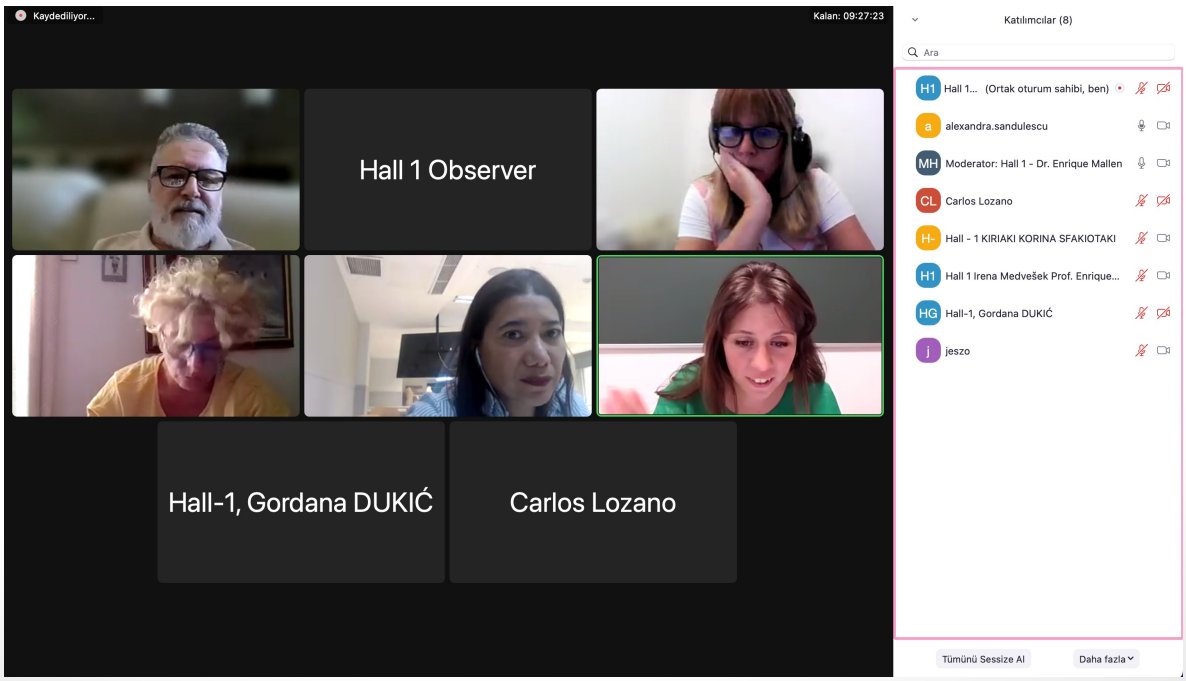

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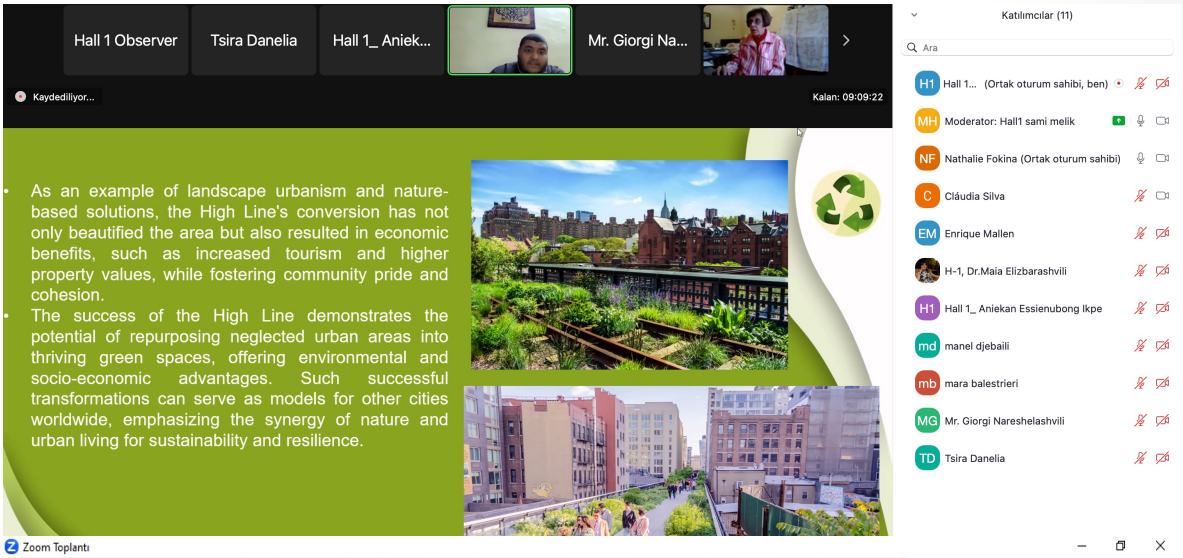

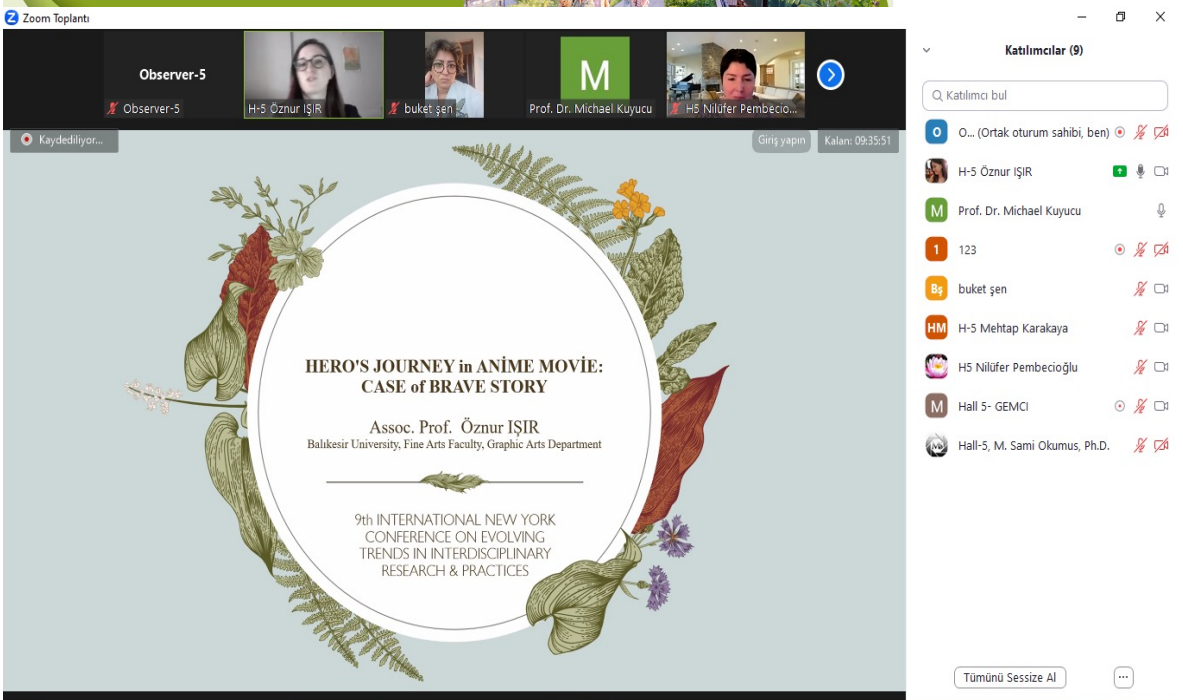

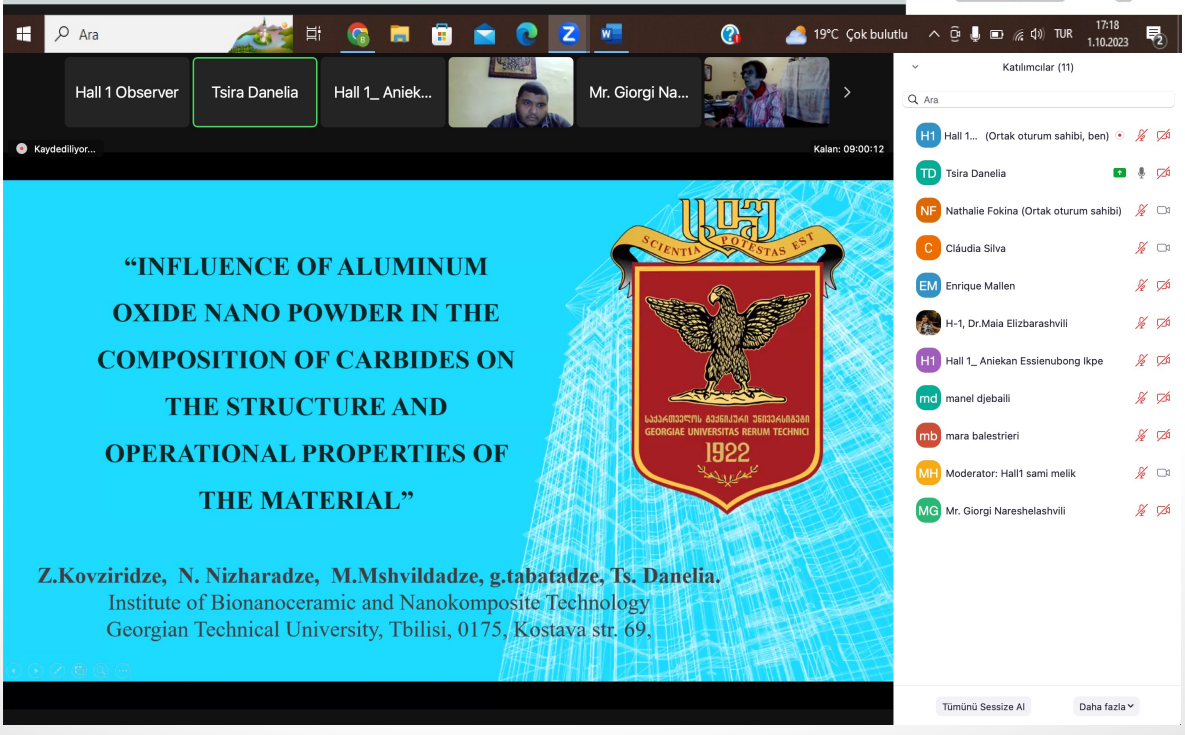

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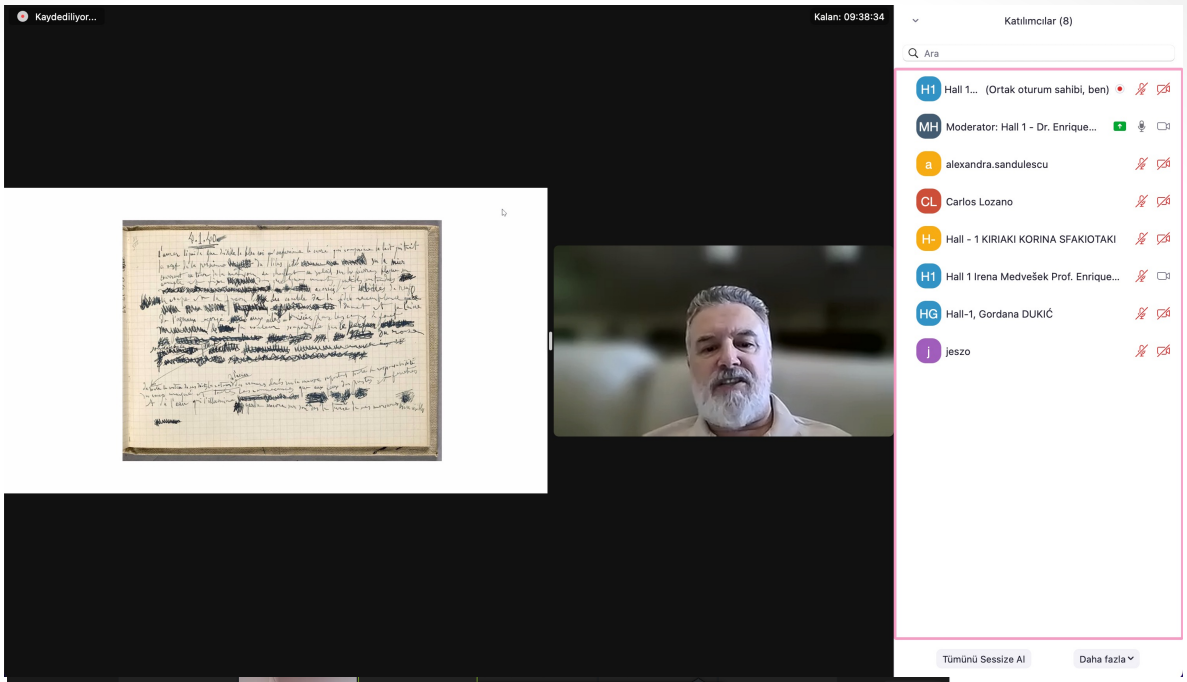

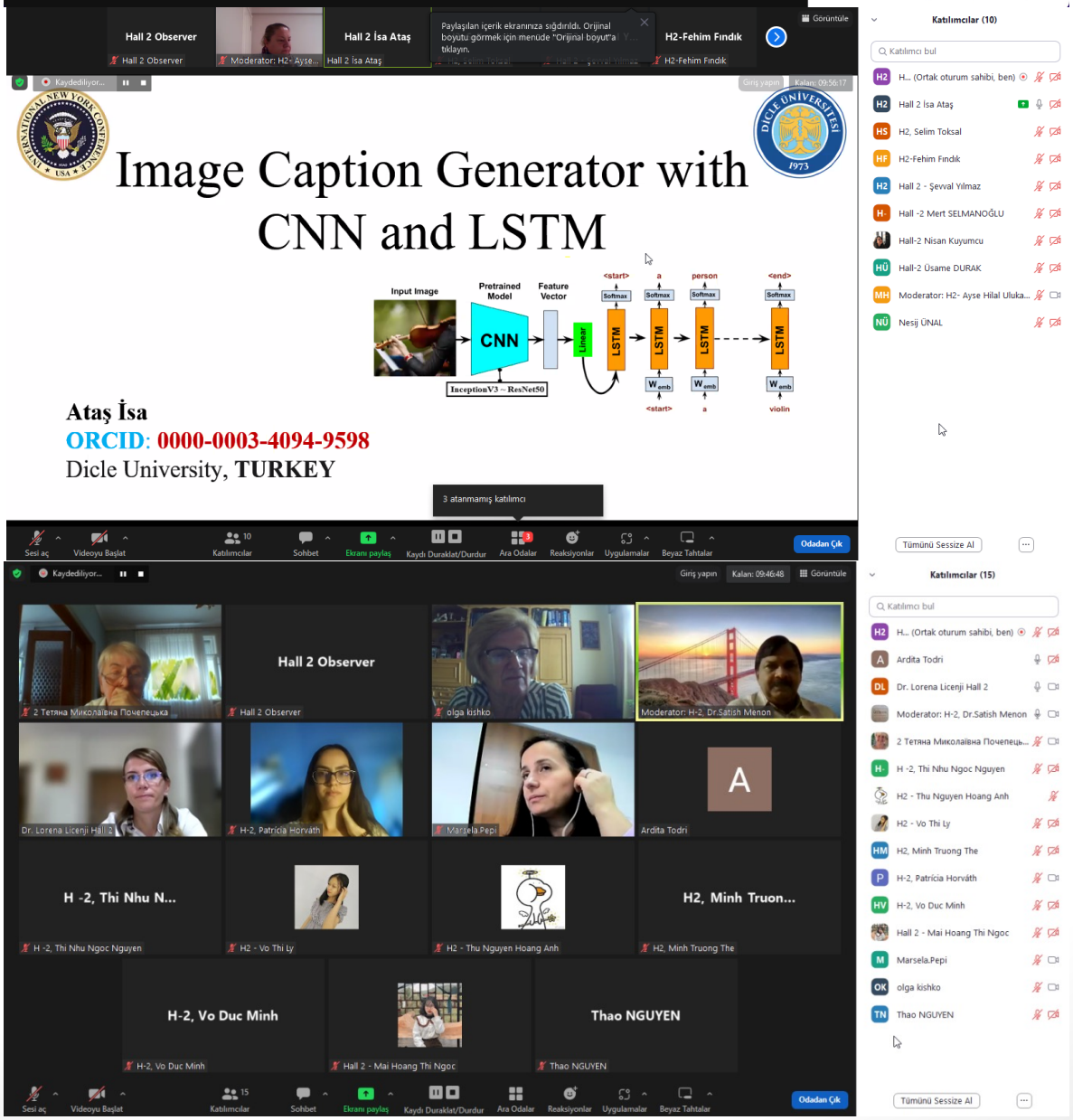

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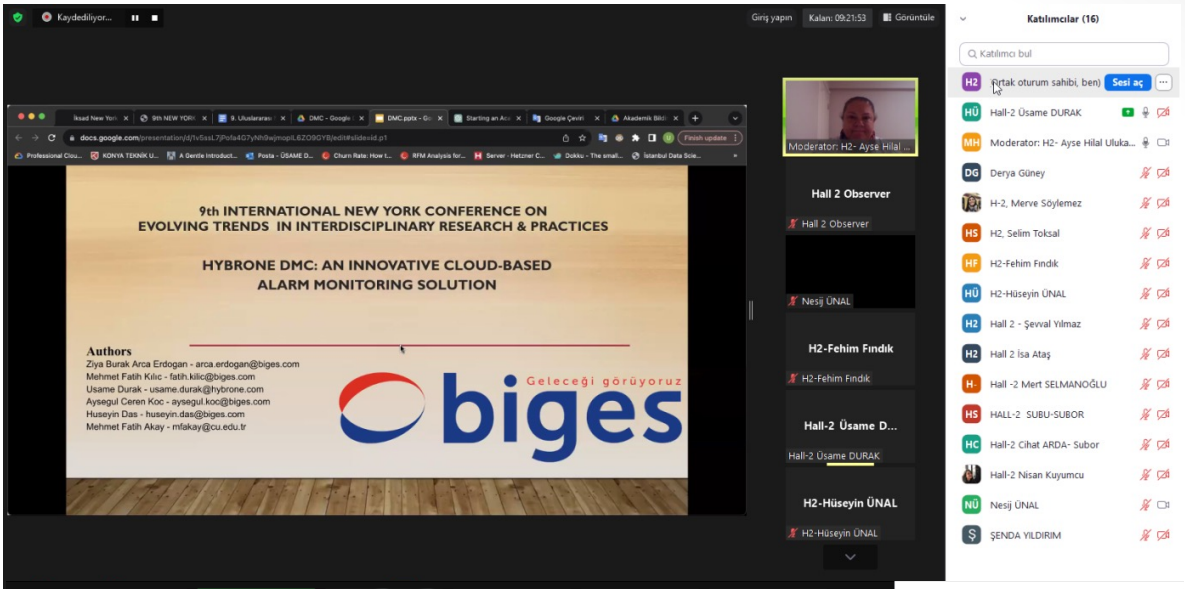

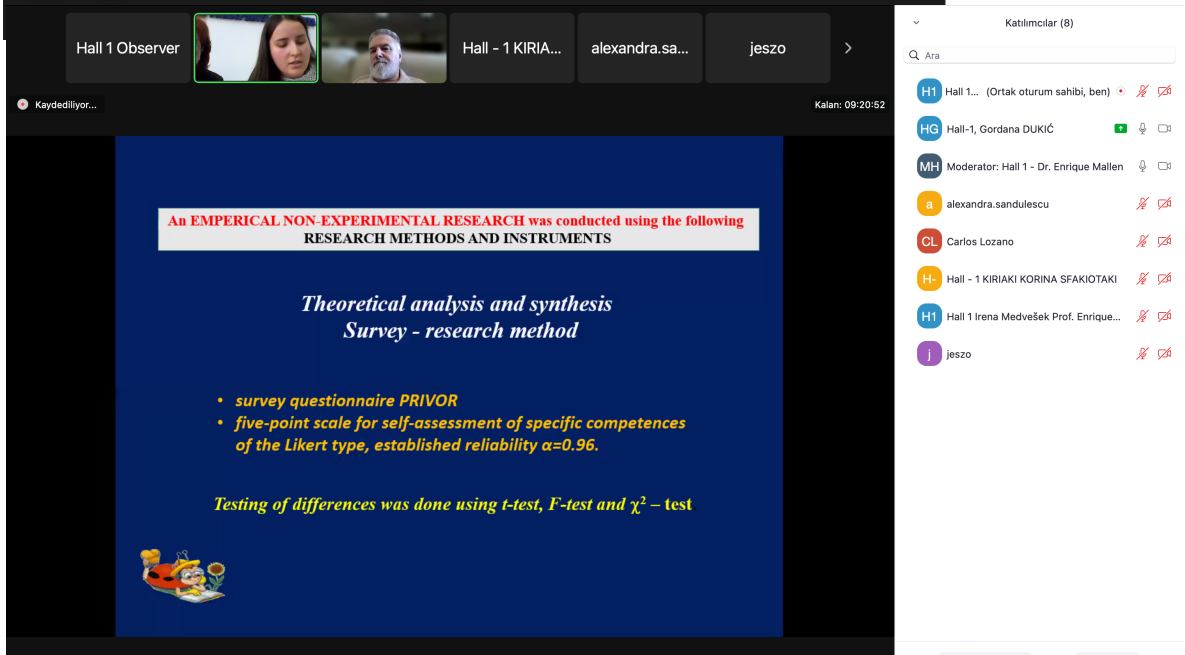



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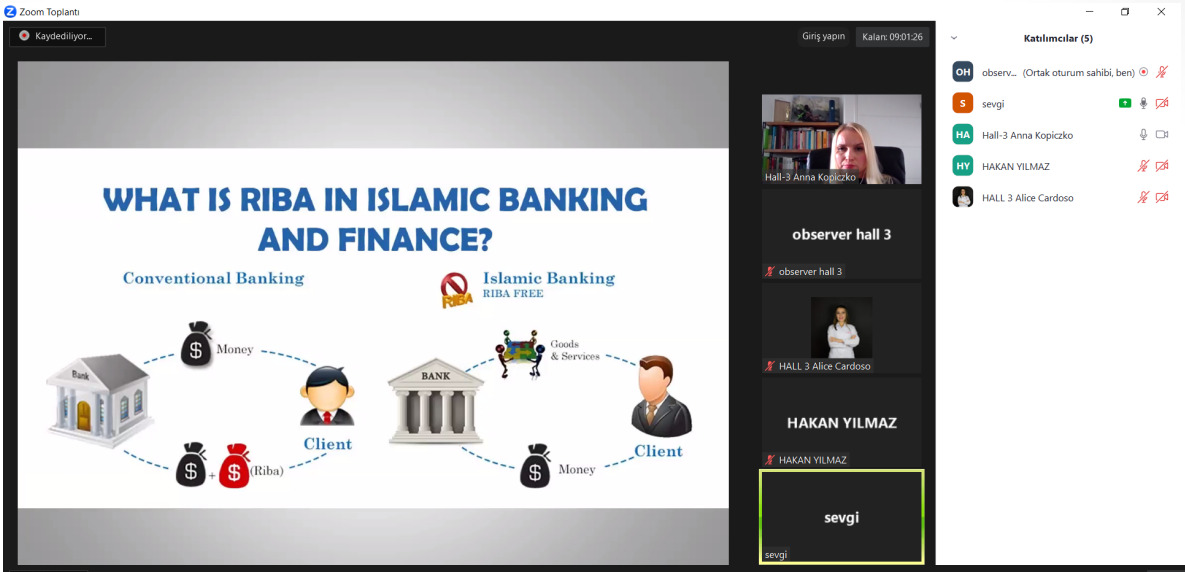

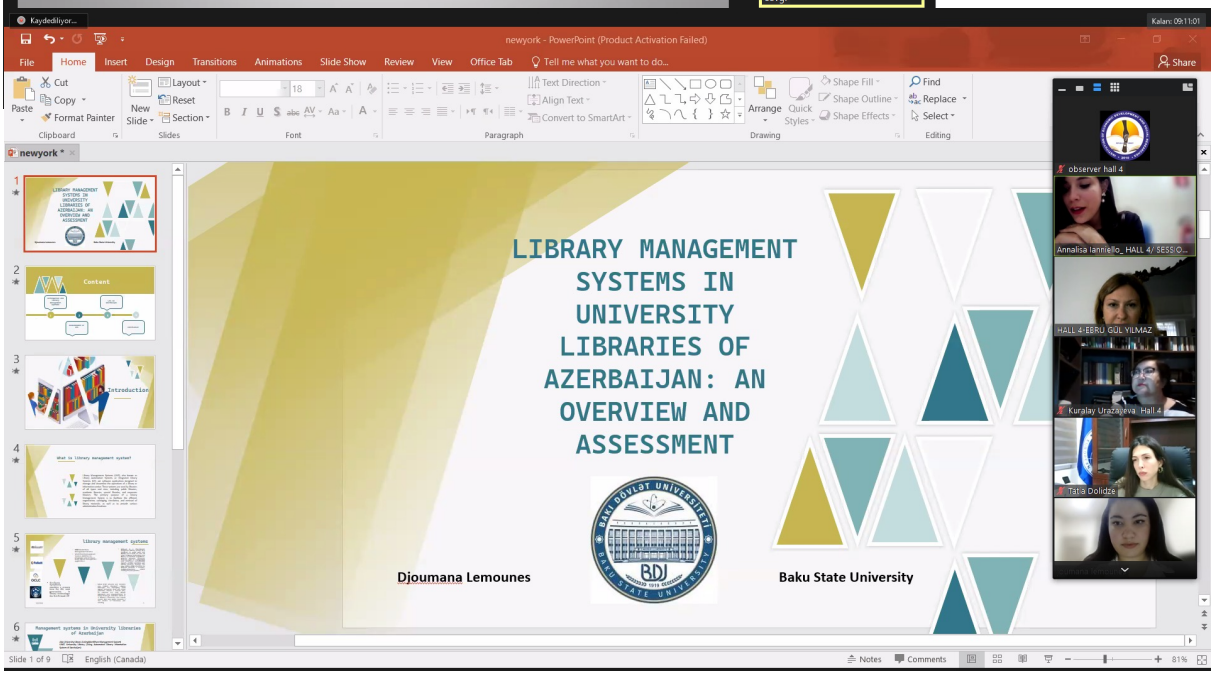

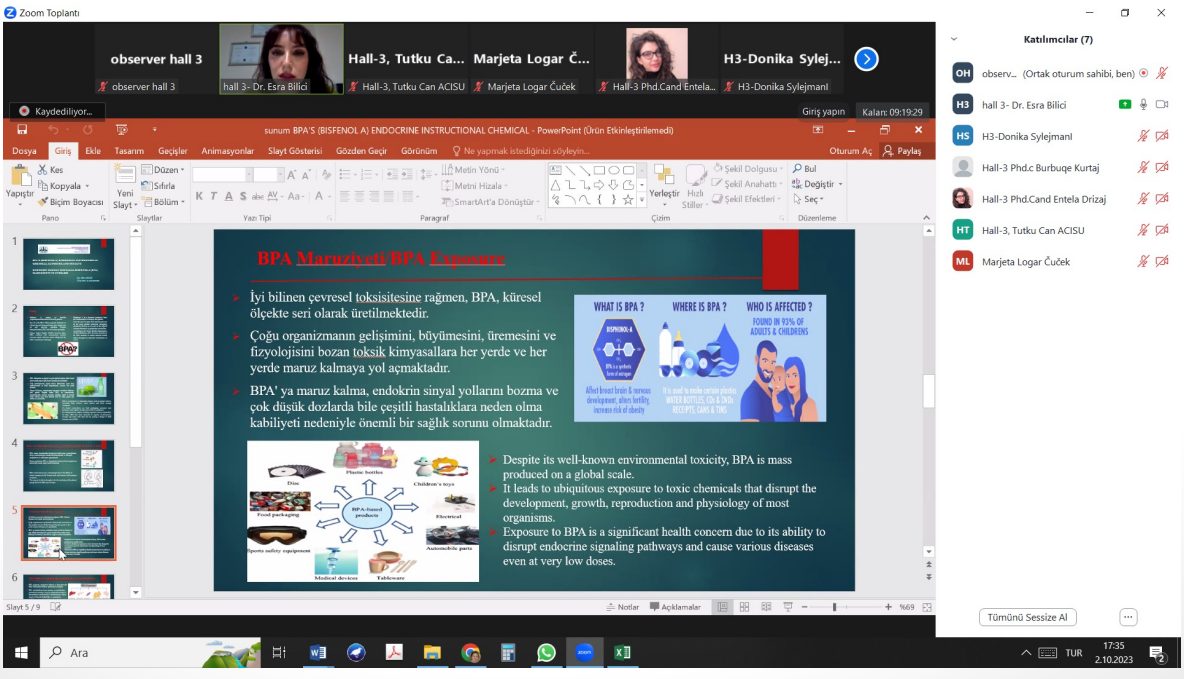

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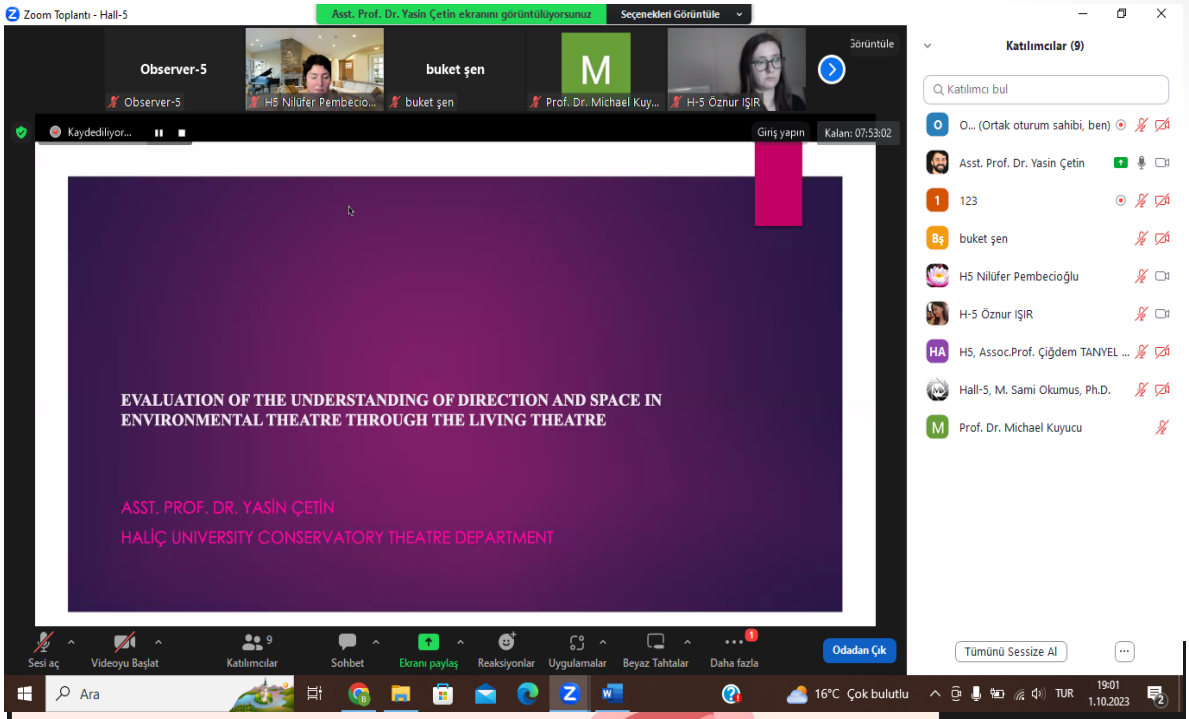

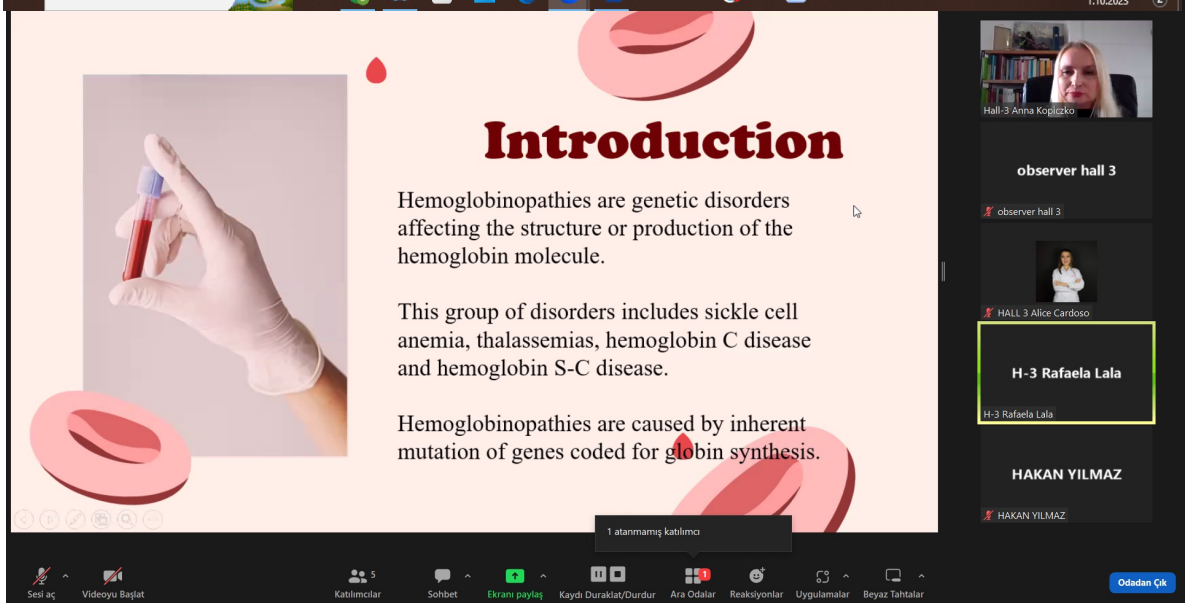

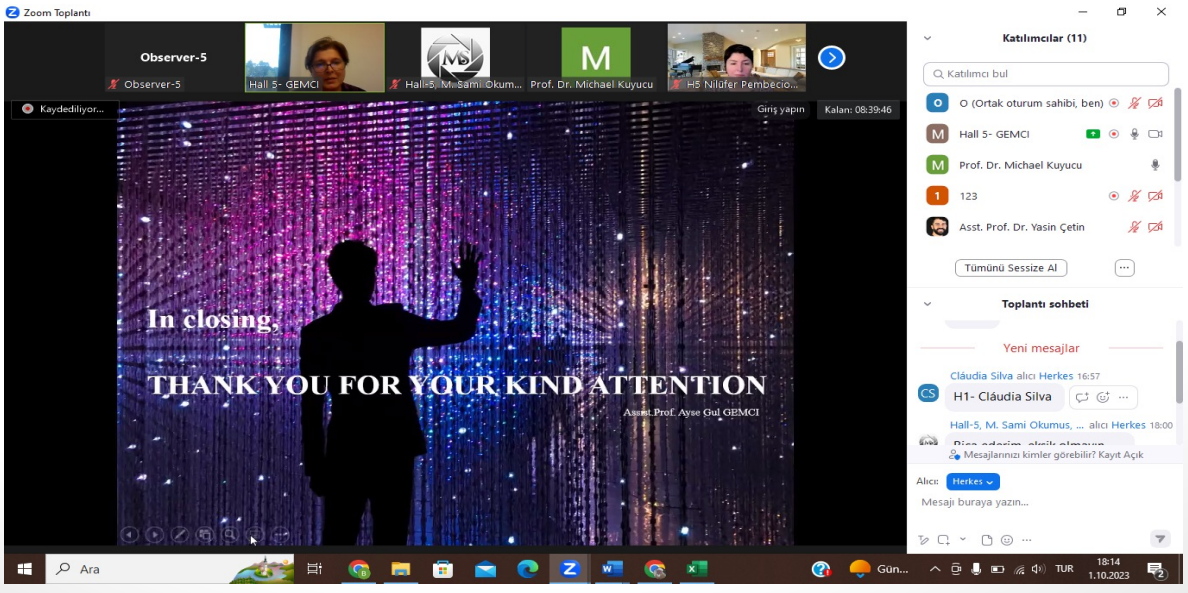

9th INTERNATIONAL NEW YORK CONFERENCE ON EVOLVING TRENDS IN INTERDISCIPLINARY RESEARCH & PRACTICES

CONFERENCE PROGRAM

October 1-3, 2023
Manhattan, New York City

Zoom Meeting ID: 897 0755 8402
Zoom Passcode: 090909

9th INTERNATIONAL NEW YORK CONFERENCE ON EVOLVING TRENDS IN INTERDISCIPLINARY RESEARCH & PRACTICES

***Participant Countries:* (26)**

USA, Türkiye, Nigeria, Algeria, Brazil, Georgia, Italy, Kosovo, Republic of North Macedonia, India, Albania, Poland, Serbia, Azerbaijan, Vietnam, Bosnia and Herzegovina, Kazakhstan, South Africa, Ethiopia, Hungary, Greece, Republic of Croatia, Ukraine, Mongolia, Slovenia, Uzbekistan.

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9th INTERNATIONAL NEW YORK CONFERENCE

NY Lights ART EXHIBITION

October 1-3, 2023
Manhattan, New York City

Online & In Person Exhibition



Zoom Meeting ID: 897 0755 8402
Zoom Passcode: 090909

ART	ARTIST
Dawn Of A New Day *The Mango Peddler*	*KHETWAYO WANDA*
Moments Of My Dear Family	*H. TUBA CIVELEK*
Anatolian Kids	*KEMAL ŞENTÜRK*
Complex Relationships	*AYSEL SEVGI OZTEN*
Confluence Of Gazes: Gender And Sexuality İn Islamic Countries	*JÖRN FRÖHLICH*
Marching – 2 *Marching – 3*	*ÇAĞRI BARIŞ KASAP*
Global Warming	*SEDA SAKIYAN*
Esvet	*ÇINAR DERYA INCESU KARAHAN*
Waves Of Photons *Starry Night*	*VOLGA SEZEN*
Waves / Dalgalar	*NURSEN GEYIK DEĞERLI*
Borscht *Varenyky With Cherries*	*ANTONINA DUBRIVNA*
Tehran Gonbad And Gabbe Structures	*REZA REYHANI KOLAACHAAHI (REYHANIUM)*
Chance To Capture A Special Memory Of An Amazing Wildlife İn A Short Life For 10 Th May 2023	*PIYUSH J. DHOLARIYA*
'27'	*STEFANOS T. SCHULTZ*
Neutrinos	*EL AOUNI ABDELAZIZ*
Rjcreation	*VIKRANTI J. PATEL*
The Shodows Of Darawar Fort	*MEEZAN ALI MIR*
Birth Of Venus	*MIRJANA AMIDŽIĆ*
Calligraphy With Ancient Mosque	*ISRAFIL MAKDASI*
Smile Of A False Life	*ZENI BALLAZHI*
Hüsn-İ Hat Eseri (Yâ Fettâh)	*ARIF ŞAHIN*
Life *Autumn*	*GAMZE ŞENSOY*
Connectednes	*FEYZA NUR DİŞKAYA*
Düşlevi	*TUĞÇE BULUT*
Antakya Seramic Cup	*PINAR CARTIER*
Silver Inlaid Ring	*HASAN ENIS TAMAMOĞLU*
Endless	*KIYMET GÜVEN AK*
Amber-Eyed, Copper Woman *Black Eyelash*	*MEYSE MUMCUOĞLU*
Shınes From Selimiye Mosque *Blendıng The Stone Wıth Love*	*YAŞAR KÜÇÜKARDALI*
Infinite Attempts	*SEMA TAŞTAN*



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01.10.2023 | HALL-1

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Sami Melik

Authors	Affiliation	Presentation title
Imoh Ime Ekanem **Michael Okon Bassey** **Aniekan Essienubong Ikpe**	*Enugu State University of Science and Technology, Nigeria* *Akwa Ibom State Polytechnic, Nigeria*	DESIGN AND PERFORMANCE ANALYSIS OF INTEGRATED KNIFE-EDGED PEELING-TETHERING MACHINE FOR PALM FROND BROOM PRODUCTION
Cláudia, SILVA **Julio, DUARTE** **Ronaldo, GOLDSCHMIDT**	*Engineering Military Institute, Brazil*	A PROPOSAL FOR THE GENERIC ARCHITECTURE OF AN INTELLIGENT TUTORING SYSTEM FOR COMPETENCY-BASED LEARNING
Nathalie Fokina **Maia Elizbarashvili**	*Institute 'Talgha' of Georgian Technical University, Georgia* *Vladimir Chavchanidze Institute of Cybernetics of Georgian Technical University, Georgia*	BROADENING OF MASER EMISSION LINE BY THE LIMITID CYCLE ARISING DUE TO THE STARK DYNAMICAL FREQUENCY SHIFT OF SPIN TRIPLET LEVELS
Zurab Gogilashvili **Nana Rostiashvili**	*Georgian Technical University, Georgia*	WDM - DEVELOPMENT OF WAVE MULTIPLEXING SYSTEMS
Giorgi Nareshelashvili	*San Diego State University, Georgia*	THE IMPORTANCE OF NON-LINEAR STRUCTURAL ANALYSIS IN DESIGN OF COMPLEX STRUCTURES
Sami Melik **Sara Khelil**	*University of Biskra -Mohamed Khider, Algeria*	FROM GREY TO GREEN: TRANSFORMING URBAN INFRASTRUCTURE WITH LANDSCAPE URBANISM AND NATURE- BASED SOLUTIONS
Mara Balestrieri	*University of Sassari, Italy*	RESEARCH ON PLANNING AND ADAPTATION TO CLIMATE CHANGE. ITALIAN LITERATURE REVIEW
Z. Kovziridze **N. Nizharadze** **M. Mshvildadze** **G. Tabatadze** **V. Kinkladze** **Ts. Danelia**	*Georgian Technical University, Georgia*	INFLUENCE OF ALUMINIUM OXIDE NANOPOWDER IN THE COMPOSITION OF CARBIDES ON THE STRUCTURE AND OPERATIONAL PROPERTIES OF THE MATERIAL
Djebaili Manel **Merad Ahcene**	*University Abbes Laghrour, Algeria* *University Larbi Ben M'hidi, Algeria*	THE STUDY OF A SEPARATED BOUNDARY VALUE PROBLEM FOR A FRACTIONAL EQUATION INVOLVING A DERIVATIVE OF LOWER ORDER AT THE SCHAUDER FIXED POINT

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01.10.2023 | HALL-2

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Dr. Ayşe Hilal Ulukardeşler

Authors	Affiliation	Presentation title
Dr. İsa Ataş	*Dicle University, Türkiye*	IMAGE CAPTION GENERATOR WITH CNN AND LSTM
Nesij ÜNAL **Tuğrul OKTAY**	*Turkish Aerospace Industries. Inc., Türkiye* *Erciyes University, Türkiye*	AN EXPERIMENTAL STUDY ABOUT DBD PLASMA ACTUATOR BASED FLOW CONTROL AROUND A NACA0015 AIRFOIL AND TiO_2 BASED FLOW VISULATIONS
Ziya Burak Arca Erdogan **Mehmet Fatih Kılıç** **Usame Durak** **Aysegul Ceren Koç** **Huseyin Das** **Mehmet Fatih AKAY**	*Biges Guvenli Hayat Teknolojileri, Türkiye* *Çukurova University, Türkiye*	HYBRONE DMC: AN INNOVATIVE CLOUD-BASED ALARM MONITORING SOLUTION
Selim Toksal **İbrahim Süren** **Ceren Ulus** **Z. Sude Sarı** **M. Fatih Akay**	*Trendyol, Türkiye* *Çukurova University, Türkiye*	DEVELOPMENT OF MANAGEMENT SYSTEM FOR ANALYTICS DATA IN ANDROID APPLICATIONS
Ayşe Hilal Ulukardeşler	*Bursa Uludag University, Türkiye*	THE IMPORTANCE OF RENEWABLE ENERGY IN CLIMATE CHANGE
Prof. Dr. Hüseyin Ünal **Mechanical Engineer Cihat Arda** **Prof. Dr. Fehim, Fındık** **Metallurgy and Materials** **Engineer Şevval Yılmaz**	*Sakarya University of Applied Science, Türkiye* *SUBOR Boru San. ve Tic. A.Ş., Türkiye*	COMPARISON OF MECHANICAL PERFORMANCE OF HOOP GLASS FIBRE AND HOOP BAZALT FIBRE REINFORCED THERMOSET POLYESTER COMPOSITES
Prof. Dr. Hüseyin Ünal **Metallurgy and Materials** **Engineer Nisan Kuyumcu** **Prof. Dr. Fehim Fındık** **Mechanical Engineer Mert Selmanoğlu**	*Sakarya University of Applied Science, Türkiye* *SUBOR Boru San. ve Tic. A.Ş., Türkiye*	EFFECT OF SILICON-DIOXIDE PARTICLE SIZE ON TENSILE, COMPRESSION, FLEXURAL AND HARDNESS PROPERTIES OF UNSATURATED POLYESTER COMPOSITES
Burak ÇEKİRDEK **Assoc. Prof. Veysel ERTURUN**	*Turkish Technic Inc., Türkiye* *Erciyes University, Türkiye*	STRUCTURAL AND AERODYNAMIC ANALYSIS OF NACA 65 1 -412 WING PROFILE
Doğuş Kıdık **Şenda Yıldırım Çelik** **Ahmet Deniz Yücekaya** **Mustafa Hekimoğlu**	*Kadir Has University, Türkiye*	ESTIMATED MAINTENANCE DATE OF CORPORATE CUSTOMER VEHICLES IN THE AUTOMOTIVE INDUSTRY: TAKING USE OF LIGHTGBM FOR IMPROVED CLASSIFICATION
Merve Söylemez **Şenda Yıldırım Çelik** **Ahmet Deniz Yücekaya** **Mustafa Hekimoğlu**	*Data Scientist. Istanbul Technical University, Türkiye* *Kadir Has University, Türkiye*	FORECASTING OF CORPORATE CUSTOMER CHURN IN THE AUTOMOTIVE SECTOR: LEVERAGING LIGHTGBM FOR ENHANCED CLASSIFICATION

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01.10.2023 | HALL-3

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Prof. Anna Kopiczko

Authors	Affiliation	Presentation title
Adelina Elezi **Albulena Beadini** **Learta Hasani** **Albin Beadini**	*University of Tetovo, Republic of North Macedonia*	CORRELATION BETWEEN HEMATOLOGICAL PARAMETERS AND SUPPLEMENT DURING PREGNANCY
Babita Gupta **Pramod Kumar Sharma** **Rishabha Malviya**	*Galgotias University, India*	POLYETHYLENE TEREPHTHALATE (PET) PLASTIC TO PRODUCE NANOSTRUCTURE MATERIAL FOR WATER TREATMENT
Klara Hysenaj **Rezarta Stena** **Rafaela Lala** **Blerina Bani** **Armela Kapaj**	*University of Elbasan 'Aleksander Xhuvani', Albania*	IMPORTANCE OF THE ELECTROPHORESIS TEST IN THE DETECTION OF HEMOGLOBINOPATHY
Anna Kopiczko **Małgorzata Jusiakowska-Piputa**	*Józef Piłsudski University of Physical Education in Warsaw, Poland* *Witelon Collegium State University, Poland*	PREVALENCE AND RISK FACTORS OF OSTEOSARCOPENIA IN CAUCASIAN EUROPEAN WOMEN
Hakan YILMAZ **Murat Serhat AYGUN**	*VM Medicalpark Kocaeli Hospital, Türkiye* *Koc University, Türkiye*	THE CORRELATION OF DOPPLER ULTRASONOGRAPHY FINDINGS WITH BREAST MRI AND PATHOLOGY RESULTS IN BREAST LESIONS
Thamyres Branco **Alice Helena de Lima Santos Cardoso** **Nicole Bettiol** **Paulo Batista de Vasconcelos** **Marcelo Palinkas** **Simone Cecilio Hallak Regalo**	*University of São Paulo, Brazil*	BICHECTOMY: A LONGITUDINAL STUDY OF OCCLUSAL AREA CONTACT
Thamyres Branco **Patrícia Luciane Santos de Lima** **Alice Helena de Lima Santos Cardoso** **Marcelo Palinkas** **Selma Siéssere** **Simone Cecilio Hallak Regalo**	*University of São Paulo, Brazil*	BICHECTOMY: A LONGITUDINAL STUDY OF OROFACIAL TISSUE PRESSURE

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01.10.2023 | HALL-4

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Dr. Zeynep Gümüş Demir

Authors	Affiliation	Presentation title
Egide NSABIMANA **Agathon NDAYIFUKAMIYE**	*Eskişehir Osmangazi University, Türkiye*	OPINION OF AFRICAN WOMEN STUDENTS DURING THE HIGHER EDUCATION PROCESS: THE EXAMPLE OF THE CITY OF ESKIŞEHİR
Nidanur Uzun **Bahar Akoğlu**	*Graduate Institute, Faculty of Social Sciences, Turkey*	INVESTIGATION OF THE RELATIONSHIP OF EARLY ATTACHMENT STYLES WITH RELATIONSHIP MANIPULATION AND IMPULSIVIT
Leyla DİLEK	-	REFLECTION OF THE ART OF REPEAT IN TODUR ZANET'S POEMS ON THE SEMANTIC PLANE
Zeynep Gümüş Demir **Bahar Akoğlu**	*Üsküdar University, Türkiye* *Nişantaşı University, Türkiye*	COMPASSION FATIGUE IN CAREGIVERS OF ELDERLY INDIVIDUALS
Cahide Kıran **Prof. Dr. Ebru Özgen**	*Marmara University, Türkiye*	A RESEARCH ON THE FUNCTION OF PUBLIC RELATIONS IN CREATING AND MAINTAINING SOCIAL BENEFIT
Tamilla Sahin **Yusuf Alper**	*Bursa Uludag University, Türkiye*	ANALYSIS OF AHISKA TURKS' PARTICIPATION AND ADAPTATION TO THE LABOR MARKET: A QUALITATIVE STUDY ON AHISKA TURKISH WOMEN WORKING IN PERSONAL CARE AND BEAUTY SECTOR IN BURSA PROVINCE
Sugra Orujova	*Baku State University, Azerbaijan*	IRREPLACEABLE ROLE OF HEYDAR ALIYEV IN MAINTAINING HISTORICAL GEOGRAPHY OF KARABAKH

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01.10.2023 | HALL-5

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Prof. Dr. Mihalis Kuyucu

Authors	Affiliation	Presentation title
Assoc. Prof. ÇİĞDEM TANYEL BAŞAR	*Izmir Democracy University, Türkiye*	CYANOTYPE EXPERIENCE AS AN ALTERNATIVE PHOTO PRINTING TECHNIQUE
Assoc. Prof. Öznur IŞIR	*Balıkesir University, Türkiye*	HERO'S JOURNEY IN ANIME MOVIE: CASE OF BRAVE STORY
Prof. Dr. Mihalis Kuyucu	*İstanbul Galata University, Türkiye*	THE REBIRTH OF VINYL RECORDS IN A DIGITALIZED MUSIC INDUSTRY: PREDICTIONS ON THE FUTURE OF VINYL RECORDS IN THE MUSIC INDUSTRY
M. Sami Okumus	*Marmara University, Türkiye*	THE ANALYSIS OF THE SHORT AND LONG-TERM EFFECTS OF ARTIFICIAL INTELLIGENCE TECHNOLOGY ON THE CINEMA FILM INDUSTRY
Dr. Ayse Gul GEMCI	*Istanbul Sabahattin Zaim University, Türkiye*	SHIFTING BETWEEN PHYSICAL AND VIRTUAL SPACE DESIGN PRACTICES: VIRTUAL BANK BRANCH OFFICE IN METAVERSE
Buket Şen	*Education Sciences Institute, Türkiye*	BASED ON ARTIFICIAL INTELLIGENCE AND EDUCATION RESEARCH: 2013 PRE-SCHOOL EDUCATION PROGRAM IN TURKIYE
Mehtap KARAKAYA	*Samsun University, Türkiye*	LAMENTS AS A MOURNING THERAPY: ANALYSIS OF THE AVSAR LAMENT 'MELİHA' AND DETERMINATIONS ON THE CULTURAL NORMS OF THE PERIOD
Ali İmanov **Nilüfer Pembecioğlu**	*Istanbul University, Türkiye*	A SEMIOTICS ANALYSIS OF THE FILM 'THE MAGICAL ROBE' AS A FUTURE-FOCUSED APPROACH TO CHILDREN'S MOVIES IN AZERBAIJAN CINEMA
Assist. Prof. Dr. Yasin ÇETİN	*Haliç University, Türkiye*	EVALUATION OF THE UNDERSTANDING OF DIRECTION AND SPACE IN ENVIRONMENTAL THEATRE THROUGH THE LIVING THEATRE

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02.10.2023 | HALL-1

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Prof. Enrique Mallen

Authors	Affiliation	Presentation title
Nguyen Thi Thu Dung	*VNU University of Social Sciences and Humanities, Vietnam*	THE VIETNAMESE'S BELIEF OF GODDESS WORSHIP IN THE CONTEXT OF SOUTHEST ASIA CULTURE
Gordana DUKIĆ **Aleeksa TEGELTIJA**	*Independent University of Banja Luka, Bosnia and Herzegovina*	AUTISM AND THE CHALLENGES OF INCLUSIVE EDUCATIONAL PRACTICES
Asunta Toromëni	*University of Tirana, Albania*	IMMOBILITY: PART OF MOBILITY STUDIES
Simon Christopher Fernandez	*Walter Sisulu University, South Africa*	IS PHUBBING IN UNIVERSITY CLASSROOMS A NORM OR PRONE? ACADEMICS' VIEWS
Prof. Enrique Mallen	*Sam Houston State University, USA*	PICASSO'S POETRY: A "CHORAL RENDERING"
Alexandra M Sandulescu Budea **Carlos Horacio Lozano Ascencio**	*Rey Juan Carlos University, Spain*	THE STUDY OF COMMUNICATION RESEARCH: DIGITAL´S SKILLS EVOLUTION IN SPANISH ACADEMIC UNIVERSITIES
Jessica Milagro Zorogastua Camacho **Alexandra M Sandulescu Budea**	*Rey Juan Carlos University, Spain*	MOJOES AND EDUCATIONAL INNOVATION AT THE UNIVERSITY: METHODOLOGY APPLIED TO THE TRAINING OF SPANISH JOURNALISTS
Kiriaki Korina Sfakiotaki **Antonis Lionarakise**	*Hellenic Open University, Greece*	THE HELLENIC OPEN UNIVERSITY AS AN "INFLUENCER" OF THE TRADITIONAL EDUCATIONAL LANDSCAPE
Irena Medvešek **Borko Baraban**	*VERN' University, Republic of Croatia* *The Academy of Arts and Culture in Osijek, Republic of Croatia*	URBAN ONOMASTICS AND THE LINGUISTIC LANDSCAPING OF ZAGREB DURING AUSTRIA – HUNGARY AND THE KINGDOM OF YUGOSLAVIA
Ekaterine Lomia	*Mongolian International University, Mongolia*	RUSSIA'S WAR IN UKRAINE AND NATO's EXPANSION IN THE BLACK SEA REGION (CASE STUDY: UKRAINE AND GEORGIA)

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02.10.2023 | HALL-2

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Dr. Satish Menon

Authors	Affiliation	Presentation title
Yitbarek Takele Bayiley	*Addis Ababa University, Addis Ababa, Ethiopia*	THE RELATIONSHIP BETWEEN GREEN ENTREPRENEURIAL ORIENTATION AND GREEN INNOVATION PERFORMANCE IN START-UP FIRMS: THE MEDIATION ROLE OF DYNAMIC CAPABILITY AND ENVIRONMENTAL MANAGEMENT CAPABILITY
Dr. Satish Menon	*Alliance University, India*	CATASTROPHE DUE TO INVASION OF FLOOD AND LANDSLIDE IN MANDI, HIMACHAL PRADESH, INDIA DURING JULY 2023 AND ITS EFFECT IN THE PRESENTISM OF THE LOCAL COMMUNITY OF MANDI AND NEARBY VILLAGES
Ardita TODRI **Petraq PAPAJORGJI**	*University of Elbasan "Aleksanër Xhuvani", Albania*	BUSINESS MODELS: AN OWNERSHIP GENDER-BASED FORMULA
Dr. Minh Truong The	*Thu Dau Mot University, Vietnam*	PROTECTING CONSUMER RIGHTS IN E-COMMERCE TRANSACTIONS
Sevgi Osman	*Varna Free University, Bulgaria*	REPORTING IN ISLAMIC BANKING
Dr. Lorena Liçenji	*University of "Aleksandër Moisiu", Albania*	ONLINE NEWS AND PUBLIC OPINION: AN EXAMINATION THROUGH THE LENS OF AGENDA-SETTING THEORY
Patrícia HORVÁTH	*Széchenyi István University, Hungary*	SUSTAINABLE DEVELOPMENT THROUGH CLUSTER-BASED BUSINESS PARTNERSHIPS
Mai Hoang Thi Ngoc **Thu Nguyen Hoang Anh** **Ngoc Nguyen Thi Nhu** **Minh Vo Duc** **Vo Thi Ly** **Nguyen Thi Phuong Thao**	*The University of Danang, Vietnam*	A PROVINCIAL STUDY ON THE IMPACT OF FOREIGN DIRECT INVESTMENT (FDI) ON HUMAN HEALTH IN VIETNAM
Marsela Pepi	*Office of the High Inspector of Justice, Albania*	THE ROLE OF THE HIGH INSPECTOR OF JUSTICE IN JUSTICE INSTITUTIONS OF ALBANIA
Olga Kishko **Tetiana Pochepetska**	*Uzhhorod National University, Ukraine*	READER RESPONSES TO POETRY IN THE UPPER-INTERMEDIATE AND ADVANCED CLASSROOM SETTING

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02.10.2023 | HALL-3

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Ivan Pavlovic

Authors	Affiliation	Presentation title
Ph.D. Tutku Can ACISU Ph.D. Burcu KARAGÜLLE Ph.D. Zeynep YERLİKAYA R.A. Aslıhan ÇAKIR CİHANGİROĞLU	*Firat University, Türkiye*	THE EFFECT OF BACTERIAL AGENTS ISOLATED FROM RAM SEMEN ON SPERMATOLOGICAL PARAMETERS
Ivan Pavlovic	*Scientific Institute of Veterinary Medicine of Serbia, Serbia*	PREVALENCE OF DIPYLIDIUM CANINUM IN PET DOGS IN BELGRADE AREA IN PERIOD 2020-2021
Skender Demaku Donika Sylejmani Ermond Frangu Lumturi Shkodra Leonita Dugolli Arbnorë Aliu	*University of Pristina, Kosovo*	CHEMICAL, PHYSICAL AND BIOLOGICAL ANALYSIS OF RIVER WATER AND SEDIMENT; SITNICA, IBRI, TREPÇA AND DRENICA - CORRELATION WITH EU STANDARDS - FOR SURFACE WATERS
Dr. Esra BİLİCİ Lect. Salih SEZER	*Uşak University, Türkiye*	BPA'S (BISFENOL A) ENDOCRINE INSTRUCTIONAL CHEMICAL EXPOSURE AND IMPACTS
Burbuqe Kurtaj-Bajrami	*College of Medical Sciences "Rezonanca", Kosovo*	FOOD QUALITY AND SAFETY
Cand Entela Drizaj Prof.Dr. Shkëlqim Hidri Dr. Dhurata Valera Elvira Hoxhallari	*Aleksandër Xhuvani University, Albania*	DEVELOPMENT AND VALIDATION OF A QUESTIONNAIRE FOR ASSESSMENT OF HOSPITAL RISKS AND SAFETY MEASURES IN THE NURSES
Dr. Marjeta Logar Čuček	*University Medical Centre Ljubljana, Slovenia*	SUSTAINABLE NURSING MANAGEMENT OF THE FUTURE: A LITERATURE REVIEW
Rustam Madiev Shavkat Kakhkhorov Shaira Musaeva	*Termez branch of the Tashkent Medical Academy, Uzbekistan* *Center for the Development of Professional Qualifications of Medical Workers, Uzbekistan*	AN ORIGINAL SOLUTION TO A DELICATE ISSUE

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02.10.2023 | HALL-4

New York Local Time: 10:^{00}–12:^{30}

Ankara Local Time: 17:^{00}–19:^{30}

HEAD OF SESSION: Dr. Annalisa Ianniello

Authors	Affiliation	Presentation title
Prof. Kuralay URAZAEYVA	*L.N. Gumilyov Eurasian National University, Kazakhstan*	THE RHETORICAL IDEAL IN KAZAK LAW OF BIYS
Ulzhan Baiturina Aliya Mukhamediyeva Elmira Isrissova Zhanargul Azkenova	*L.N. Gumilyov Eurasian National University, Astana, Kazakhstan The Academy of Public Administration under the President of the Republic of Kazakhstan K. Zhubanov University, Aktobe, Kazakhstan*	GENRE OF DIALOGUE-DISAGREEMENT IN ZHYRAU POETRY
Ulvi Zarbaliyev	*Ganja State University, Azerbaijan*	ARMORY AND FINANCIAL SOURCES OF THE AZERBAIJANI QARA QOYUNLU ARMY
Assist. Prof. Dr. Ebru Gül YILMAZ	*İstanbul Gelişim University, Türkiye*	RELATIONSHIP BETWEEN NET ERRORS AND OMMISIONS AND CORRUPTION
Djoumana nour Elhouda LEMOUNES	*Baku state University, Azerbaijan*	LIBRARY MANAGEMENT SYSTEMS IN UNIVERSITY LIBRARIES OF AZERBAIJAN: AN OVERVIEW AND ASSESSMENT
Zaur Asadzade Adalat	*Azerbaijan Cooperation University*	FAVORABLE COMPETITIVE ENVIRONMENT AS A FACTOR DETERMINING BUSINESS DEVELOPMENT
Dr. Annalisa Ianniello Prof. Felice Corona	*University of Salerno, Italy*	A SYSTEMATIC REVIEW AND META-ANALYSIS OF FLIPPED INCLUSION MODEL: THEORIES AND PRACTICES
Tatia Dolidze	*European University, Georgia*	GEORGIA'S PAN-CAUCASIAN VISION: UNEARTHING HISTORICAL CHALLENGES
Mokhnane Tarek Khiari Reguia Adjlane Sabah	*Center for Scientific and Technical Research on Arid Regions, Algeria*	THE CRAFT MARKET ENVIRONMENT CHALLENGES TO COMMERCIAL SUCCESS
Prof. Kuralay Urazaeva Aigul Yessentemirova	*L.N. Gumilyov Eurasian National University, Kazakhstan*	KAZKH RHETORIC FORMATION AND CONSTRUCTION OF CULTURAL AND NATIONAL IDENTITY. PROVERBS IN BIYS PRACTICE

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DESIGN AND ANALYSIS OF INTEGRATED KNIFE-EDGED PEELING-TETHERING MACHINE FOR PALM FROND BROOM PRODUCTION

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Abstract

Brooms are generally produced by manual separation of broom sticks from the leaf blade of a palm frond. This method of processing is quite laborious, time-consuming and does not favour the effective utilization of broom-making at a commercial scale. In this study, an integrated Knife-Edged Peeling-Tethering Machine was developed for Palm frond Broom Production. The machine comprised a peeling module and a tethering module. The peeling module comprised two pairs of rollers, a stripping blade and a deflector. The design capacity of the tethering module was 128 broom sticks. A performance test was carried out using fresh palm fronds to evaluate the effectiveness of the machine for different broom lengths ranging from 0.5m to 0.7m at a constant roller speed of 247 rpm. A total number of 6820 broom sticks were processed, with 6572 broom sticks being the number processed without defects and 248 sticks processed with defects. The efficiency of the machine was found to be 96% with an output of 51 bundles/hr and 72 bundles/hr for 0.7m and 0.5m lengths respectively. It was found that peeling time varied slightly with frond length. Generally, the machine was found to significantly reduce production time and eliminate drudgery in the production of brooms.

Keywords: Broom stick, Palm frond, Peeling, Tethering, Machine efficiency, Production time.

INTRODUCTION

Palm trees (Elaeis guineensis) otherwise known as African palm belongs to the family of perennial lianas, shrubs, and trees. They are the sole members of the only family in the Arecaceae order, which they also make up. They thrive in hot weather condition. One of the most popular and extensively planted tree families are the palms. For the majority of human history, they have played a significant role. Palms are the source of numerous everyday goods and delicacies. Furthermore, Reddy (2022) opined that the palm remains one of those tress that lacks branches but has a large number of broad leaves at the top. Because to its exceptional output, it has overtaken all other plantation crops in the world.

They are frequently utilized in parks and gardens that are located in climates without frequent frosts. In the past, palms represented success, tranquility, and fertility. The fruit produces fiber, shell, palm oil, kernel cake, and palm oil. While palm oil is a necessary component of human food and diets, palm kernel oil is highly prized by businesspeople for use in the manufacture of soaps, detergents, candles, margarine, and cosmetics (Mancini et al., 2015; Mba et al., 2015). Both raw and processed versions of the palm tree's root, fruit, and leaves have therapeutic properties. In addition to being

utilized for house roofing, palm fronds also serve as the primary raw material for broom manufacturing. The traditional method of hand broom peeling produces very little. It is true that hand peeling is typically the most difficult and laborious part of the entire process, and that it typically takes 10 to 15 working days to hand peel up to one tonne (Nduka, 2014).

The need for mechanical peeling arises from the fact that human peeling is laborious, time- and energy-intensive, and produces little. Mechanical peeling, which is primarily accomplished by either the knife peeling principle (using knife-like elements as peeling instruments) or the abrasive/shear action principle (using frictional surfaces to generate wear), became necessary to fill the gap. Thus employing Mechanical methods can increase the productivity of any agricultural commodity, such as oil palm (Elaeis guineensis), by eliminating tedium from the entire production process (Akande et al., 2013).

Due to pronounced variances in weight, size, and length (dimensional disparities between types), peeling presents a significant challenge since it prevents an effective mechanical peeling process. Broom peeling still needs additional mechanization in order to increase capacities and efficiency while removing pre-operational treatments that are typical of the present peelers. This demands solid baseline knowledge of specific engineering parameters articulated in machine development. Numerous attempts to develop peeling technology have been unsuccessful because to the tediousness of the pre-operational tasks (Nwankwojike, 2012). In the same vein, deploying mechanization approach will be a novel as it done in other climes like Malaysia to increase output and reduce dependence on manual labour (Bulan et al., 2019; Mohiddin and Pebrian, 2021). In spite of the country's abundance of oil palm fronds, Nigerians peel palm leaves by hand with a knife, therefore the supply of brooms made from palm fronds falls short of demand. The value of a broom cannot be overstated given that it is the standard sweeping tool in almost every Nigerian home. Even with the introduction and widespread usage of fabric rugs, the oil palm frond broom remains the favoured and essential domestic sweeping equipment in Nigeria. As a result, the peeling process, which is a bottleneck in broom production, has to be automated.

This call for the creation of this crucial machine is consistent with Onwuka et al. (2021), which revealed that Stock Amsterdam has experimented with the design and manufacture of palm tree processing machines, and that we must modify some of their existing models and create new ones based on research findings to suit our current conditions. The research looked towards developing a broom peeling machine without any tethering features built in. It is appropriate to have an integrated piece of equipment that peels and tethers the palm fronds in order to entirely automate the broom-making process (Biodun et al., 2021). The current research attempts to close this gap by modifying an already developed broom peeling machine and incorporating a tethering unit into it using materials obtained locally. The equipment will help with the mass production of brooms for domestic usage. Besides, there is also economic opportunities that is available the palm frond waste after peeling due to its physical and mechanical properties (Bulan et al., 2015; Bulan et al., 2019). Development of an integrated knife-edged peeling-tethering machine for palm frond broom production is on a pathway of mechanization of the oil palm industry. Therefore. There is need for design and performance analysis of integrated knife-edged peeling-tethering machine for palm frond broom production in order to phase out manual and human intervention of the process in the oil palm value chain.

2. MATERIALS AND METHODS

This section provides step by step details of the methods and calculations as well as assumption and mathematical formulas employed in computing the machine design process.

2.1.The Broom Peeling Machine's description

The integrated broom peeling-tethering machine is made up of a number of separate components, including a set of rollers, an intake for palm leaves, a stripper, a storage chamber, and a tethering unit. The machine's main frame is attached to the palm leaves inlet, which is constructed of forged mild steel plate and plastic roller guides. The leaf is fed to the stripping blade via a set of rollers. Each roller is supported by a bearing, ensuring smooth operation and reducing wear on the machine's components. The oil palm leaf blade is removed by the mild steel blades that make up the stripper. Broom sticks are further dragged into the machine by a series of rollers after being stripped; these rollers then expel the stick into the storage chamber. Electromechanical techniques are used to tie the broom sticks after the storage chamber fills to its intended capacity.

2.2.Design Conceptualization and Considerations

The broom producing machine is composed of various components. On numerous machine components, design analysis was done. This article's study is broken down into several subheadings, including the design of the feed mechanism, the design of the stripper, the design of the temporary storage chamber, the design of the tethering unit, and the selection of motors and drives.

2.3.Design of the Peeling Unit

A sufficient traction force is needed to feed a palm leaf through a stripping blade. A palm leaf and the dynamic forces affecting it are shown in Figure 1.

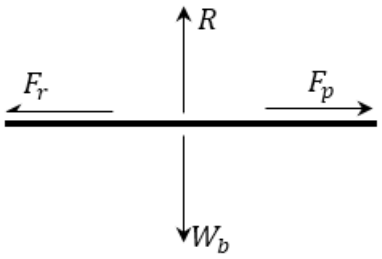


Figure 1: Dynamic forces acting on a broom leaf

Let F_r = frictional force, F_p = the maximum force that can propel the leaf, R = normal reaction
W_b = the leaf weight. From the expression of Figure 1, resolving the forces horizontally and vertically are given in Equations 1 and 2:

$$F_r = F_p \quad (1)$$

$$R = W_b \quad (2)$$

Thus, with the force due to friction

$$F = \mu R \quad (3)$$

From Equation 1,

$$\Longrightarrow F_r = \mu W = \frac{\mu m}{g} \quad (4)$$

Where m = mass of the leaf, g = acceleration due to gravity. The oil palm leaf must be accelerated and pushed against the stripping blade with force. The impact of utilizing twin rollers on feed force is depicted in Figure 2.

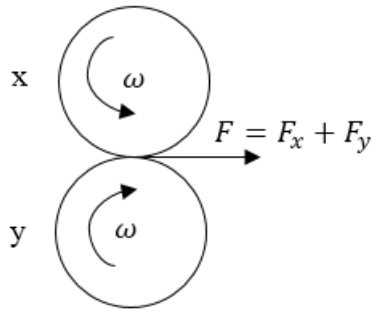


Figure 2: Effect of the use of twin rollers on feed force

Given that each roller is designed to operate at the same speed, $F_x = F_y$

Rate of Feed, $f = {}^{s}/_{t} = {}^{\theta r}/_{t_f}$ (mm/s) (5)

Hence, the linear Displace is denoted s, θ = angular displacement of the roller, r = radius of the roller, t_f = time taken for feed through the rollers. The component of the machine that separates the leaf blade from the leaf stalk is known as the "stripper." Shearing action is used to separate materials. The forces acting on the leaf blade to promote stripping are shown in Figure 3 along with the stripping process.

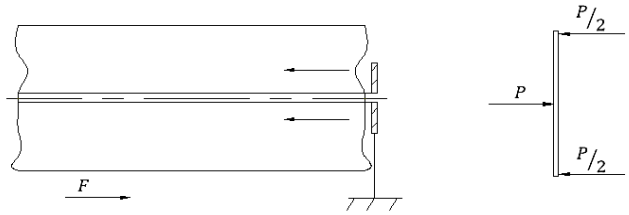


Figure 3: Shear stress induced in stripping

Thus Equation 6 represents the Shear stress on the palm frond

$$\tau = {}^{P}/_{A} \quad (6)$$

Where P denotes the load, and A represents the cross-sectional area

Referring to Figure 3,

∴ Shear stress on the leaf, $\tau_l = {}^{2P}/_{t_l w}$ (7)

Where t_l = thickness of the leaf, w = width of the leaf

The stripping unit's leaf blade deflector directs the leaf blade away from the leaf stalk. It was fashioned from mild steel plate that was 1 mm thick and bent at an angle of 225°. The deflector was made to allow the leaf stalk, or broom stick, to pass into the second set of rollers while separating the leaf blade on both ends. Equation 8 provides the amount of time needed to produce n broomsticks.

$$t_b = t_p \times n \quad (8)$$

Where: t_p = production time per broom stick.

A stopwatch was used to measure the empirical production time per broom stick while the machine was running.

2.4. Design of the Tethering Unit

The machine's tethering unit consists of a mobile sleeve and a fixed frame. A DC motor drives a screw drive that moves the movable sleeve. As the core remains still, the sleeve oscillates up and down. Buttons are used to control the sleeve's movement. Limit switches are employed to stop sleeve overrun in either direction. Steel plate, galvanized iron tubing, and 25mm angle bars were used to construct the tethering unit. The frame of the tethering unit was constructed from 25mm bars, and the stationary core and sleeve were constructed from galvanized iron. The required electro-mechanical controllers for the DC drive motor were installed. The control buttons were installed after holes for their installation were drilled.

A rubber band must be physically attached to the tethering unit's stationary core before use. When the sleeve is at its shortest, this is accomplished. The number of broomsticks that can be bundled at once is determined by the tethering unit's capacity. The screw drive, which is driven by a 12V DC motor, moves the sleeve. The motor is connected to the power source using a relay-based electromechanical circuit. The connection allows for both clockwise and counter clockwise rotation of the motor. To facilitate tethering and enable the sleeve to return to its lowest position, the motor-driven screw is moved up or down.

2.5. Design Analysis of Power Transmission System

The leaf feed motor drives the rollers that move the palm leaf through the various steps of processing. The motor chosen was made to withstand the forces of inertia, acceleration, and friction placed on it by system components. At the roller pair therein, load inertia is given

$$J_{RL} = 2 \cdot \tfrac{1}{8} m {D_L}^2 (G)^2 \quad (9)$$

Where m = mass of the roller, D_L = diameter of the roller, $G =$ the Speed ratio of belt drive

$$\Rightarrow J_{RL} = \tfrac{1}{4} m {D_L}^2 G^2 \quad (10)$$

In the feed mechanism, a total of two roller pairs were utilized:

Thus, the net roller inertia,

$$J_{RLT} = 2 \cdot J_{RL} \quad [\text{kg.m}^2] \quad (11)$$

Then the net torque,

$$T_T = T_L + T_a \quad [\text{N.m}] \quad (12)$$

Where: T_L = load torque, and T_a = acceleration torque

$$T_a = J_{RL} \cdot \frac{\Delta\omega}{t} \quad [\text{N.m}] \quad (13)$$

Where: $\Delta\omega$ = change in velocity of the motor

Required motor torque,

$$T_m = K_S T_T \quad [\text{N.m}] \quad (14)$$

Where: K_S = safety factor = 2.0

Motor power requirements,

$$P_{RM} = T_m \cdot \omega \quad [\text{W}] \quad (15)$$

Where: ω = angular velocity of the motor [rad/s]

A belt drive is used to transfer power from the drive motor to the pairs of feed rollers. Equation 16 was applied to arrive at the velocity ratio of the belt drive (Ikpe and Owunna, 2017, Ikpe and Owunna, 2019):

$$V.R. = \frac{N_1}{N_2} = \frac{D_2}{D_1} \quad (16)$$

Where: N_1 = speed of rotation of the small sprocket (in rpm), N_2 = speed of rotation of the large sprocket (in rpm), D_1 = diameter of the driving pulley, and D_2 = diameter of the driven pulley.

For an AC motor with speed of 1400rpm, the speed transmitted to the roller shaft was calculated from Equation 17 as follows.

$$N_2 = \frac{1400 \times 35}{198} \cong 247rpm \quad (17)$$

The second set of rollers receive power via a chain drive as well. Equation 18 provides the chain drive's velocity ratio (Khurmi and Gupta, 2005).

$$V.R. = \frac{N_1}{N_2} = \frac{T_2}{T_1} \quad (18)$$

Where: N_1 = speed of rotation of the small sprocket (in rpm), N_2 = speed of rotation of the large sprocket (in rpm), T_1 = number of teeth on the small sprocket, and T_2 = number of teeth on the large sprocket.

Shaft speed of the powered rollers was 247rpm because the sprockets utilized had the same number of teeth. For a shaft subjected to combined bending and torsion, the equivalent twisting moment is given by Equation 19 while the equivalent bending moment is given by Equation 20 (Ogiemudia et al., 2020).

$$T_e = \sqrt{(K_m * M)^2 + (K_t * T)^2} \quad (19)$$

$$M_e = \frac{1}{2}\left|K_m * M + \sqrt{(K_m * M)^2 + (K_t * T)^2}\right| \quad (20)$$

Where: T_e is the equivalent twisting moment, M_e is the equivalent bending moment, K_m is the combined shock and fatigue factor for bending, K_t is the combined shock and fatigue factor for torsion, T is the torque transmitted by the shaft, M is the bending moment.

As shown in Figure 4a, the integrated knife-edged peeling and tethering machine is made up of two pairs of roller-feeders, a stripper, a stockpile of bristles, and a tethering module. The intake feeder is composed of two meshing metal and rubber surfaced rollers that pass or direct the palm leaflets that the operator feeds to the stripping machine. Frame, tethered motor, stockpile, stripping blade, roller, regulator, chain, chain guard, sprocket, belt guard, pulley, deflector, stationary core, bolt and sleeve, and other parts make up the machine.

Using a scriber, the angle bars for the machine's frame were first marked out before construction could begin. The hand-held saw was used to cut the marked-out pieces, and then electric arc welding was used to affix them together. The plates were also cut with an angle grinder after being designated with the required dimensions. Parts that needed to be forged, including the intake guides, were forged into the necessary forms and mounted. A drilling machine was used to create the holes needed for the parts that needed to be installed using a bolt and nut combination. Bolts and nuts were used to attach the bearings and rollers to the frame.

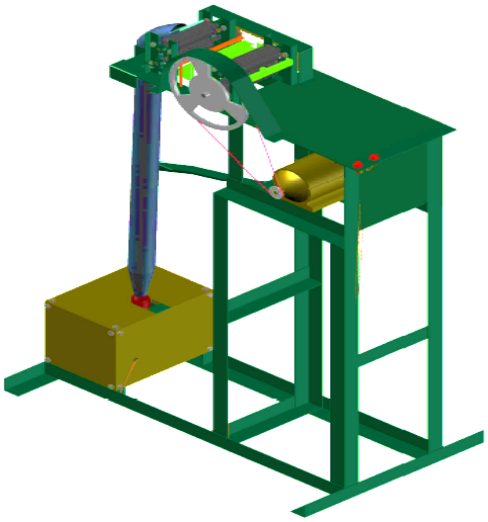
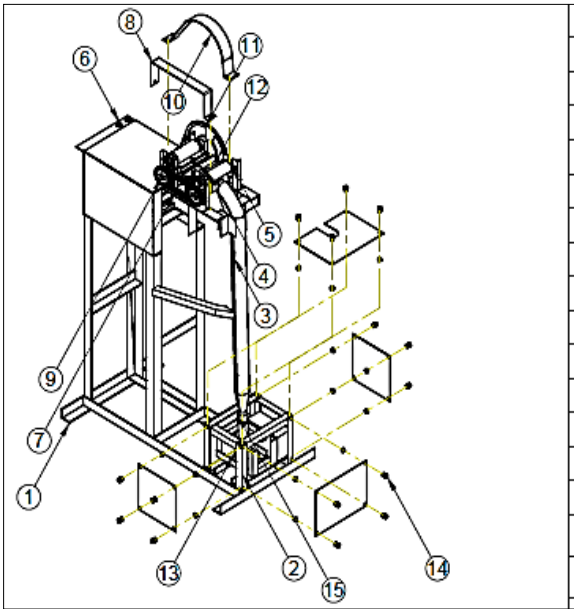


Figure 4a: Integrated broom peeling-tethering processing machine

The stripper includes of cutting vanes with a knife edge that share action to peel the leaf blades off their stalks, and a deflector that aligns the leaflet so that the blades can be effectively peeled off on both sides of the leaflet. To allow for the ejection of each peeled stalk (bristle) to its stockpile, which feeds them to the tethering unit at a rated batch/bundle of one hundred and twenty-eight (128) bristles via intermediate feeder made up of two meshing rubber surfaced roller, the deflector, made of 1mm mild steel plate, is positioned at an angle of 225°. The tethering module is an electromechanical device that consists of a fixed core, operated by a screw, and a sleeve that reciprocates around it to bind a bundle of bristles with a rubber band. The interim feeding of bristles from the stockpile utilizing limit switches was used to control the sleeve's overrun and returning motion during the tying and broom discharging operations. Exploded view of the integrated broom peeling-tethering processing machine is shown in Figure 4b.



S/N	ITEM	MATERIAL
15	Sleeve	Galvanized Iron
14	M8 x 35 Bolt	Bought Out
13	Tethering Motor	Bought Out
12	Chaff Deflector	Mild Steel
11	Ø198 Pulley	Mild Steel
10	Belt Guard	Mild Steel
9	Sprocket	Bought Out
8	Chain Guard	Mild Steel
7	Chain	Bought Out
6	Control Button	Bought Out
5	Feed Roller	Bought Out
4	Stripping Blade	Mild Steel
3	Temporary Storage Container	Galvanized Iron
2	Tethering Module	Mild Steel
1	Machine Frame	Mild Steel

PARTS LIST

Figure 4b: Exploded view of the integrated broom peeling-tethering processing machine

3. RESULTS AND DISCUSSION

The findings demonstrated that the length of the palm frond leaves affects how long it takes to remove the leaves. Figure 5 illustrates stacked column chart showing the distribution of stripping time with broom length. Figure 6 demonstrates that more brooms were processed efficiently and without faults. A phenomenal efficiency of 96% was attained.

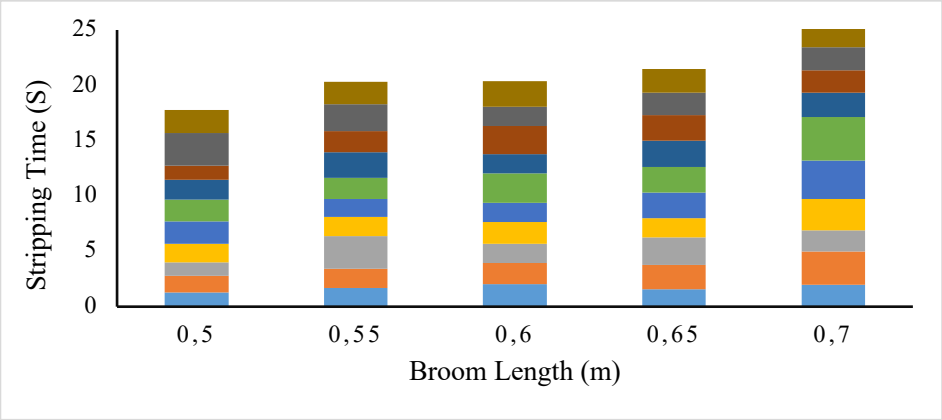


Figure 5: Stacked column chart showing the distribution of stripping time with broom length

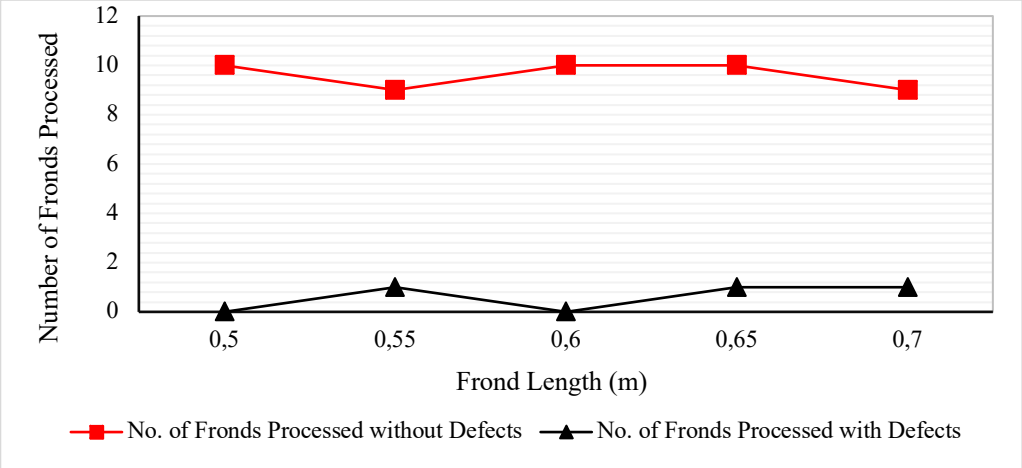


Figure 6: Number of Palm Fronds Processed with Defects to the Number Processed without Defects

The following formula (see Equation 21) was used to determine the stripping machine's efficiency:

$$\eta_s = \frac{No.\ of\ broom\ sticks\ processed\ without\ defects}{Total\ no.\ of\ broom\ sticks\ processed} \times 100\% \quad (21)$$

From Equation 19,

$$\eta_s = \frac{6572}{6820} \times 100\% = 96\%$$

The temporary storage container's broom sticks weren't completely attached, as was seen. The storage

box was physically opened in order to remove the tethered broom. The push button for downward movement was activated to start processing, and the broom bundle was fastened together with a rubber band using the stationary core as a support. The amount of time needed to produce bundles of broom for various palm frond lengths is shown in Table 1. It is clear from the Table that the longer the broom, the longer it takes to process each bundle of broom and the fewer bundles are processed every hour. Table 1 represents the production volume assessment of the machine while Figure 7 and 8 illustrates the duration required to process bundles of broom for various palm frond lengths.

Table 1: Production volume assessment of the machine

Broom Length (m)	Average Stripping Time (s)	Production Time for a Bundle of Broom (s)	Number of Bundles Produced per hour
0.50	1.78	49.84	72
0.55	2.03	56.84	63
0.60	2.04	57.12	63
0.65	2.15	60.20	60
0.70	2.53	70.84	51

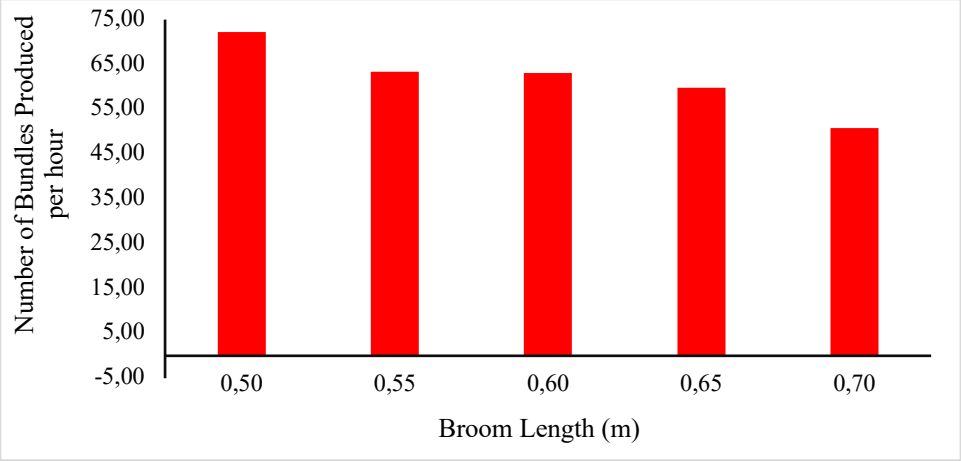


Figure 7: Column chart showing number of bundles of broom produced per hour for different broom lengths

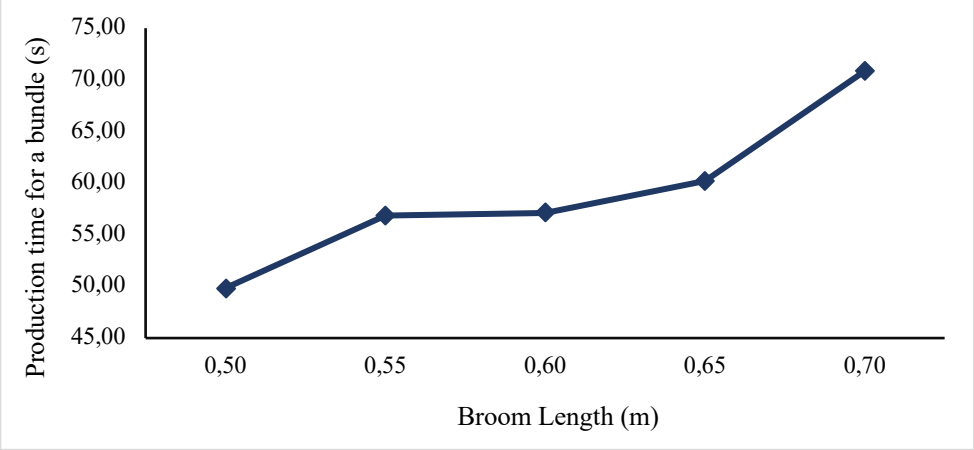


Figure 8: Plot showing the production time of a bundle of broom in relation to length of the palm frond

Despite a few faults, the palm fronds were treated successfully and according to plan. The faults were caused by handling a new palm frond, which has intrinsic challenges. The leaf can bend or twist readily because it typically has relatively low shear strength (rigidity). The issue was made worse by flaws in the metallic pieces' surface finishing that the frond moved across. The length of the palm frond affected how long it took to peel. Not much of a distinction existed between the times. When there are issues with a frond's processing, the longer peeling times frequently follow. As a result, processing time is reduced when a frond is processed flawlessly. The tethering component also performed as anticipated. The few brooms that weren't connected may have been a result of obstacles in the makeshift storage container. As the quantity of broom sticks in the container grew, more impediments were seen. A freshly processed broom stick could become tangled in the other sticks in the container, preventing it from getting to the tethering module's stationary core. The concept of mechanized broom peeling and teetering is not novel compared to the method of broom peeling reported in this work. Peeling palm fronds has been a problem for other researchers to overcome, and they had come up with several methods. A machine to peel partially dried palm leaves was created and patented by (Nwankwojike, et al., 2014). It has a feed roller with emery cloth coating to give the necessary grip. The peeling apparatus included a blower, a fixed semi-circular peeler, a rolling peeler, and a drive shaft. For manual operation of the device, a shaft was fitted with a removable handle. The rotary abrasive-coated rollers' relative motion to the stationary peeler made peeling easier. The device had an efficiency of 88.33% and processed 6182 broom sticks per hour while powered by electricity. In contrast, the machine generated 2150 broom sticks per hour with a manual operation efficiency of 91.67%. A tying mechanism was added to this design in a later iteration (Onwuka and Nwankwojike, 2019). Performance of two different mechanized broom processing systems for coconut and palm oil leaf analysed by Ozioko et al. (2022). It was observed that knife edge based peeling machine is more effective with higher throughput and 96% peeling efficiency while the abrasion process performed with about 94% efficiency. Payback and benefit cost rating of the knife edge peeling machine ranged between 0.8 and 2.45 while that of the abrasive process ranged between 1.69 and 1.76. Hence, the efficiency obtained from the study correlates with the machine efficiency obtained in this study.
The bristles were removed using the same abrasion concept in the new design. The chaff is discharged through chute apertures in this arrangement, though. A chuck is used to gather broom bristles at their head end. The tying rope is pulled from a recoil spool; when the chuck rotates, the rope unwinds and wrapped around the broom bristles. After a few rounds, a reciprocating machine cuts the rope, cutting and sealing it. The characteristics of the frond, the peeling technique, and the teetering technology are the innovative concepts in this design. Both semi-dry and freshly cut palm fronds can be peeled using this pattern. Peeling is accomplished through shear action as opposed to attrition. The usage of an elastic material is also necessary for the teetering. An electrically powered actuation sleeve moves the elastic material to wrap the broom sticks.

4. CONCLUSION

An integrated African broom peeling and tethering machine has been invented that is more effective, uses less energy, and causes less harm to the broom sticks. When compared to the current broom peeling processing machines, this machine has two pairs of rollers and enhances the peeling and tethering process. The equipment for peeling and tying brooms has undergone development, which has helped to reduce waste of palm fronds and processing time. Peeling efficiency in the performance test was 96%. It is also important to note that the designed machine is user-friendly because it doesn't

need skilled labour to operate. Additionally, because production costs are relatively low, it may successfully meet the demand for palm frond broom from small- and medium-sized farmers and companies as well as rural residents. The challenges posed by the manual way of broom processing will be resolved by the deployment of this automated technology. Once more, this technology has the potential to create jobs because it requires less setup money, labour, and waste than current processing methods.

NOMENCLATURE

$\Delta\omega$	Change in velocity of motor
h_p	Horse power
F_r	Force of friction
F_p	Magnitude of leaf driving force
D_L	Diameter of a roller
W_b	Weight of the leaf
J_{rlt}	Total inertia of roller
P_{RM}	Power requirement of the motor
μ	Efficiency
T_T	Total calculation torque
T_L	Load Torque
N and D	Speed and diameters of the pulleys
$T_\propto$	Acceleration Torque
P_d	Power required for operation
T_f	Time taken for feed through the rollers
r_i	Interest rate
t	Processing time
T	Torque
t_1	Thickness of leaf
T_1	Number of teeth on the small sprocket
T_2	Number of teeth on the large sprocket
v	Speed of the belt
VR	Velocity ratio of the speed
W_b	Width of the base
Ks	Safety factor
r	Radius of the roller
η_{ma}	Machine efficiency
ω	Design speed
θ	Angular displacement of the roller
L	Length of the belt
G	Speed ratio of belt drive
M	Mass of a roller
τ	Shear stress
T_e	Equivalent twisting moment
M_e	Equivalent bending moment
K_m	Combined shock and fatigue factor for bending
K_t	Combined shock and fatigue factor for torsion

T	Torque transmitted by the shaft
M	Bending moment

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A PROPOSAL FOR THE GENERIC ARCHITECTURE OF AN INTELLIGENT TUTORING SYSTEM FOR COMPETENCY-BASED LEARNING

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Abstract

In the modern era of personalized education, the development of an Intelligent Tutoring System (ITS) for competency-based learning represents a groundbreaking shift in educational paradigms. This paper presents an in-depth analysis of an ITS designed to adapt to individual learner needs, focusing on specific competencies and performance metrics. The proposed ITS had its architecture generically developed, to fit any course structure that adopts competency-based learning. For this purpose, firstly, this architecture was conceived, through a conceptual data modeling, listing the entities and relationships envolved. Some of the entities that make up the model can be illustrated such as: "Student", which describes the students enrolled in the course "Skill", which describes the necessary skills related to a subject or issue "Knowledge Object", which describes all knowledge objects included in the course and "Attitude", which describes the attitudinal guidelines to be developed in the student during the course among others. Furthermore, the tutor employs algorithms and models, leveraging Artificial Intelligence (AI) techniques, to identify learners' current competencies while guiding them through a personalized learning path, according their needs. Moreover, the proposed ITS provides real-time feedback, with recommendations for studies, in order to consolidate the contents learned and the skills necessary for such contents. Overall, the development of an ITS for competency-based learning marks a significant advancement in the field of education, offering promising prospects for learner-centric education.

Keywords: Intelligent Tutoring System, Competency-Based Learning, Artificial Intelligence.

BROADENING OF MASER EMISSION LINE BY THE LIMITID CYCLE ARISING DUE TO THE STARK DYNAMICAL FREQUENCY SHIFT OF SPIN TRIPLET LEVELS

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Abstract

The purpose of this investigation is to clarify the following question: can the appearance of a limit cycle (LC) cause broadening of the line of stationary maser emission? To answer this question, we assumed that the maser output could affect the sample emitting it. This effect is similar to the effect on the emitting sample of an electromagnetic field from an external source, leading to Stark dynamic frequency shift (SDS). Using nonlinear dynamics methods, we carried out a bifurcation analysis of a nonlinear system of ordinary differential equations (ODE) describing masing on spin triplet states taking into account SDS. It was found that at a certain value of the detuning of the maser cavity frequency from the inverted transition frequency, the resulting system has an unstable saddle-node (SN) singular point with a stable nodal sector. With an arbitrarily small decrease in this detuning, SN bifurcation occurs ─ SN disappears and a stable LC appears. The angular frequency of this LC is calculated and its phase portrait is constructed to a first approximation using the well-known procedure for obtaining analytical periodic solutions of ODE system. It is shown that the presence of LC leads to the appearance of two harmonics in addition to the main line of maser emission. If they merge with it, they can widen the masing line in its central part. A similar broadening was observed in experimental work, where it was noted that it was caused by the appearance of LC. Since broadening of the maser output is an undesirable phenomenon, our results can help get rid of it.

Keywords: maser, dynamic Stark effect, limit cycle, broadening of masing line.

I. INTRODUCTION

Till 2012 the most realizations of masers required low temperatures and strong constant magnets, which made them bulky and expensive. In 2012 the first solid state maser was elaborated by the Maser Group of London Imperial College, which operated at room temperature in zero constant magnetic field in a pulse regime (Oxborrow et al., 2012). A crystal of an optically pumped pentacene-doped p-terphenyl was used there as an emitter, exploiting photo-excited spin triplet states in organic pentacene molecules. Subsequently, this Group continued to work on pulsed generation of a maser, obtaining a number of very interesting results (Arroo et al., 2021; Oxborrow et al., 2012; Breeze et al., 2015; Breeze et al., 2017). We contributed to the interpretation of these experiments (Fokina and Elizbarashvili, 2021; Fokina and Elizbarashvili, 2022). However, for the most of the practical applications of maser (EPR tomography, astronomy, etc.), it was important to create a continuous

wave maser. It should be noted that the organic gain medium host (para-terphenyl) cannot withstand continuous optical pumping due to its poor thermal conductivity and low melting point. Therefore, a continuous-wave room-temperature maser oscillator using spin triplet states of the optically pumped nitrogen-vacancy (NV^-) defect centres in diamond was created in 2018 (Breeze et al., 2018). An interesting feature of this generation was observed: at the edge of the emission spectrum, slightly above threshold the emission had narrow linewidth (~ 50 Hz). However, the emission line appeared sufficiently strongly broadened near its centre. It has been suggested that this phenomenon is caused by the occurrence of limit cycle (LC). We set ourselves the task of qualitatively describing the arising of an LC during continuous maser generation and also, if possible, analytical calculation of its frequency and finding out the consequences of its appearance on the width of the emission line.

II. PROBLEM STATEMENT

First of all, we would like to note that feedback from the Stark dynamical shift of the generation frequency seems to us to be the reason for the appearance of the limit cycle during continuous generation: the sufficiently intensive microwave field, generated by the pumped sample with the inverted energy levels acts also on the sample emitting it in the same way as an external e.m. field does it. Considering, in order to clarify the fundamental possibility of such a phenomenon, a model spin system similar to that of pentacene in p-terphenyl (Arroo et al., 2021, Oxborrow et al., 2012; Breeze et al., 2015; Breeze et al., 2017),we have obtained that analogously to (Pantell and Puthoff, 1969, Fig. 5.6), the corresponding shifted frequency has the form

$$\left|\omega_0^{Z-X}\right|_{eff} = \left|\omega_0^{Z-X}\right| + \left(g\mu_B\right)^2 \left(b_{\mathbf{K}}^{Z-X}\right)^2 \left(2h^2\Delta^{Z-X}\right)^{-1}, \quad (1)$$

where $\Delta^{Z-X} \equiv \left|\omega_0^{Z-X}\right| - \omega_c; \quad \omega_0^{Z-X} = \left(E^Z - E^X\right)/h < 0,$

with $E^Z < E^X$ as inverted energy levels of spin triplet state and $\left|\omega_0^{Z-X}\right|$, $\left|\omega_0^{Z-X}\right|_{eff}$ as the proper frequencies of the dark (without pumping) and light (with pumping) sample. The other values are determined below.

Further, we will consider the case when the linewidth of the maser cavity is much smaller than the EPR width of a pair of the inverted spin triplet levels of the emitting sample. The following system of the ordinary differential equations (ODE) was derived by us for this case with the allowance for the Stark dynamical shift of the energy difference of ZX levels (the obtaining of this system will be described elsewhere):

$$dr/dt = -rq\cos^2\delta - (r-1) \equiv P(r,q) \quad (2)$$
$$dq/dt = -fq + f\left[1 + (K/\chi)q\right]\left(\cos^2\delta/x_0\right)rq \equiv Q(r,q),$$

with the following list of symbols:

$$r \equiv P^{Z-X}/P_e^{Z-X}, \; q \equiv h^{-2}(g^{Z-X}\mu_B)^2 T_2^{Z-X} T_e b_{\mathbf{K}}^2; \quad x_0 \equiv T_{\mathrm{Re}}^0/T_2^{Z-X}; \quad \chi \equiv \Delta^{Z-X}/\left(T_2^{Z-X}\right)^{-1};$$
$$\left(\cos^2\delta\right)^{-1} = 1 + \chi^2; \quad K \equiv T_e^{-1}/2\omega_c << 1, \quad f \equiv 2\tau_c^{-1}/\left(T_e^{Z-X}\right)^{-1}, \quad (3)$$

and with the following decoding of them:

P^{Z-X} is the polarization of Z-X transition, P_e^{Z-X} is its steady state value, which is reached with the rate $\left(T_e^{Z-X}\right)^{-1}$; $b_{\mathbf{K}}^2$ is the amplitude of the varying magnetic field in a resonator squared; $\left(T_2^{Z-X}\right)^{-1}$is the linewidth of EPR of Z-X transition, which is supposed to be of the Lorenz form; $2\tau_c^{-1} = \omega_c/Q$ is

the full bandwidth of the resonator, Q and ω_c are its quality factor and natural circular frequency, respectively; ω_0^{Z-X} is the resonance frequency of Z-X transition without the Stark dynamical shift, the latter is described by the term $(K/\chi)q$ with $K/\chi = \left(T_e^{Z-X}\right)^{-1}\left(T_2^{Z-X}\right)^{-1}/\left(2\omega_c\Delta^{Z-X}\right)$ (Pantell and Puthoff, 1969, Fig. 5.6); $\left(T_{\mathrm{Re}}^{Z-X}\right)^{-1} = \eta_0\mu_0 \mathrm{h}^{-1}(g^{Z-X}\mu_B)^2 n_{ex}^{Z-X} Q\left|P_e^{Z-X}\right|\cos^2\delta^{Z-X} \equiv \left(T_{\mathrm{Re}}^{0}\right)^{-1}\cos^2\delta^{Z-X}$ is the reciprocal radiation damping time of a resonator with a sample in it (Abragam, 2006; Pomerantsev et al., 1972) under conditions of the steady state generation; μ_B is the Bohr magneton; g^{Z-X} is the g-factor of *Z-X* transition, which we assume to be isotropic; n_{ex}^{Z-X} is the concentration of the states with the inverted Z-X levels; η_0, μ_0 are the resonator filling factor and the magnetic constant, respectively. The differentiation in Eqs. (2) is carried out with respect to the dimensionless time $t' = t\cdot\left(T_e^{Z-X}\right)^{-1}$.

If Z and X levels have the same total decay rates (Zuclich, 1974) ($k^Z = k^X \equiv k$) and the spin-lattice relaxation rates do not depend on a transition direction ($W_{SLR}^{Z-X} = W_{SLR}^{X-Z} = W_{SLR}$), the following values for T_e^{Z-X} and P_e^{Z-X} can be obtained, analogously to Ref. (Zuclich, 1974):

$$\left(T_e^{Z-X}\right)^{-1} = k + 2W_{SLR}\,, \tag{4}$$

$$P_e^{Z-X} = \frac{W_P^Z - W_P^X}{k + 2W_{SLR}} \equiv W_P^X\left(1 - W_P^X/W_P^Z\right)T_e^{Z-X}, \tag{5}$$

where W_P^Z, W_P^X are the pumping rates for Z and X levels, correspondingly. We should like to note, that our equations are model ones, however, for convenience we keep the same notations of levels as for pentacene, although the numerical data do not correspond to the Ref. (Oxborrow, 2012).

III. BIFURCATION ANALYSIS OF THE ODE SYSTEM

The ODE system of Eqs. (2) describes the continuous masing from the spin-triplet *Z-X* transition coupled to the resonator, to the pumping device and to the lattice. Eqs. (2) have two equilibrium states (steady state solutions):

$$\textbf{I}.\ r_{st} = 1;\quad q_{st} = 0 \tag{6}$$

with the Jacobian matrix

$$J_{st}^{Z-X}(I) = \begin{pmatrix} -1 & -\lambda x_0 \\ 0 & f(\lambda - 1) \end{pmatrix} \tag{7}$$

$$\text{and } \textbf{II}.\ q_{st}^{Z-X} \neq 0;\quad r_{st}^{Z-X} = \frac{1-(K/\chi x_0)}{\lambda - (K/\chi x_0)};\qquad q_{st}^{Z-X} = \frac{1}{\lambda x_0}\frac{\lambda - 1}{1-(K/\chi x_0)} \tag{8}$$

with the Jacobian matrix

$$J_{st}^{Z-X}(II) = \begin{pmatrix} -1/r_{st}^{Z-X} & -r_{st}^{Z-X}\lambda x_0 \\ (f/x_0)\left(1 - r_{st}^{Z-X}\right)/r_{st}^{Z-X} & -f\left[1 - \lambda r_{st}^{Z-X} - 2(K/\chi x_0)(1 - r_{st}^{Z-X})\right] \end{pmatrix}, \tag{9}$$

where $\lambda \equiv \cos^2\delta/x_0 = x_0^{-1}\left(1+\chi^2\right)^{-1}$

Though in the experiment of Ref. (Breeze et al., 2018) the role of the control parameter (i.e. the parameter, which can be changed by an experimenter with the monitoring of the results of this changing) is played by the χ value through the detuning Δ^{Z-X}, here this role for simplicity will be temporarily transmitted to λ. As it is seen from Eq. (8), the masing begins at $\lambda > 1$. At its value

$\lambda = \lambda_0 = 1$the **I** and **II** solutions coincide with each other and are equal to $r_{st}^{Z-X} = 1;\quad q_{st}^{Z-X} = 0$; at that, for the both solutions $DetJ_{st}^{Z-X} = 0;\quad TrJ_{st}^{Z-X} \neq 0$, i.e. the ODE system has the two-fold complicated singular point (Bautin and Leontovich, 1976 and references therein). The matrices of Eqs. (7) and (9) have in this point the following form:

$$J_{st}^{Z-X}\left(I,II,\lambda=\lambda_0=1\right)\Big|_0 = \begin{pmatrix} -1 & -x_0 \\ 0 & 0 \end{pmatrix} \equiv \begin{pmatrix} a & b \\ c & d \end{pmatrix} \tag{10}$$

and the characteristic roots $\Lambda_1 = 0;\quad \Lambda_2 = TrJ_{st}^{Z-X} = -1$. Transferring this point to the coordinate origin, the following ODE system can be obtained:

$$\begin{aligned} d\xi / dt &= a\xi + b\eta - \xi\eta\lambda x_0 \\ d\eta / dt &= f\xi\eta + f\frac{K}{\chi}\eta^2\left(1+\xi\right) \end{aligned}, \tag{11}$$

where $\xi = r - 1;\quad \eta = q$. For the further investigation one needs to reduce Eqs. (11) to the canonical form (Bautin and Leontovich, 1976 and references therein):

$$\begin{aligned} du / dt &= P^*\left(u,v\right) \\ dv / dt &= v\left(TrJ_{st}^{Z-X}\right) + Q^*\left(u,v\right) \end{aligned}, \tag{12}$$

where the series expansion of the functions $P^*\left(u,v\right),\ Q^*\left(u,v\right)$begins from the terms of the no less than the second degree. Such form in our case is obtained with the help of the substitution $\xi = v - \left(b/a\right)u,\quad \eta = u$ and leads to

$$P^*\left(u,v\right) = f\left[v - \left(b/a\right)u\right]u + f\left(K/\chi\right)u^2\left[1 + v - \left(b/a\right)u\right] \tag{13}$$

$$Q^*\left(u,v\right) = -\left[v - \left(b/a\right)u\right]u\cos^2\delta + \left(b/a\right)f\left[\left(v - \left(b/a\right)u\right)u + \left(K/\chi\right)u^2\left(1 + v - \left(b/a\right)u\right)\right]. \tag{14}$$

According to (Bautin and Leontovich, 1976), the seeking of the solution of the equation $dv/dt = v\left(TrJ_{st}^{Z-X}\right) + Q^*\left(u,v\right)$ in the form $v = \varphi\left(u\right)$should be the next step:

$$v = \varphi\left(u\right) = -\left[v - \left(b/a\right)u\right]u\cos^2\delta + \left(b/a\right)f\left[\left(v - \left(b/a\right)u\right)u + \left(K/\chi\right)u^2\left(1 + v - \left(b/a\right)u\right)\right]. \tag{15}$$

The substitution of Eq. (15) into $P^*\left(u,v\right)$ of Eq. (13) gives the function $\psi\left(u\right) = P^*\left(u,\varphi\left(u\right)\right)$, which is a polynomial, beginning from the term of the second degree:

$$\psi\left(u\right) = P^*\left(u,\varphi\left(u\right)\right) = f\left[\left(K/\chi\right) - \cos^2\delta\right]u^2 + \ldots. \tag{16}$$

Now the time has come to use the Theorem 2 from (Bautin and Leontovich, 1976, p. 88) for the equilibrium state *O(0,0)*, for which $DetJ_{st}^{Z-X}\left(0,0\right) = 0,\quad TrJ_{st}^{Z-X}\left(0,0\right) \neq 0$ and $\psi\left(u\right) = l_m u^m + \ldots.$, where l_m is the Lyapunov value, corresponding to the zero characteristic root. This Theorem, in particular, says that if *m* is even, than at any sign of l_m the equilibrium state has one node sector and two saddle sectors; at that, if $TrJ_{st}^{Z-X}\left(0,0\right) < 0$, the node sector is stable, while for $TrJ_{st}^{Z-X}\left(0,0\right) > 0$ it is unstable. It is seen from Eq. (16) that the equilibrium state *O(0,0)* of the ODE system of Eqs. **(11)** corresponds to the case *m*=2 with $l_2 = 2f\left[\left(K/\chi\right) - \cos^2\delta\right]$; such a case is called "the simplest two-fold saddle-node" in Ref. (Bautin and Leontovich, 1976, p. 88). So, *the immobile point* $r_{st}^{Z-X} = 1;\quad q_{st}^{Z-X} = 0$ *at* $\lambda = \lambda_0 = 1$ *is the SN with the stable node sector***.**

Further, we shall consider only such parameter values, when $l_2 \neq 0$. According to (Bautin, 1984), the nonzero value of l_2 testifies to the instability of the equilibrium point for the parameter value, at which the characteristic equation has one zero and one negative root. *So, the twofold SN immobile point* $r_{st}^{Z-X}=1;\ \ q_{st}^{Z-X}=0$ *at* $\lambda=\lambda_0=1$ *is unstable*. As stated in (Bautin and Leontovich, 1976, p. 170, fig. 104), at sufficiently small additions to the right-hand sides of ODE systems, at which the SN disappears, a limit cycle (LC) is arisen from the separatrix of the saddle, and, moreover, a unique one. This LC is stable if at the SN point one has $a+d<0$ (the case under consideration of the given paper). It should be mentioned that the presence of LC in the phase portrait of an ODE system physically means the presence of auto oscillations among its solutions.

However, we are interested in the case of an LC appearance at the control parameter change. Such a case is considered in (Bautin, 1984). There, a simple criterion for the disappearance of equilibrium points of the system of type of Eqs. **(2)** at the parameter change is given. Following this criterion, we have seen that for the **II** solution at $\lambda=1$ the SN point is saved, what is understandable ─ LC cannot arise without generation. But arbitrarily near this point, at the proper direction of λ change the SN point disappears, while it is saved for any λ value for the solution I (Bautin, 1984). It was also demonstrated that the increase of λ (the decrease of the detuning) is the proper direction of λ change. Since LC can arise at the disappearance of the SN point (Andronov et. al., 2010), an arbitrarily small increase of λ in the solution **II** is sufficient for a limit cycle to arise from one of the separatrices of this SN at $\lambda=1+\varepsilon$ (Andronov et al., 2010, Fig. 318).

Further, the approximate procedure of the obtaining of the analytical periodical solutions of an ODE system from (Kondrat'eva , 2019), which is valid at *t* values near *t=0***,** was used by us. As the first step of this procedure, we supposed that the sought solution of Eqs. (2) has the form

$$\begin{aligned} r(t) &= a_0 + a_1 \cos\omega_{LC} t \\ q(t) &= d_0 + d_1 \cos\omega_{LC} t + c_1 \sin\omega_{LC} t \end{aligned} \qquad (17)$$

Substituting Eqs. (17) into Eqs. (2), the following values of the constants were obtained:

$$a_0 = \frac{1-(K/\chi x_0)}{\lambda-(K/\chi x_0)};\ \ d_0 = \frac{\lambda-1}{\lambda x_0\left[1-(K/\chi x_0)\right]};\qquad a_1=-a_0;\ \ d_1=-d_0;\qquad c_1=\frac{\omega_{LC}}{\lambda x_0}a_1, \qquad (18)$$

while the LC (or that of the auto oscillations) angular frequency squared appeared to be equal to

$$\omega_{LC}^2(true) = \left(2\tau_c^{-1}\right)^2 (K/\chi x_0)\left[1-(K/\chi x_0)\right]\left(\frac{\lambda-1}{\lambda-K/\chi x_0}\right)^2, \qquad (19)$$

where a transition to the true measurable time $t=T_e t'$ is accomplished (in the dimensionless version of ω_{LC}^2, the value f^2 stands for $\left(2\tau_c^{-1}\right)^2$). Eqs. (18), (19) are valid for the case of the implementation of the inequalities $(K/x_0)<\chi<\sqrt{(1-x_0)/x_0}$. So, the appearance of auto oscillations is possible only at positive χ's ($\omega_c<\left|\omega_0^{Z-X}\right|$). The following numerical evaluation for $\omega_{LC}(true)$ was obtained by us: $\omega_{LC}(true)\approx 6.11\times10^3 s^{-1}$ for the following values of the parameters: $\chi=0.2;\ x_0=0.8;\ K=10^{-4};$ $Q=64;\ \omega_c=2\pi\cdot1.45\cdot10^9 s^{-1};\ \tau_c\approx14ns$. This evaluation shows that the LC frequency is much smaller than the masing frequency ($\omega_{LC}(true)<<\omega_c$).

The dependence $\omega_{LC}(\chi)$ was plotted by us with the above parameters for the values $x_0=0.8;\ \ x_0=0.6;\ \ x_0=0.5$:

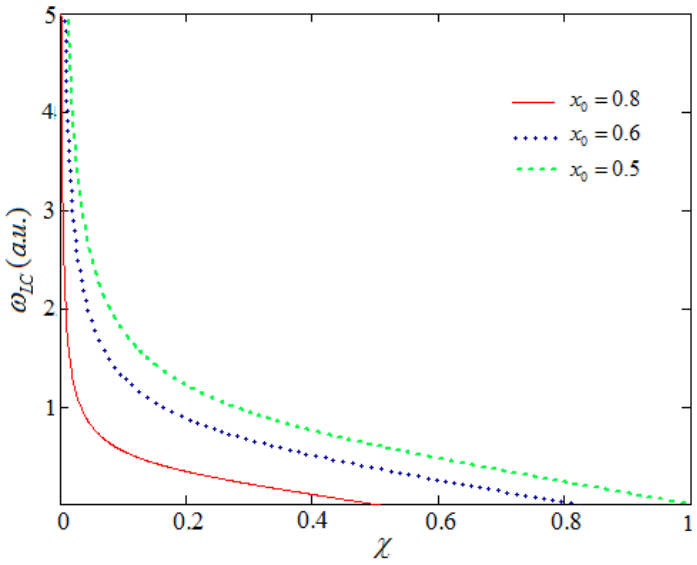

Figure 1. Dependence of the frequency of appearing limit cycle on the detuning of the maser cavity frequency from that of the Z-X transition of the non-excited (dark) spin states. The plots are constructed, following from the analytics of the given paper.

It is easily seen from the Figure 1, that the LC frequency has sufficiently sharp maximum in the closest neighborhood of the center of the maser emission line, while it is decreased with the increase of the detuning. Besides, it is well-known (Andronov et. al., 2010) that a small initial "knock" is necessary for the exciting of the auto-oscillations. With it, the phase trajectories of the arising LC at $x_0 = 0.8$ have the form, as in the Figure 2:

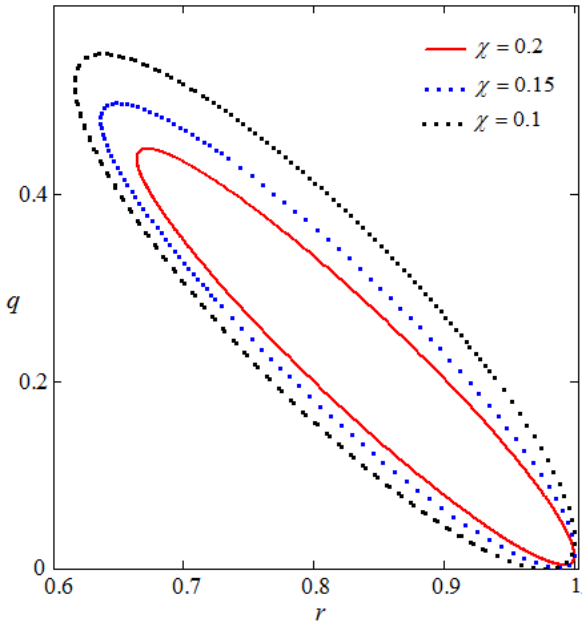

Figure 2. Closed phase trajectories of the system of Eqs. (2) for $x_0 = 0.8$ and the detunings $\chi = 0.2$; $\chi = 0.15$; $\chi = 0.1$ after a small initial "knock" for the same other values of the parameters, as in the Figure 1, showing that limit cycle arising really has place.

Thus, it is proved above that Eqs. (2) describe the possibility of limit cycle arising due to the Stark dynamical frequency shift caused by the change of the detuning. Moreover, it is demonstrated that the appearance of LC occurs due to SN bifurcation. This situation differs from the situation in Ref. (Fokina, 1988), where the appearance of LC is explained by the Hopf-Andronov bifurcation (the

second one bifurcation from two possible LC bifurcations in the two-dimensional case). The physical reason for the appearance of LC is as follows: at the sufficiently powerful masing, in the case when $\left|\omega_0^{Z-X}\right| > \omega_c$ the EPR line of the sample moves to the right of the frequency scale due to the dynamical Stark effect, and the overlap of the resonator and EPR lines (see Fig. 3.17a of Pantell and Puthoff, 1969) becomes worse. This favors the decrease of the radiated power. As a result of this decrease, the Stark shift decreases and the effective EPR line of the sample moves to the left. This promotes the increase of the masing power and so on.

IV. CONSEQUENCES OF THE LC ARISING

The purpose of this section is to find out what consequences for the generation line follow from the fact of the appearance of a limit cycle. As it is described above, then low-frequency oscillations of the amplitude of the masing power value arise with a frequency equal to $\omega_{LC}^{Z-X}(true) << \omega_c$. At that, it is well-known (Reed, 1998) that the appearance of two harmonics of summary and difference frequencies follows as a result of amplitude modulation. Because of that, the microwave generation with frequencies $\omega_c \pm \omega_{LC}^{Z-X}$ should be observed at the maser output in addition to the main line centred approximately at ω_c. If $\omega_{LC}^{Z-X}(true) >> \left(T_2^{Z-X}\right)^{-1}$, then in the generation spectrum two harmonics $\omega_c \pm \omega_{LC}^{Z-X}$ can be observed (if the resolution of the receiving equipment allows this). If the resolution does not allow or $\omega_{LC}^{Z-X}(true) >\approx \left(T_2^{Z-X}\right)^{-1}$, then the harmonics merge with the main generation line, and the width of the generation line in its central part ($\Delta^2 < \left(T_2^{Z-X}\right)^2 2\left[\left(T_2^{Z-X} / T_{\mathrm{Re}}^0\right) - 1\right]$), increases by a factor $\omega_{LC}^{i-j}(true) / \left(T_2^{Z-X}\right)^{-1} \propto f$. Since the value of f in experiments of English group is much greater than unity, the appearance of LC can lead to the broadening of the central part of the masing line. Similar broadening was experimentally observed in (Breeze et al,, 2018), where the appearance of LC was mentioned, as its reason. Since the broadening of the masing linewidth is undesirable, one should look for a way to eliminate it. It is seen from above that the decrease of proportions $f = 2\tau_c^{-1} / T_e^{-1} = \omega_c / QT_e^{-1}$ and $x_0 = T_{\mathrm{Re}}^0 / T_2 \propto Q^{-1}$ with the help of the increase of the both T_e^{-1}rate value and of the cavity quality Q value promotes the decrease of the broadening of the emission line in its central part. It should be mentioned that English Maser Group reached perfection on this way, in particular, placing the diamond sample within a single-crystal ring of sapphire, which possesses a large dielectrical constant. This was made in order to absorb the emitted MW field into the sample, thus, to stimulate the emission. From the other side, it is demonstrated here that the increase of the masing power causes the Stark dynamical frequency shift, the feedback of which stimulates the LC arising and the broadening of the maser line in its central part. Therefore, it seems to us that if the narrowing of the central part of the maser line is a priority, then a compromise should be made between the emission power and the cavity construction-contents to exclude the LC arising. Also, it is interesting to note that, as it is well-known, flutter (trembling of a wing or other part of an aircraft, which leads to a plane crash) is caused by the appearance of LCs. At that, LCs can be eliminated by introducing the source of the white noise of the sufficient intensity into the system; see Ref. (Koshcheev and Shtanov, 2022). However, it seems to us that this method is unacceptable for masers, which are valued specifically as low-noise equipment.

V. CONCLUSION

Here, the bifurcation analysis of the two-dimensional system of the ordinary differential equations describing the continuous maser generation in the case when the linewidth of the maser cavity is much smaller than the EPR width of a pair of the inverted spin triplet levels of the emissing sample. At that, the Stark dynamical frequency shift due to the feedback of the maser emission on the emitting sample is taken into account. It is shown that in the bifurcation point of the ODE system (2) the two-fold saddle-node singular point disappears and at the proper change of the control parameter (decreasing of the detuning) a limit cycle appears from the separatix of the saddle. The angular frequency of this LC is calculated and its phase trajectories are constructed to a first approximation using the known procedure for obtaining analytical periodic solutions of ODE system. It is shown that the presence of LC can lead to the appearance of two harmonics in addition to the main line of maser emission. If they merge with it, they can widen the masing line in its central part. A similar broadening was observed in the experimental work, where it was noted that it was caused by the appearance of LC. Since broadening of the maser output is an undesirable phenomenon, our results can help get rid of it. Recommendations are presented, based on our analytics and numerical plotting.

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WDM - DEVELOPMENT OF WAVE MULTIPLEXING SYSTEMS

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Annotation

The paper presents the role of WDM technology in optical fiber transmission systems. The 21st century is the informational age where there is a high rate of traffic growth, the existing communication systems could no longer meet the demands placed on them.

WDM technology is based on the principle of wave multiplexing. Optical fiber has three transparency windows: 850 nm, 1300 nm, and 1550 nm, each of which is about 200 nm wide, covering a frequency band of about 60 THz. If we divide the 60 THz frequency band into 20 GHz bandwidths, then we get that existing optical fibers have the ability to carry a much larger amount of information.

Technically, this process is carried out by means of a wave multiplexer and a wave demultiplexer. Wave multiplexing allows us to transmit not one, but n carrier frequencies (wavelengths) with one OB, which led to the extensive development of GSM and allowed us to dramatically increase the number of channels organized in OB and optical cable in general.

keywords: WDM - Wavelength Division Multiplexing, OFDM-orthogonal frequency-division multiplexing, FDM- frequency-division multiplexing, SDH-Synchronous Digital Hierarchy, PDH - Plesiochronous digital hierarchy

Spectral compression or wavelength division multiplexing (WDM) reminds us of the widespread frequency division multiplexing, but in this case we are dealing with the optical range.

Spectral compression was used in the 80s on a small trunk scale. But the 21st century is the information age, where there is a high rate of traffic growth, which the existing communication systems could no longer meet the demands placed on them.

Let's remember that optical fiber has three windows of transparency: 850 nm, 1300 nm and 1550 nm, and the last two are used for transmission over long distances. The width of each of them is approximately 200 nm, which covers a frequency band of approximately 60 THz.

To estimate the transmission bandwidth of optical fiber, we consider that 2 GHz frequency bandwidth is required to transmit 1 Mg/s information. Therefore, 60 THz can carry 30 Tb/s of information. If we divide the 60 THz frequency band into 20 GHz bandwidths, then we get that existing optical fibers have the ability to carry a much larger amount of information.

Technically, this process is carried out as follows, wave multiplexers combine signals with different carrier frequencies from several optical fibers, and wave demultiplexer separates single-channel streams from multi-channel traffic and distributes them in separate fibers.

Spectral compression does not exclude time compression in individual fibers whose streams are combined to make use of spectral compression.

Wave multiplexing allows us to transmit not one, but n carrier frequencies (wavelengths) with one OB, which led to the extensive development of GSM and allowed us to dramatically increase the number of channels organized in OB and optical cable in general.

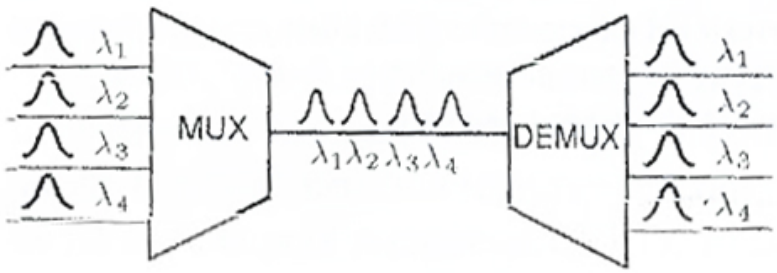

fig. 1. Simplified scheme of wave multiplexing

In the case of wave multiplexing, the set of n number of channels can be called a barrel. That is, the barrel represents a set of channels created using wave and time multiplexing systems.

At this stage, WDM technologies in optical systems play the same role as multiplexing systems with frequency division of analog channels. For the same reason, they are often called optical multiplexing with orthogonal frequency-division multiplexing (OFDM-Orthogonal frequency-division multiplexing). However, in their development, analog frequency multiplexing and optical frequency division multiplexing – FDM and OFDM are essentially different from each other. The difference lies not only in the fact that in one case (OFDM) an optical signal is used, and in the other case (FDM) an electrical signal, in the case of FDM, amplitude modulation is used, with one side frequency band and a subcarrier system with the same modulated tone frequency channel signal.In OFDM, the time modulation mechanism is not used at all, since the carrier modulated signals are generated from separate sources from lasers and light-emitting diodes, whose signals are then simply combined, summed by a multiplexer, similar to high-frequency techniques, into a single multi-channel signal.

As we mentioned, each carrier can transfer a stream of signals of different technologies. For example, one carrier can transmit SDH ((STM-1, STM-4, STM-16, STM-64, etc.), another PDH, a third ATM or Ethernet, etc. Because of this, the optical carrier is modulated with the corresponding transmitted line-coded signal.

This technology is developing at a fairly fast pace. This progress is supported on the one hand by new laser and semiconductor physics achievements and improvements in the creation of stable and laser sources of radiation, improvement of optical filters, etc.On the other hand, a wide range of interface cards are being developed that have simplified the use of WDM technology's transport capabilities when transporting Ethernet and IP traffic.Currently, there is no unified WDM network in either Europe or America. However, in Europe there is a large fragment of such a network in the form of the Hermes Europe Railtel company's SDH-WDM network. This means that it is impossible to take advantage of the main advantage of WDM systems - the ability to route streaming traffic at wavelengths, to say nothing of the second unrealized opportunity of routing packet traffic, which consists of optical packets. The same can be said about the inability to use multiprotocol switching technology on the MPS wavelength.

THE IMPORTANCE OF NON-LINEAR STRUCTURAL ANALYSIS IN DESIGN OF COMPLEX STRUCTURES

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Abstract

It's a matter of common knowledge that nowadays a number of complex buildings are built all over the world. Recalling back in history, the mankind sometimes just experimented whether certain building would survive in some extreme cases. Following the huge progress in technology, methods of structural analysis have also been developed over the centuries and especially modified during the last decades. This enables engineers to design so complex structures with very accurate prediction of their responses to various kinds of loads.
The purpose of the paper is to show the need of non-linear structural analysis in design of complex and irregular structures, from both scientific and practical engineering points of view. Such kind of analysis better anticipates the response of the structures to the loads. Moreover, modern software and technology in general provide all support to do so.
The paper will include at first, explanation of non-linear analysis phenomena, how it differs from linear analysis, when it is necessary and etc. The methodology of non-linear analysis will be described. In addition, there will also be provided the comparison of linear and non-linear analysis results. It will be shown that there do exist some differences considering the proper example as well as the importance of these differences will be explained.
Finally, the conclusion will include the summary of the paper. It will be noted that the overall building response based on the non-linear analysis is usually much closer to the reality, rather than the one based on linear analysis. Even though, in some cases the difference so small that it can be neglected, in complex structures such high-rise buildings the difference is certainly recognizable and noteworthy. Moreover, modern design approaches strive to implement more and more irregular and complex shapes and this once more underlines the need of non-linear structural analysis.

Keywords: Structural Analysis, Non-Linearity, Complex Structures.

INTRODUCTION

It goes without saying that there are number of various engineering problems exist all over the world. Following the development in science and technology, the mankind strives to solve more and more advanced problems. Eye-catching skyscrapers, long-span bridges, irregular shaped buildings and generally complex structures have become widespread in many countries. On the one hand, it's clear that nowadays modern technology enables the engineers to conduct analysis and design the mentioned structures much easier than before, but one the other hand it's worth mentioning that engineers' role is still crucial and they're responsible for conducting proper structural calculations and analysis.
As a matter of fact, the main idea behind structural analysis is to come up with the most probable analytical model of the structure that will enable to predict possible response of the it to various types of loads, including static and dynamic. Nowadays, engineering software enable design engineers to conduct calculations of the problem quite easily, but still the engineer should have proper skills to

address the necessary points and make decent conclusions. There exist two approaches of structural analysis: linear and non-linear analysis. As it might seem from their names, the approaches are very different between the mentioned two. Linear analysis is carried out based on the premise that a proportional relationship exists between applied loads and displacements of the structure. There is assumed linear material stress-strain behaviour and small geometric displacements. In such analysis the basic material properties of the elements such as modulus of elasticity, modulus of rigidity and stiffness remain constant. Linear analysis may be absolutely valid and sufficient for many structures but there do exist some cases when the results of such analysis might not be enough to make comprehensive conclusions.

Non-linear structural analysis is the specific type of analysis that includes advanced numerical methods to conduct structural calculations and conclude the most probable overall response of the structure. Non-linear analysis considers various factors such as the existence of excessive stresses, very large deformations, contact nonlinearity and boundary conditions. When such kind of analysis is conducted, above mentioned material properties such as stiffness and modulus of elasticity change over the time. Non-linear analysis turns up to be more challenging and time-consuming than the linear one. Moreover, it requires more human and technical resources.

DISCUSSION

The reason why non-linear structural analysis is more challenging compared to the linear one is that it goes much deeper into the problem and therefore provides much accurate results of it. It goes beyond the limits of elasticity and addresses plastic deformations as well. As mentioned above non-linear analysis takes into account various factors, that can be classified into several types: Geometric nonlinearity refers to the changes in shape and geometry that occur when the structure undergoes large deformations. Material nonlinearity includes the nonlinear behaviour of materials, such as plasticity, non-elastic deformation and creep. In addition, contact nonlinearity stands for the interactions between structural components or external factors.

However, the accuracy requires more complex numerical calculations through the problem. It's almost impossible to conduct non-linear analysis manually. It requires significant computational resources and proper software with modern features. Moreover, the analysis might be quite time-consuming, depending on the engineering problem. In addition, there might arise several numerical solutions to the nonlinear equations and it's vital that the engineers possess suitable skills. The most widespread numerical methods of such analysis include finite element method and Newton-Raphson methods.

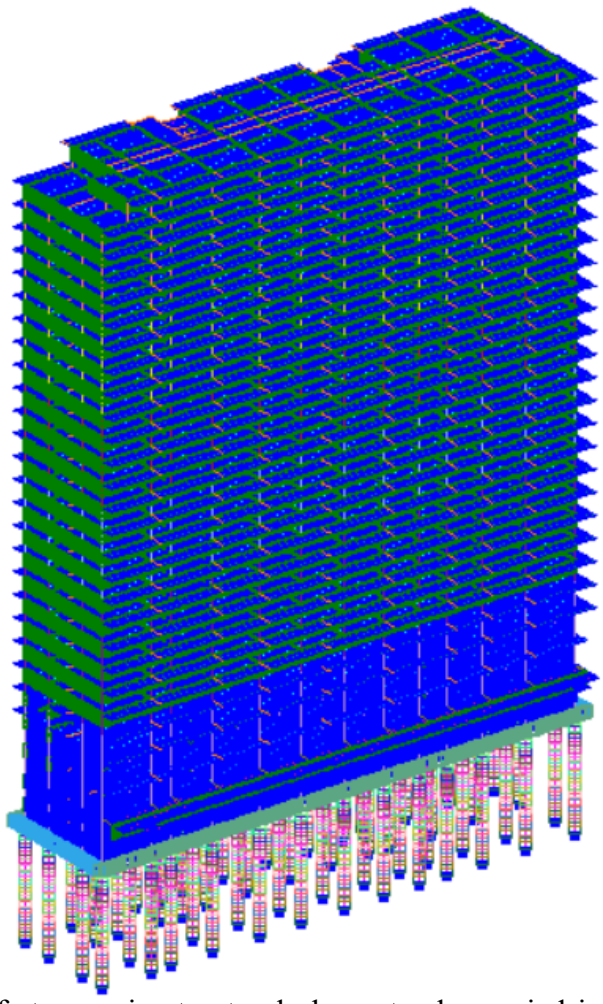
Even though, it may include some difficulties, non-linear analysis is simply integral part and absolutely necessary for some engineering problems. As already noted, it provides numerous benefits in understanding and predicting the behaviour of structures, especially in case of complex loadings. Considering the described nonlinearities such as geometric and material for instance, the non-linear analysis results are more reliable and realistic. Nonlinear analysis also enables the assessment of safety and stability of structures. By accounting for nonlinear behaviour, engineers can identify potential failure modes, evaluate structural integrity, and make informed decisions to enhance safety measures (Prasad, n.d.). Therefore, nonlinear engineering might play a key role in optimizing the design and to implement safe, the most cost-effective and comfortable solutions.

As for the applications of non-linear structural analysis it depends on many different factors. To start with engineering norms and standards in different countries have their requirements in which case it's applicable to conduct non-linear analysis. There exist many little details according to location or region but the overall remark can be made that high-rise buildings or skyscrapers do need to be analysed in this way as well as complex shaped structures or long-span bridges. Despite, the existing

engineering norms and standards, the engineer's experience is also very important. It's impossible to include all possible potential design in norms and therefore it's crucially important that the engineer has proper understanding of the issue and is able to decide whether it's necessary to conduct non-linear analysis or is it enough to conduct just linear one.
The problem, provided below represents the analytical model of the block of apartments in Tbilisi, Georgia. The height of the block is around 85 meters and it's regarded as a high-rise building. The problem is analysed using LIRA SAPR software based on the finite element method, considering both static and dynamic loads. Static loads are obtained from the existing engineering norms in the country as well as dynamic loads distribution. Dynamic loads include earthquake and wind loads. Structural analysis was carried out both linearly and non-linearly. As for the linear analysis, response spectrum method was used to solve the dynamic problem. The selected package of accelerograms and proper geophysical data were used in the non-linear analysis.
The overall assessment of the results show that the difference is noteworthy and affects the overall response of the building.

RESULTS

As for the results of the problem there have been both similarities based on the implied linear and non-linear analysis. When it comes to the similarities between the two types of analysis it's worth mentioning that the maximum vertical force through the entire building was almost the same. Also, the periods of vibration, that is one of key characteristic for overall dynamic response in general, appeared to be very similar to each other. Moreover, the overall design reinforcement in elements such as beams, for example, also turned up to be very close to each other.
On the other hand, the displacement value towards X direction appeared to be increased by 12% as a result of
non-linear analysis as well as the displacement towards Y direction was increased by 7%. Also, the deflection
towards Z direction was raised by 25% compared to the results provided by the linear analysis. Furthermore,



the overall distribution of stresses in structural elements also varied in some cases. For example, taking
into account the design reinforcement of floor slabs, it was clear that the stressed were distributed differently
between the two types of analysis, even though the maximum values were very close to each other.

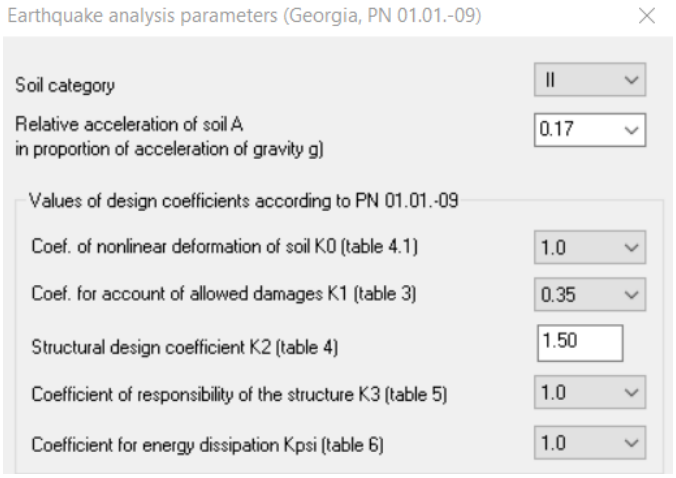


Figure 2. Earthquake Analysis Parameters according to Georgian Norm.

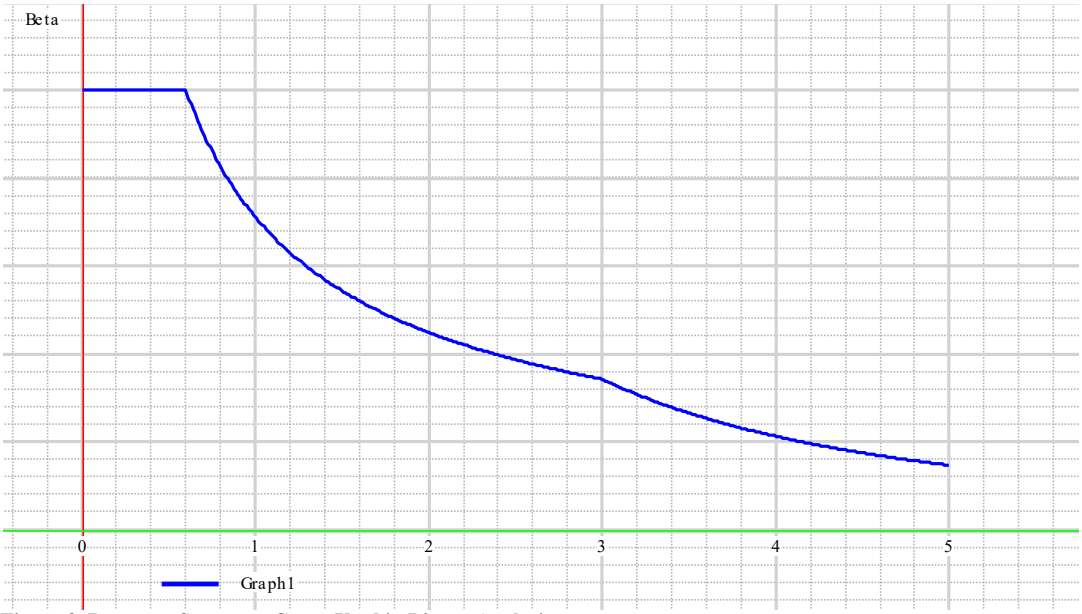


Figure 3. Response Spectrum Curve Used in Linear Analysis

Coefficients of combinations

	D	L	Sh	Cr	Su	E	Sp	I	N/a
1 main	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
2 main	1.00	0.95	0.90	0.90	0.90	0.00	0.00	0.90	0.00
Specific	0.90	0.80	0.50	0.50	0.50	1.00	0.00	0.50	0.00
Specific no Earthquake	1.00	0.95	0.80	0.80	0.80	0.00	1.00	0.80	0.00

Standard OK Cancel Help

Figure 4. Coefficients of Combinations in the Design Combination of Forces

CONCLUSION

In summary, once more it can be noted that non-linear structural analysis usually provides more reliable and realistic results compared to the linear one, especially in case of complex structures. This occurs because some additional factors are considered regarding nonlinearity. However, this is a comprehensive issue since non-linear analysis is very often quite challenging and time-consuming. It requires advanced human and computational skills to be carried out properly. Therefore, appropriate people should decide whenever it's necessary to analyse the problem non-linearly. In case of small or regularly shaped buildings, generally it's waste of resource to conduct analysis this way, because the differences in results are almost always negligible.

On the other hand, it's vitally important to analyse the problem non-linearly when it comes to high-rise buildings, skyscrapers, long-span bridges and etc. In other words, such analysis is necessary when it comes to complex structures. Through the paper, the example of high-rise building also provided

significant insight how the results might differ based on the two types of analysis. These numbers, especially in combination play a key role to describe the overall performance of the structure, so each of them should be considered attentively.
Finally, it's crucially important to conduct non-linear structural analysis when designing complex structures.

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FROM GREY TO GREEN: TRANSFORMING URBAN INFRASTRUCTURE WITH LANDSCAPE URBANISM AND NATURE- BASED SOLUTIONS

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Abstract

While urban centers continue their spread, the mounting pressures on conventional civic frameworks have come to light, highlighting an urgent necessity for environmentally-sound metropolitan growth blueprints. These traditionally constructed infrastructures, dominated as they are by somber materials like concrete, steel, and asphalt, have become increasingly insufficient in rising to modern urban difficulties such as pollution, heat islands formed by development, flooding, and loss of natural diversity. This article delves deeply into the transformative approach of landscape urbanism and nature-based solutions innovative paradigms that prioritize the seamless integration of green elements and natural systems within urban designs. Through an interdisciplinary fusion of perspectives from landscape architecture, urban planning, environmental science, and analyses of case studies from cities worldwide, we aim to unravel the diverse benefits inherent in transitioning from constructed to cultivated spaces. While environmental benefits like better air and water, more diverse wildlife, and stronger resilience to climate change are significant, such nature-based solutions can additionally foster socio-economic prosperity through new employment, higher property worths, and increased neighborhood wellness. While the potential of these green strategies is vast, their implementation is not without challenges. This research also sheds light on various hurdles faced in the large-scale adaptation of these methods, emphasizing the criticality of interdisciplinary collaboration, comprehensive stakeholder engagement, adaptive policy frameworks, and rigorous monitoring and evaluation mechanisms. The study argues that crafting resilient, sustainable, and vibrant urban landscapes in the face of pressing 21st century challenges will necessitate a concerted shift from conventional approaches to more nature-inclusive solutions that are not merely advantageous but absolutely imperative.

Keywords: Sustainable Urban Planning, Nature-Based Solutions, Landscape Urbanism, Ecological Resilience, Green Infrastructure.

I. INTRODUCTION

Landscape urbanism and nature-based solutions have emerged in response to urbanization and climate change challenges exacerbated by traditional grey urban infrastructure. This approach integrates natural elements into urban design, blending principles from landscape architecture, urban design, and ecology for sustainable urban landscapes. Nature-based solutions like green roofs and urban forests directly harness nature to address issues like flooding and heat islands. This article delves into these strategies, emphasizing their transformative potential for sustainable urban futures.

Landscape urbanism emphasizes landscape architecture's role in urban design, promoting the infusion of green spaces into cities for sustainability and resilience. Recognizing the power of

nature-based solutions to tackle urbanization and climate change challenges, it leverages natural elements to bolster urban infrastructure and environmental sustainability. Implementations like green roofs, urban forests, and permeable pavements provide aesthetic and ecological advantages, including better air quality and biodiversity. This approach promises a shift from concrete-dominated cities to greener, more habitable spaces.

Rapid urbanization and population growth have escalated urban infrastructure challenges, notably the decline of traditional grey infrastructure like roads and buildings. These structures face congestion, wear, and insufficient capacity coupled with vulnerabilities to natural disasters such as floods. Furthermore, urban areas are depleting natural resources unsustainably. Addressing these issues urgently requires innovative strategies. Landscape urbanism and nature-based solutions present sustainable alternatives that not only counter these challenges but also enrich urban life quality.

Urban infrastructure critically influences city sustainability, especially amidst rising urbanization. Traditional grey infrastructure often intensifies environmental concerns like pollution and heat islands. Landscape urbanism, by integrating natural elements into urban planning, can enhance air quality, control stormwater, and boost biodiversity. Nature-based solutions further address climate change, foster social inclusion, and elevate urban life quality, marking a pivotal shift toward sustainable, resilient cities.

Landscape urbanism and nature-based solutions proactively integrate nature into urban settings, addressing 21st-century city challenges. By employing green infrastructure parks, green roofs, and urban forests, these strategies uplift urban quality of life, enhance environmental quality, and mitigate heat islands, delivering vital ecosystem services. More than just beautification, they weave ecological principles into urban design, endorsing biodiversity and resource conservation, making cities lively and sustainable habitats.

As cities burgeon, landscape urbanism and nature-based solutions emerge as vital tools for fostering sustainable growth. Landscape urbanism integrates green spaces and ecological systems into urban design, recognizing nature's pivotal role in urban well-being and climate change mitigation. Incorporating elements like green roofs and urban forests enhances urban livability. Nature-based solutions, with methods like biofiltration and rain gardens, offer benefits from stormwater management to biodiversity conservation, presenting sustainable alternatives to traditional grey infrastructure.

Landscape urbanism and nature-based solutions revolutionize urban infrastructure, transforming traditionally grey, concrete-dominated areas plagued by heat islands, flooding, and poor air quality. These strategies integrate nature into urban design, employing tools like green roofs to enhance air quality and reduce heat, urban forests for recreation and temperature regulation, and constructed wetlands for natural stormwater management. Emphasizing nature's integration, Landscape Urbanism incorporates green spaces for biodiversity and climate change mitigation while prioritizing sustainable drainage systems. Ultimately, it advocates a nature-centric urban planning approach for sustainable, livable cities. Prepared papers should clearly describe the background of the subject, the authors work, including the methods used, results and concluding discussion on the importance of the work. Papers are to be prepared in English or Turkish and SI units must be used. Technical terms should be explained unless they may be considered to be known to the congress community.

1. Problematic:

In light of the unprecedented urbanization seen throughout the current era, over half of the earth's inhabitants have come to dwell in metropolitan areas within the past couple decades alone. As urban environments expand, the traditional 'grey' infrastructure predominantly concrete, asphalt, and steel has often led to a series of environmental and socio-economic challenges. These challenges range from urban heat islands, increasing pollution, and frequent flooding due to impermeable surfaces, to a decrease in urban biodiversity and strain on already limited natural resources. While grey infrastructure has its merits, its dominance presents cities with vulnerability, especially in the face of accelerating climate change. The integration of 'green' infrastructure through landscape urbanism and nature-based solutions is posed as a transformative approach, aiming to restore ecological balance, enhance urban resilience, and foster healthier living environments. The transition from grey to green is far more complex than appearances might suggest, encompassing intricate interplays between design, implementation, policy, socioeconomic factors, and enduring maintenance requirements. Thus, the problematic central to this research is: How can cities effectively navigate the complexities of transforming traditional grey infrastructure into green, using landscape urbanism and nature-based solutions, while ensuring urban resilience, ecological restoration, and improved quality of life for its inhabitants? This inquiry seeks to understand the barriers, best practices, and potential of this transformative approach in the urban context

II. METHOD:

In the research titled "From Grey to Green: Transforming Urban Infrastructure with Landscape Urbanism and Nature-Based Solutions," our methodology starts by defining objectives for understanding the transition from grey to green infrastructure. Utilizing academic databases, a comprehensive literature review is conducted, applying specific inclusion and exclusion criteria to identify relevant articles that chronicle the historical shift and effectiveness of landscape urbanism and nature-based solutions. Concurrently, a set of criteria is established to select diverse case studies representing varied geographical contexts and outcomes. Data from these cases is gathered, focusing on their design approach, implementation challenges, and outcomes. From a cost-effectiveness, scalability, and environmental impact perspective, these case studies are then assessed through a comparative examination of certain metrics. Integrating the literature review's findings with the comparative study, the research offers cohesive insights and actionable recommendations for urban planners, policymakers, and architects. Finally, potential study limitations and prospects for future research are acknowledged, ensuring a comprehensive and insightful inquiry into urban infrastructure's green transformation.

III. RESULT AND DISCUSSION:

This study underscores the transformative impact of landscape urbanism and nature-based solutions on urban infrastructure. Green spaces and vegetative structures enhanced biodiversity, improved air quality, and diminished the urban heat island effect. Natural stormwater management, like swales and rain gardens, elevated water quality while mitigating flooding. These interventions bolstered urban resilience to climate change and offered socio-economic benefits, from mental well-being and recreation to property value growth, pointing towards a sustainable urban future.

1. Understanding Landscape Urbanism:

Landscape urbanism, a novel urban planning approach, prioritizes integrating nature into city design. Contrasting traditional planning that favored efficiency over ecology, it centers on ecological sustainability and green space creation. The methodology values natural systems in urban contexts, encompassing water management, biodiversity, and carbon capture. The goal is fostering cities resiliently aligned with their natural landscapes.

1.1.Define landscape urbanism and its principles:

Merging landscape architecture with urban planning is pivotal in reshaping urban infrastructure via landscape urbanism and nature-based solutions. Together, they tackle urbanization and climate challenges, with the former enhancing city aesthetics and well-being, and the latter strategizing land use and infrastructure. This union yields green infrastructure like green roofs, bioretention systems, and urban forests that addresses climate impacts, manages water, reduces heat islands, and enriches urban life. Such integrations are vital for future sustainable, lively cities.

1.2.Discuss the integration of landscape architecture and urban planning:

Landscape urbanism prioritizes creating resilient, sustainable cities by weaving natural systems into urban design, transcending traditional methods. It champions nature-based infrastructure solutions, like green roofs and rain gardens, which offer benefits from stormwater management to enhanced biodiversity. These innovations heighten urban resilience against climate change. Landscape urbanism further supports renewable energy and sustainable transportation, reducing carbon emissions. This approach is pivotal for crafting cities equipped to tackle future challenges while ensuring human and environmental well-being.

1.3.Explain how landscape urbanism promotes sustainable and resilient cities:

Urbanization has ushered in challenges to city sustainability and livability. Landscape urbanism, combined with nature-based solutions (NBS), offers a remedy by emphasizing the role of ecological systems in urban design. By integrating NBS such as green roofs, urban parks, and permeable pavements, cities can better handle environmental challenges, counteract climate change impacts, and uplift residents' well-being. These green interventions offer diverse benefits like stormwater management, biodiversity conservation, and recreational spaces, bolstering urban resilience and adaptability. Transitioning from grey to green infrastructure promotes a harmonious urban environment for both humans and nature. As evidenced, NBS play a transformative role in addressing urbanization's adverse effects. Leveraging natural elements in urban planning magnifies city resilience and environmental benefits. However, realizing these benefits necessitates interdisciplinary teamwork, stakeholder involvement, and persistent monitoring and evaluation.

2. Nature-Based Solutions for Urban Infrastructure:

Nature-based solutions harness natural processes to tackle societal and environmental issues, aiming to preserve ecosystems while benefiting both people and nature. These solutions offer climate adaptation, biodiversity conservation, and enhanced air and water quality. Integrated into urban designs, they bolster city resilience, reduce carbon footprints, and regulate temperatures. Furthermore, they create economic opportunities and elevate urban aesthetics, making cities more appealing and sustainable.

2.1.Define nature-based solutions and their benefits:

Green infrastructure in urban contexts crucially combats the urban heat island effect. Urban regions, with their impervious surfaces and limited shade, often register higher temperatures than adjacent rural areas. Solutions like green roofs and urban forests counteract this effect through shade, evaporative cooling, and moisture addition. These methods enhance urban livability, especially during heat extremes. Moreover, green infrastructure aids in purifying air, capturing pollutants, and thereby diminishing respiratory health risks, underlining its essential role in shaping sustainable, livable cities.

2.2.Discuss the role of green infrastructure in urban settings:

Cities all over the world are implementing natural alternatives to renew urban infrastructure. In Singapore, Gardens by the Bay showcases this with its iconic supertrees, providing shade, cooling, and solar energy through photovoltaic cells. The park, teeming with diverse flora, enhances air quality and supports wildlife. Copenhagen's Harbour Circle project has repurposed old industrial

waterfronts into vibrant green spaces, boosting recreation and urban quality. Both instances underline the transformative and sustainable potential of nature-based solutions in urban landscapes.

2.3.Explore examples of nature-based solutions in transforming urban infrastructure:

Urban infrastructure's declining state presents global cities with mounting challenges. Traditional, concrete-centric methods often aggravate environmental issues and neglect contemporary urban needs. Landscape urbanism and nature-based solutions, however, present a hopeful shift. By weaving green spaces and ecological systems into city design, they target resilience, sustainability, and enhanced livability. Green infrastructure beautifies urban spaces while bolstering air quality, water purification, heat island mitigation, and biodiversity. These nature-centered approaches also counter flooding, elevate public health, and foster community ties, marking a crucial pivot towards greener, inclusive urban realms. The transformation of New York's High Line from a disused railway to a bustling park and Seoul's Cheonggyecheon Stream Restoration from an overhead highway to a lively park underline the transformative potential of these approaches in crafting sustainable, vibrant cities.

3. Challenges and Limitations

Integrating landscape urbanism and nature-based solutions into urban settings presents challenges. Effective collaboration among stakeholders, such as government entities, architects, and communities, is crucial, necessitating seamless communication for coordinated integration. While funding and cost concerns pose hurdles, land availability and fragmentation further complicate large-scale implementations. In confronting these barriers, we must envision anew the manner in which our municipalities are developed, prioritizing environmental persistency, flexibility to withstand disruption, and harmony amongst ecological and people-centered factors.

3.1.Discuss the challenges faced in implementing landscape urbanism and nature-based solutions:

While landscape urbanism and nature-based solutions show promise, understanding their limitations is vital. Their scalability is constrained due to their dependence on natural processes, making expansive urban applications challenging. Critics highlight a potential overemphasis on environmental aspects, sometimes overlooking urban social and economic concerns. Long-term maintenance of nature-based structures demands persistent, resource-intensive efforts to preserve ecosystem health and infrastructure resilience. Addressing these concerns is key to harnessing their potential for urban transformation effectively.

3.2.Address potential limitations and criticisms of these approaches:

Transforming urban infrastructure via landscape urbanism and nature-based solutions offers promise but meets challenges. Overcoming resistance from established urban systems is essential, which can be aided by public campaigns emphasizing green infrastructure's advantages, such as quality of life and ecological benefits. Collaboration between policymakers and urban planners is necessary to create nature-focused regulations. Securing funding, through private partnerships, government grants, or developer incentives, is crucial for green project implementation, setting the stage for sustainable urban evolution.

3.3.Explore ways to overcome challenges and improve implementation:

Landscape urbanism and nature-based solutions are reshaping perceptions of traditionally gray, concrete-heavy urban spaces. This approach champions the infusion of green elements, like parks and gardens, striving for more sustainable urban environments. Nature-based solutions, such as water-sensitive design, complement this by harnessing nature to counter urbanization challenges. This green integration offers a multifaceted alternative to conventional urban infrastructure, promising environmental, social, and economic sustainability. To realize its transformative

potential against climate change and urbanization, several paths are pivotal. Continued research on the long-term impacts of such green interventions is crucial, including evaluations of green projects' carbon reduction, air quality enhancement, and biodiversity contributions. Synergy between urban planners, policymakers, and other stakeholders is essential for effective green infrastructure design and integration. Augmenting public awareness and fostering community involvement in this urban metamorphosis will be key in driving a sustainable, resilient urban evolution.

4. Future Directions and Recommendations:

Landscape urbanism and nature-based solutions offer scalable avenues for building sustainable and resilient urban infrastructure amidst growing cities and climate challenges. Landscape urbanism weaves natural systems into urban planning, promoting biodiversity and ecological linkages. Nature-based solutions work to restore or revitalize natural ecosystems in urban areas, providing advantages such as improved flood management, improved air quality, and improved wellbeing. Together, they envision a future where cities harmoniously blend nature into their core structure.

4.1.Discuss the potential for scaling up landscape urbanism and nature-based solutions:

For a greener urban transformation using landscape urbanism and nature-based solutions, a multifaceted approach is essential. Policymakers should prioritize green infrastructure in policies, possibly incentivizing developers to adopt nature-centric solutions like green roofs. Urban planners and landscape architects should collaboratively design city spaces with more parks, urban forests, and green urban elements. Landscape architects, moreover, need to continuously innovate, blending aesthetics with functionality. Through collective efforts, a sustainable, verdant urban future becomes attainable.

4.2.Present recommendations for policymakers, urban planners, and landscape architects:

Community involvement is pivotal in urban infrastructure transformation using landscape urbanism and nature-based strategies. Actively including citizens offers planners invaluable insights for sustainable infrastructure design. Such engagement nurtures ownership and pride, bolstering project longevity and upkeep. Moreover, it enhances social cohesion and fosters unity among varied urban demographics. Engaged communities consequently invest more in the sustainable evolution and care of urban spaces, yielding more vibrant and inclusive cities.

4.3.Highlight the importance of community engagement and participation in transforming urban infrastructure:

Landscape urbanism and nature-based solutions are gaining momentum in modernizing urban infrastructure. They emphasize green spaces and nature's integration, paving the way for sustainable, resilient cities. This green shift, spurred by its numerous advantages, improves air quality, bolsters biodiversity, controls temperature variations, and reduces energy use. Furthermore, they combat climate change effects by aiding natural drainage, decreasing flood risks, and fostering carbon sequestration. Through a diversity of interwoven philosophies, these techniques cultivate a variegated lens for advancing civic progress, culminating in a plenitude of beneficial impacts across social, ecological, and financial spheres. Despite the evident benefits like enhanced air quality, biodiversity, and urban resilience there remain challenges in adoption, like space constraints, funding, and differing interests. Still, the increasing embrace of these green strategies signifies a hopeful trajectory toward sustainable urban landscapes.

5. Case Study 1: High Line Park, New York City:

New York City's High Line Park epitomizes how landscape urbanism and nature-based solutions can revive urban spaces. Transforming a derelict elevated railway into a thriving green corridor, it juxtaposes the city's industrial past with sustainable futures, offering recreational spaces for locals and visitors. Integrating self-sustaining irrigation, native plants, and green roofs, the park boosts

ecology, curtails stormwater runoff, and purifies air. Moreover, its success has spurred nearby real estate growth, demonstrating the economic and cultural potency of green urban transformations.

5.1.Background and history of the project:

The High Line in New York City exemplifies the transformative capabilities of landscape urbanism and nature-based solutions. Originating from a community initiative in 1999, this public park, established atop a historic elevated rail line in Manhattan, repurposed a once-abandoned structure. Opening in 2009, with governmental and private backing, it now attracts millions annually. Beyond creating a bustling green space, the High Line has catalyzed urban renewal in its vicinity, spurring new residential and commercial projects, underlining how such initiatives can boost urban living and stimulate economic and community progress.

5.2.Transformation of an abandoned elevated railway into a green public space:

The High Line in New York City stands as a testament to reimagining urban decay through landscape urbanism and nature-based solutions. Once a neglected elevated railway track marked for demolition, local advocates saw its potential, turning it into a linear park infused with sustainable designs and native plants. Today, the High Line isn't just a recreational hub; it bolsters biodiversity, attracts countless visitors, and provides an economic boost to nearby areas. This transformation showcases the power of converting derelict spaces into thriving green assets, enhancing urban livability.

5.3.Positive impacts on the surrounding community and economy:

The transformation of urban infrastructure through landscape urbanism and nature-based solutions significantly elevates community and economic well-being. Take the High Line in New York City as an example: its conversion into green infrastructure enhanced local accessibility, recreational spaces, and aesthetics. Such projects attract tourists, boost economic activities, and raise property values. Nature-based solutions further benefit communities by offering cleaner air, noise reduction, and promoting physical activities. Ultimately, such interventions uplift community pride, cohesion, and residents' quality of life.

5.4.Lessons learned and replicability in other cities:

The analysis of successful projects underscores the importance of learning from and replicating transformative landscape urbanism and nature-based solutions in various urban contexts. These case studies, like New York City's High Line, illuminate the potential of repurposing neglected infrastructures into thriving green spaces, merging nature and urban living seamlessly. The High Line, an elevated railway once forgotten, now stands as a beacon of urban revitalization, offering both environmental benefits like air purification and stormwater management, and socio-economic advantages by boosting tourism and local property values. Cities worldwide can glean from such success stories, adapting them to their unique challenges, ensuring efficient use of resources, promoting sustainability, and augmenting urban resilience.

6. Case Study 2: Cheonggyecheon Stream Restoration, Seoul:

The Cheonggyecheon stream restoration in Seoul exemplifies the transformative potential of landscape urbanism and nature-based solutions. Once a disregarded, polluted waterway hidden beneath a highway, it was rejuvenated into an ecological and recreational hub. Through collaborative work between architects, landscape experts, and engineers, the revitalization effort focused on executing a sustainable design that could reintroduce nature back into the city while also enhancing water quality so as to better support biodiversity. Beyond environmental benefits, the project spurred increased tourism, air quality improvements, and urban resilience, solidifying its role as a beacon for sustainable urban transformations.

6.1.Description of the project and its objectives:

This article explores the impact of landscape urbanism and nature-based solutions in transforming urban spaces from gray to green. Through case studies across various cities, it provides a holistic view of how these strategies elevate urban life and boost environmental sustainability. The study delves into success factors, including planning approaches, design tenets, and community involvement. It also acknowledges the challenges of executing and sustaining these projects. The goal is to glean insights that can guide future urban development towards greater sustainability and resilience.

6.2.Revitalization of an urban stream and creation of a linear park:

The Cheonggyecheon Stream Restoration in Seoul stands as a testament to the potential of landscape urbanism and nature-based solutions. This project rejuvenated a once-polluted stream in the city's core into a thriving green haven. By removing an overhead highway, reintroducing natural habitats, and establishing a linear park, the area's ecological and community vitality was restored. Beyond environmental gains, the transformation bolstered recreation, city reputation, and local commerce, showcasing the holistic benefits of sustainable urban redevelopment.

6.3.Improvement of water quality and biodiversity:

The Cheonggyecheon Stream Restoration in Seoul epitomizes the transformative potential of landscape urbanism and nature-based solutions. Once a polluted conduit for sewage and industrial waste, this project rejuvenated the stream into a thriving ecosystem. Applying these sustainable strategies led to a dramatic enhancement in water quality, making it conducive for aquatic life. Alongside this, biodiversity flourished with the return of diverse flora and fauna. This exemplar underscores the profound impact of such approaches on urban water systems and their surrounding environment.

6.4.Social and economic benefits for the city:

Integrating landscape urbanism and nature-based solutions in cities offers significant social and economic rewards. Urban green spaces boost community well-being, offering venues for relaxation, exercise, and social engagement. From roofing to stormwater management, green infrastructures economically promote environmental sustainability while also luring businesses and investors. Such features elevate property values and spur tourism. By embracing nature-centric remedies, work in fields like gardening, botanical study and eco-travel are generated, in turn bolstering community prosperity.

6.5.Challenges faced and strategies for success:

Implementing nature-based solutions faces challenges, notably a knowledge gap among the public and policymakers. While some see landscape urbanism as a luxury, awareness campaigns can spotlight its necessity. Public outreach and educating policymakers on the long-term benefits of green infrastructure can shift perceptions. Citing success stories, like New York City's High Line, can further advocacy. The High Line transformed an abandoned freight rail line into an elevated park, marrying design with nature. Beyond its aesthetic and ecological roles, it also catalyzed economic growth in adjacent areas. Effective education, combined with successful case studies, can champion the transformative power of landscape urbanism and nature-based solutions.

7. Case Study 3: The Vertical Forest, Milan:

The Vertical Forest in Milan exemplifies the transformative power of landscape urbanism and nature-based solutions in urban settings. These twin towers, adorned with diverse trees and plants, offer aesthetic appeal while addressing urban environmental concerns. They regulate temperature, purify air, and diminish noise. Moreover, they foster urban biodiversity by providing habitats for various birds and insects. The project's success has spurred similar initiatives globally, highlighting the potential of green infrastructure to tackle urban environmental challenges.

7.1.Overview of the concept and design of the Vertical Forest:

The Vertical Forest in Milan, designed by architect Stefano Boeri, is a revolutionary model of urban green infrastructure. Comprising twin towers enveloped in over 20,000 trees and plants, this design combats urban density by reintroducing green space vertically. Beyond its aesthetic appeal, the forest provides air purification, noise dampening, and thermal benefits. Equipped with an automated irrigation system and solar panels, the structure champions sustainability. This innovative approach fosters biodiversity, merging urban living with nature and promoting a healthier urban habitat.

7.2.Integration of greenery into high-rise buildings for improved air quality and aesthetics:

Bosco Verticale in Milan, designed by Stefano Boeri, stands as a testament to integrating greenery in urban high-rises. These twin towers, adorned with over 900 trees and numerous shrubs, not only elevate the city's aesthetic but significantly improve air quality by absorbing carbon dioxide and emitting oxygen. Beyond being visually appealing, the vegetation offers practical benefits like shade, insulation, and noise mitigation. This project underscores the potential of melding nature with urban structures to foster both beauty and health in cityscapes.

7.3.Reduction of energy consumption and carbon emissions:

The High Line in New York City exemplifies sustainable urban development through landscape urbanism and nature-based solutions. Built atop an old railway, it integrates sustainable strategies to cut energy use and carbon emissions. The park employs vegetation and green roofs to mitigate the heat island effect and diminish air conditioning needs. Energy-efficient LED lighting with motion sensors further conserves energy, while permeable surfaces and rainwater systems reduce water consumption. Beyond being a recreational space, the High Line stands as a beacon for sustainable urban practices in dense areas.

7.4.Impact on residents' well-being and quality of life:

Transforming urban areas with landscape urbanism and nature-based solutions significantly elevates residents' well-being. Integrating green spaces within cities not only enhances mental health, reducing stress and elevating happiness, but also deepens connections with nature, bolstering emotional well-being. Moreover, these green havens promote physical activity, fostering healthier lifestyles and encouraging outdoor recreation. As people partake in these spaces, community bonds strengthen. Thus, such urban transformations profoundly improve the overall quality of life for city dwellers.

7.5.Potential for replication in other urban areas:

The success stories discussed underscore the transformative potential of landscape urbanism and nature-based solutions in urban settings. Through diverse case studies, the effectiveness of converting grey cityscapes into vibrant green spaces that uplift urban life becomes evident. These solutions, like green roofs and urban parks, serve multiple purposes, from recreational and aesthetic benefits to addressing stormwater management and air quality. Their successful application in various contexts and scales suggests their adaptability and replicability. This landmark New York park stands out prominently as an outstanding model of redevelopment. This elevated park, repurposed from a historic freight rail, showcases how underutilized spaces can be revitalized into green hubs benefiting both residents and tourists. Besides its recreational role, the High Line enhances air quality, manages stormwater, and boosts economic activities, solidifying the significance of landscape urbanism in creating sustainable cities.

8. Case Study 4: Singapore's Gardens by the Bay:

Singapore's Gardens by the Bay exemplifies the transformative potential of landscape urbanism and nature-based solutions in urban settings. Spanning 250 acres, this ambitious project reimagines

Singapore's urban identity with three unique waterfront gardens emphasizing sustainability. Integrating modern technologies like green roofs and solar energy systems, it minimizes environmental impact. Furthermore, by housing over 1.5 million plants and offering habitats for diverse fauna, it bolsters biodiversity. This endeavor underscores how meticulously designed landscapes can elevate urban aesthetics while addressing the multifaceted challenges cities encounter today.

8.1.Introduction to the project and its goals:

This article delves into the transformative potential of landscape urbanism and nature-based solutions in urban environments. By examining various success stories, the study demonstrates how embedding nature within cityscapes can combat challenges like urbanization and climate change. By presenting both theory and real-world examples, the article underscores the benefits of such solutions in fostering greener, more livable cities. The overarching goal is to motivate urban stakeholders to prioritize nature-centric innovations for sustainable and resilient city planning.

8.2.Creation of a sustainable and biodiverse urban park:

Now a thriving greenway high above the streets of Manhattan, the once disused rail line known as the High Line echoes how creative re-imaginings can breathe new life into obsolete urban infrastructure, reconnecting communities and transforming unused industrial remnants into vibrant public spaces. This unique green space skillfully merges innovative design with sustainable practices, showcasing diverse plant species that support a myriad of wildlife. Sustainable elements like recycled materials and rainwater harvesting are incorporated. Besides bolstering urban biodiversity, especially by attracting pollinators, the High Line also educates visitors about its sustainable features, exemplifying the potential of nature-based urban solutions.

8.3.Innovative use of technology and nature-based solutions:

The High Line in New York City exemplifies the fusion of technology with nature-based solutions in urban redesign. Once an elevated railway, it's now a 1.45-mile green oasis amidst urban sprawl, drawing millions annually. This transformation prioritized sustainable design, incorporating native vegetation and wildlife habitats. Cutting-edge technologies aid in stormwater management, alleviating city wastewater burdens. The High Line's triumph serves as a global beacon, underscoring the synergy of tech and nature in crafting sustainable urban havens.

8.4.Economic benefits through tourism and job creation:

Implementing nature-based solutions in urban settings offers notable economic advantages, including tourism and job creation. As cities evolve into greener spaces, they attract global tourists, fueling the local economy. Additionally, green projects create diverse job opportunities, from landscape architects to gardeners, invigorating the employment sectors. These green endeavors not only elevate residents' quality of life but also amplify tourism and expand job prospects, fortifying the city's economic foundation.

8.5.Challenges faced and strategies for overcoming them:

Implementing landscape urbanism and nature-based solutions in cities poses challenges, including resistance from traditional infrastructure proponents and financial constraints. Educating stakeholders about these modern approaches is essential, with campaigns targeting both decision-makers and the general public. Offering economic incentives and funding, and promoting stakeholder engagement can facilitate these transformative projects. Networking and knowledge-sharing among cities and experts further support such initiatives. An exemplar of this approach's potential is New York City's High Line Park. This former railway, transformed into a green space, rejuvenated its neighborhood, offering transport alternatives, recreational areas, wildlife habitats, and economic boosts from tourism and property value increases. The High Line underscores the

promise of integrating landscape urbanism and nature-based solutions for sustainable urban futures.

9. Comparative study:

Table 1. Comparative study

Feature/Outcome	High Line Park, NYC	Cheonggyecheon Stream, Seoul	The Vertical Forest, Milan	Singapore's Gardens by the Bay
Initial State	Abandoned elevated railway	Neglected urban stream	Urban high-rise	Urban waterfront
Main Transformation	Linear park on former railway	Restored stream with linear park	High-rise with vertical gardens	Tropical gardens
Biodiversity Enhancement	Native plantings, habitats	Aquatic life, native vegetation	Over 900 trees, numerous plants	Supertrees, diverse plant life
Recreational Spaces	Walkways, seating areas	Pathways, public squares	Balconies with greenery	Flower domes, cloud forests
Water Management	Sustainable drainage	Natural water flow restoration	Plants provide humidity control	Rainwater capture, water features
Air Quality & Temperature	Greenery provides cooling	Improved air quality	Trees absorb CO2, provide shade	Supertrees provide shade
Economic Impact	Boosted local businesses	Increased tourism, business	Increased property values	Tourism hotspot, events
Community Engagement	Regular public programs	Community spaces	Residents involved in care	Educational programs, tours
Aesthetic Value	Industrial meets natural	Urban-nature blend	Urban forest aesthetic	Futuristic garden landscape
Challenges Overcome	Reviving abandoned space	Removing highway, restoring stream	Balancing greenery on high-rise	Large scale transformation

Diverse Initial States: The four projects started from varied initial states, from an abandoned railway in NYC to a neglected stream in Seoul. This diversity indicates that no matter the initial condition, there's potential for transformation into sustainable urban spaces with the right vision and execution.

Unique Transformative Approaches: While all projects focus on introducing greenery into urban spaces, they each have unique approaches. The High Line retains its linear structure, Cheonggyecheon embraces water, Milan's Vertical Forest skyrockets with vertical greenery, and Singapore's Gardens goes futuristic with superstructures.

Biodiversity as a Common Goal: A consistent theme across the projects is the enhancement of biodiversity, be it through native plantings, aquatic life, vertical forests, or tropical gardens. This showcases a universal understanding of the importance of biodiversity in urban settings.

Economic Benefits: All projects have economically benefited their respective areas, indicating that investments in green urban projects can lead to economic returns through increased tourism, property value appreciation, and business growth.

Community Engagement: The projects actively involve their communities, from the High Line's public programs to the community spaces around Cheonggyecheon. This not only ensures the project's sustainability but also instills a sense of ownership among residents.

Addressing Urban Challenges: Each project uniquely addresses typical urban challenges such as air quality, temperature, and water management. For example, while all projects improve air

quality, Milan's Vertical Forest specifically uses its high-rise greenery for this purpose, whereas Singapore's Gardens use Supertrees for shade and temperature control.

Aesthetics and Functionality: The projects are not just functional but also aesthetically pleasing. They've become iconic landmarks for their cities, showcasing that sustainable design can also be visually appealing.

Scaling and Replicability: Despite the unique nature of each project, they collectively showcase a range of possibilities for other cities worldwide. They serve as benchmarks, providing a toolkit of methods that can be adapted to different urban challenges.

In essence, these case examinations epitomize how landscape urbanism and nature-grounded remedies can forge lively, eco-friendly, and financially feasible places within our cities through tactics which harness the power of the natural world. The passage emphasizes the necessity of forward-thinking strategizing, public participation, and environmentally-sound techniques in revolutionizing metropolitan settings.

IV. CONCLUSION:

This article delves into landscape urbanism and nature-based solutions as transformative methods for urban infrastructure. Landscape urbanism integrates natural elements into urban areas, promoting sustainability and enhancing living quality. Transitioning from conventional to nature-driven solutions yields myriad benefits. The piece underscores the value of community involvement, interdisciplinary teamwork, and supporting policies in actualizing these urban projects. In essence, employing these strategies paves the way for resilient, sustainable, and vibrant cities.

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RESEARCH ON PLANNING AND ADAPTATION TO CLIMATE CHANGE. ITALIAN LITERATURE REVIEW

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Abstract

Climate change has garnered significant attention due to its escalating influence on extreme weather occurrences and the global warming phenomenon across numerous regions of the world, along with mounting proof of the economic, societal, and environmental harm caused by global warming. Climate change has garnered significant attention due to its escalating influence on extreme weather occurrences and the global warming phenomenon across numerous regions of the world, along with mounting proof of the economic, societal, and environmental harm caused by global warming. In this context urban areas are simultaneously considered both one of the primary causes of climate change and one of its primary victims. Many researches are conducted on this matter from different points of view. Different countries are addressing this issue. The scientific community is highly interested and active. This study delves into the indexed body of research on climate change adaptation in Italy between 2006 and 2023, with a particular focus on its urban aspect. The goal is to construct a comprehensive framework, pinpoint key themes and characteristics, and gain insights into the subject matter. The research papers were sourced from the Scopus database and underwent analysis using our suggested interpretative framework. The findings reveal a growing interest within the Italian scientific community in climate change adaptation studies in recent years, even though the quantity of Italian scientific output remains comparatively lower than that of other nations. This analysis also highlights both strengths and weaknesses within the Italian context in alignment with international trends regarding objectives, sectors, and challenges.

Keywords: climante change, urban, adaptation, planning.

INTRODUCTION

Nowadays climate change is considered one of the most significant global challenges facing the world. The scientific community has long agreed to recognize the ongoing climate change and the ability to adapt to it, as a crucial issue for the future development of the planet and in particular of the cities. Climate change is now recognized as a problem that can no longer be postponed and to which each State is called upon to contribute. But if initially the international reflections and debates mainly concerned the aspect of mitigation, the awareness that a careful adaptation is also necessary to contain the impacts and increase the resilience of the territories has now become established. It has become increasingly clear, in fact, that no matter how vigorously greenhouse-gas emissions are reduced, major shifts in climate will occur over at least the next century, necessitating serious action on adaptation in addition to climate mitigation. The increased focus on adaptation over the time can be tracked through growth in government activities in scientific literature, and also in media coverage.

Italy has launched a number of policies in this regard. In 2015 it adopted the National Adaptation Strategy on Climate Change (NASCC) and for its implementation it is currently approving the relative Plan (NAPCC). The proposed NAPCC, published online for the Strategic Environmental Assessment, highlights a particularly critical future climate picture for the Italian territory. If

confirmed, the expected scenario could affect the evolution of different sectors and have important negative repercussions on different areas. Since research is the basis for the identification of appropriate responses, it seems appropriate to question how it is evolving. Therefore, this work questions how research on the subject is developing in Italy by a systematic literature review. In particular, we refer on papers with an urban correlation.

With regard to the issue of climate change, literature reviews are increasingly being used in the last decade. On the adaptation front, the study of literature was developed mainly according to specific themes such as: the identification of the main barriers to adaptation (Piggott-McKellar et al. 2019), the problem of the governance (Gonzales-Iwanciw et al.2019; Biesbroek et al. 2018), the risk reduction (Islam et al. 2019), the evaluation of the vulnerability (Ford and Pearce 2010; Di Matteo et al. 2018), the health (Witt et al. 2015; Levi et al. 2018), tourism and cultural heritage (Njoroge 2015; Fatorić and Seekamp 2017), the climatic stress due to temperature variations (Heal, Park 2016) and their impact on certain ecosystems (Palomo 2017), the water management (Olmstead 2014), and food security (Thompson et al. 2010). More rarely, the issue has been addressed with a more general approach (Vink et al. 2013) or under a specific urban point of view (Hunt and Watkiss 2011). Furthermore, a limited number of works evaluated the literature in relation to specific territorial contexts (Djalante 2018; Singh 2017). However, despite a clear growth of scientific production in this field, there is no systematic analysis of the literature concerning the Italian research production. Having a picture of it could help to understand which aspects are considered most important and which are still to be developed in the future.

MATERIALS AND METHODS

In this paper we propose a systematic review of the indexed literature on climate change adaptation in Italy which takes into account the urban dimension to better understand how adaptation is approached. Our systematic review was performed by different discrete activities, which can be grouped into four main phases: specification of research questions, definition of criteria selection; definition of an interpretative scheme; report and discussion.

Definition of the questions

Our work try to answer to the following questions: how copious is the literature on the subject?; who deals with these issues?; and overall what are the main features of the research? Which aspects are most addressed, what is the research about?

Definition of the criteria selection

In this paper only bibliometric publications were considered relevant. Publications were identified from Scopus database (one of the largest abstract and citation databases of peer-reviewed literature), observing all documents between 2006 and 2023 (September). First, the terms "climate change" AND "adaption" were used as filter in title, abstract and keywords in the range 2006-2023. The results were limited to: territory "Italy", language "english", and "journal" as source. Then we filter results by "Keyword" (limited to Italy) and subject area (environmental science, social sciences, earth and planetary sciences, energy, agricultural and biological science, decision sciences, multidisciplinary). Finally, results were filtered using "search within results" "city". The final number of studies included in the analysis was: 103 papers.

Definition of the interpretative scheme in order to conduct the review

The classification method has been constructed in order to be functional to the framework of questions that are the base of the work. As far as the contents of the papers are concerned, it doesn't seem right to us to classify them in relation to a single class (or thematic category), so we have chosen to use tree types of fields and to classify the works with respect to: sectors, objectives, hazards/problems. We define 4 possible objectives, 11 sectors, 9 hazards/problems. Each of them groups together several aspects. These aspects are the result of a preliminary recognition of the works. Sectors are obtained integrating/implementing those present in the NASCC and NAPCC.

Table 1. Objectives groups details.

code	Category	sub category
O1	Knowledge	models, projections, simulations, scenario, evaluations
O2	information, communication, education	perception, participation, training, awareness
O3	Governance	policies, strategies, plans, planning tools
O4	Acting	design, actions, measures, case studies, projects

Table 2. Sectors groups details.

code	category	sub category
S1	ecosystems	terrestrial and marine ecosystems, forests, mountains, green/blue infrastructures
S2	water	geological, hydrological and hydraulic instability, blue infrastructures; desertification, land degradation, drought
S3	energy	
S4	agriculture	food production
S5	health	
S6	settlement	cities, buildings, grey infrastructures,
S7	economy	
S8	coastal areas	
S10	climatology	
S11	other	tourism, cultural heritage, society, awarness, mobility, ….

Table 3. Hazards/Problems groups details.

Code	Category
P1	hight temperature/global warming
P2	heat waves/heat island
P3	rainfall
P4	floods
P5	landslides
P6	fire

P7	drought
P8	windstorms
P9	sea level rise

RESULTS AND DISCUSSION

Articles production trend

The growth of the publication productivity has been almost continuous (only five years show a modest decrease). Most of the publications have been developed after 2015. In line with this, the last three years are the ones in which more articles have been published, and the years in which production has had a greater increase than the previous years. The upward trend is in line with what has occurred in other countries, namely with the global trend in publications. Observing documents by country United States prevails with 25% of publications, second country is UK 13,6%. Italy is in the top 15 and occupies the eighth position (4,8%).

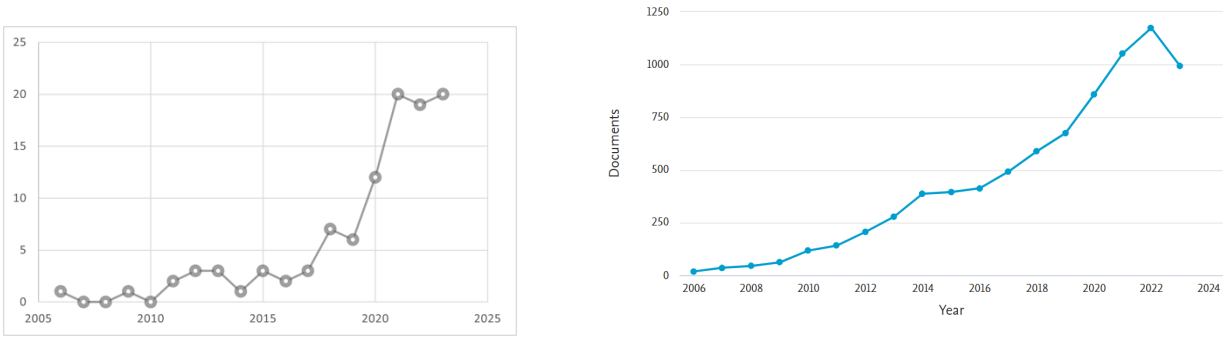

Figure 1. Italian (left) and global (wright) literature trend.

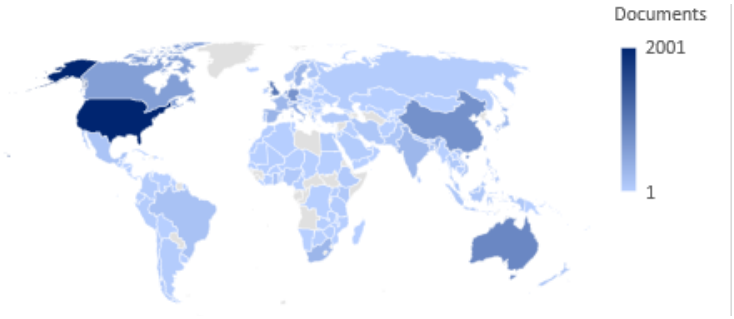

Figure 2. Productivity for country.

Where it is published most

The journal with the highest percentage of publications is "Sustainability" with a significant predominance. The distribution is rather uniform among the other journals; articles are disseminated across 49 journals, however none of which exceeds 6 articles except for "Sustability". 77% (38 out of 49) have only one article and 89% have no more than three (7 out of 49). "Sustability" is still the first journal even when considering the same selection criteria, excluding only the filters related to the reference country (Italy). However, the percentage is much lower, as articles are less concentrated (Climatic Change at 3% is instead the second).

Information on authors and most cited works

We found that research on adaptation to the climate change is mainly carried out in a collective way, by groups composed of several scholars. Most of the papers have been written by many authors. We have calculated that only 5% have a single author (4,85%), while 48% have between 4 and 6 authors (48,5), the remaining 19% more than 6 (19,4). The authors are researchers from 160 different universities, institutions and research centres. However, 89% centers are involved in no more than 4 papers. The most productive institutions are the University Ca' Foscari Venice, the National Research Council (CNR), and the CMCC Fundation (Centro Euro-Mediterraneo sui Cambiamenti Climatici). From results comes out the academic cooperation among countries and territories and centers, research organizations. From these data and from the affiliation of the authors it is possible to assert that adaptation is a multidisciplinary topic that involves various and different subjects/experties. This confirm that adaptation is an integrated problem that is involved in multifaceted aspects. In this regard, some authors wrote of the need to think of adaptation as a new transdisciplinary science (Gaziulusoy 2016).

Table 8. Most cited papers (Italy) (citations at 03 September 2019).

Title	year	author	Journal	citations
National climate policies across Europe and their impacts on cities strategies	2016	Heidrich, O., Reckien, D., Olazabal, M., et al.	Journal of Environmental Management, 168, pp. 36–45	120
Drought-induced xylem cavitation and hydraulic deterioration: Risk factors for urban trees under climate change?	2015	Savi, T., Bertuzzi, S., Branca, S., Tretiach, M., Nardini, A.	New Phytologist, 205(3), pp. 1106–1116	103

Objectives: The building of knowledge is playing a leading role as adaptation pillar.

In 51% of cases the objective of the work falls within the category of "knowledge". The role of scientific knowledge in the decision-making process has been widely debated (van Stigt et al. 2015) as well as the relationship between scientific knowledge and policy (Naess 2013; Boswell and Smith 2017). Although it can be said that construction of knowledge is always in progress in all fields, this is especially true in climate change sector for several reasons. Most of the scientific community agrees that the climate is changing in significant ways, but how this will play out at the local spatial scales in a specific time period relevant to the management of the adaptation options, remains an open question (Gray 2011). Many problems arise from the lack of data, models and forecasts at a local scale and from the uncertain that has to do with the nature of the climate change. In this regard, as in other works (Biesbroek et al. 2018), the results of our review show that finding conceptually and methodologically appropriate information and data was considered one of the most critical challenges

facing adaptation studies. Since accessibility and availability of information, measurement and data, credibility and legitimacy them, but also understanding, translation and management of them are all highly important in adapting to climate change, many studies are focused on the building of models and methods and on the need to test them. In the Italian literature selected on change adaptation risk assessment is a prevalent and fundamental issue. Assessing climate risks allows urban planners and policymakers to make informed decisions that consider the long-term impacts of climate change on infrastructure and development. Assessing the value of risk is a complex task for several reasons, each of which contributes to the intricacy of the process. The complexity of risk assessment arises from the multitude of factors and variables involved, as well as the inherent uncertainties, subjectivity, and interconnectedness of risk in various domains. Addressing these complexities demands robust methods, interdisciplinary teamwork, and a nuanced grasp of the risk assessment context.

Table 9. "Knowledge" about what?

Policy comparison	
Risk assessment	
Vulnerability assessment	
Adaptive capacity measurement	
Involvement and co-planning	
Scenario construction uncertainty assessment	
Assessment of effectiveness	
Impacts assessment	
Other	

In this framework vulnerability assessment emerges as a quite frequent subject of study. In this regard, assessing vulnerability is a key unresolved issue for many authors at global level, and it should also be pointed out that the term vulnerability still appears to be unconsolidated (Fussel 2007), with obvious consequences for the way in which it is evaluated. The literature highlights the need to prepare/improve the knowledge framework regarding the current vulnerability of environmental systems and socio-economic sectors in order to create a baseline of reference for the monitoring system. However, the aspect of the monitoring appears to be poorly represented, so it has currently a modest weight.

The second pursued objective, in our analysis, is "governance" (25%). This topic is recognized as a key factor in making possible to concretize adaptation by most of the scholars from all over the world (Wolf 2011). Governance structures are responsible for developing and implementing interventions related to climate change adaptation. Governance establish a framework for action, set goals, and provide a legal basis for adaptation efforts. In line with this idea, non-structural interventions which involve developing management strategies, plans, policies, or operating frameworks to guide current and future planning, are quite prevalent in our analysis. In fact, although the public governance of climate change adaptation gained increasing attention among both policy-makers and researchers in recent years, it is still largely unclear how administrations can develop and implement adaptation policies (Bauer et al. 2012) and how they have to organize themselves. In line with this, in our research, the most cited article within it specifically concerns governance (Heidrich et. al. 2016). In general there are still many unresolved problems to be addressed such as: how integrate adaptation policies horizontally across policy sectors and vertically across jurisdictional levels, how to involve non-state stakeholders in adaptation policy-making (Eisenack et al. 2014), how to choose from many possible actions and how to find economic resources. In general we note that the research on appropriate policies and strategies it is prevalent, but also the attention to the urban spatial organization (Zullo et al 2019. In our work emerges that several papers discuss about the

acknowledgement that urban planning tools provide a structured framework for integrating climate adaptation strategies, and emphasize the importance of incorporating climate adaptation considerations into urban master plans and policies (Pietrapertosa et al. 2023). This integration ensures that climate resilience becomes a fundamental aspect of city development. Specific urban planning tools like climate action plans and resilience strategies are considered as roadmaps for cities to adapt to climate change. Therefore, several authors examine the role of these strategies in guiding adaptation actions and aligning city governance with climate goals. Researchers recognize the value of learning from the experiences of different cities to develop effective and context-specific strategies for adapting to climate change in urban areas. In fact, not by chance, we found that policy comparison is the prevailing topic in our selection (for example Pietrapertosa et al. 2019). In particular works analyzed deal with: trends in urban climate adaptation policies (for example Heidrich et al. 2016); policy transfer and learning in urban adaptation, evaluation of adaptation plans (for example Serra et al. 2022); City-to-city benchmarking (Molinaroli et al. 2019); case studies on policy effectiveness (Brownlee et al. 2022). Minor attention to other topic relevant in the global research such as: Interactions between mitigation and adaptation policies or adaptation financing. We also note that, in the research, governance prevails on acting. In fact, few projects are presented. Furthermore, little attention is given to the aspect of communication and participation which are rather neglected given small number of papers founded.

Sectors: Urban planning and, ecosystems are the key sectors in adaptation to climate change.
It is appears that “settlement” is the most popular sector category (30%). It is an expected result given that we selected papers used "city" as a filter and given that as explained earlier the theme of governance and urban planning included in it is the prevalent one.

The second prevalent sector of interest is “ecosystems” (16%). Actually many studies have discussed about possible strategies for supporting the ability of ecosystems to persist at local or regional scales at climate change and several studies are focused on the effects of climate change on specific ecosystems (such as mountains, rivers, forests) (for example Furlan et al. 2022). In the analyzed Italian literature papers focus mainly on ecosystem services, green infrastructures, and nature-based solutions. Several works ecosystem-based adaptation promote the sustainable use of biodiversity and ecosystem services to adapt to climate change, and they have been defended as an effective and cost-efficient way of reducing climate change impacts (for example Sebastiani, Fares 2023). Literature analyzed strongly supports the importance of green infrastructures and nature-based solutions in urban climate change adaptation. Papers are focused on ecosystem role and the possibility that ecosystem offer a range of ecological, social, and economic benefits, making them integral components of sustainable and resilient urban planning for the challenges posed by climate change. Some papers deal with the assessment of ecosystems services in specific areas (Busca, Revelli 2022).

It is interesting to note that among the less emphasized sectors, despite its importance, there is the economy. Instead, it would be not only useful but also necessary, an evaluation of adaptation and non-adaptation costs, especially at national and regional scale. Currently, this is a gap not only in Italian research but in all the literature on climate change adaptation. Neither the costs nor the benefits of adaptation to climate change have been systematically studied so far. A few existing studies have reviewed the costs and benefits of adaptation in the main sectors impacted by climate change. Furthermore, the amount of information on adaptation costs and benefits is unevenly distributed across sectors and countries. Furthermore, as for other countries (Agrawala et al. 2011), whereas there are only a few studies in fields such as health. Also in the case of training and awareness-raising of the population there is a significant gap in Italian literature. This result aligns with global climate adaptation literature, which has given little attention to residents' roles (Hegger et al. 2017).

Furthermore, we found a lack of attention paid to adaptation processes in the tourism sector. This is in contrast with the fact that Italy was the first country to have included in the NASCC the cultural heritage, aware of its resources. Though according to various authors: tourism is one of the largest global economic sectors and at the same time strongly exposed to climate change. Climate influences the tourism systems through complex direct and indirect channels (Scott 2011).

Hazards/problems: flood and high temperature are the main enemies to face

The hazards most frequently dealt with are extreme events. Specifically: hight temperature 17% (including heat waves; heat island, temperature stress; temperature comfort) and flood 16%. According to the published data, globally climatological events, such as high temperatures, droughts, and forest fires, have more than doubled since 1980 and the number of floods and other hydrological events have quadrupled since 1980 (EASAC 2013). The last years were the hottest years ever recorded in many countries, while extreme precipitation events led to floods and increasingly severe hydrogeological phenomena. Thereby the increase in extreme phenomena documented in recent years at all levels (global, European and Italian level) finds a correspondence in scientific production (WMO 2019). From 2010 to 2018, a total of 563 events have been recorded in Italy on the climate risk map, with 350 municipalities where significant impacts have occurred (Legambiente 2019). However, in this regard, it should be investigated whether it is a matter of reactive adaptation or of preventive adaptation. Often administrations act according to emergency logic and adaptation efforts are mainly reactive. With a changing climate comes a greater demand for proactive adaptation processes. Furthermore, in Italian literature emphasis is placed on coastal areas (14%) and the dangers associated with rising sea level (11%). This is in line with the fact that many Italian cities have a rich historical and cultural heritage located along the coastlines. Sea level rise poses significant threats to urban infrastructure and local economies. An emblematic case in this regard is represented by the city of Venice, which indeed is the subject of attention in various publications (e.g Maragno et al. 2019). It's no coincidence that the University of Venice, as already pointed out, is among the most active on this topic. However, it is often not clearly specified as a single hazard (35%), or multiple hazards are referred to simultaneously (9%).

CONCLUSION

It is possible to state that in syntheses in the Italian literature analyzed, most of the papers are related to "knowledge", and among these the most popular sector is that of "settlement" followed by "ecosystems", the prevailing problem is overwhelmingly extreme events and great attention is to "policies comparison", "risk assessment" and "vulnerability assessment".

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INFLUENCE OF ALUMINIUM OXIDE NANOPOWDER IN THE COMPOSITION OF CARBIDES ON THE STRUCTURE AND OPERATIONAL PROPERTIES OF THE MATERIAL

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Abstract

The task is to obtain high-strength heteromodular ceramic materials based on carbides and improve its properties using aluminum oxide nano-powder in the composition.
Nitriding and hot-pressing methods were used in the sintering processes to obtain the materials. To determine the phase composition of the resulting composite and, accordingly, the change in its properties, we used different modes of thermal treatment.
Nitriding process in SiC - Al_2O_3 composite takes place in the entire layer of the sample. Better results are obtained when SiC - Al_2O_3 is varied, and the optimal composition is: (mass %) SiC-40-50; Al_2O_3-25-35; Si-13-15; Refractory clay -10-12. The inclusion of Al_2O_3 nano-powder in the composition improves all characteristics. Compressive strength limit is 1600 MPa, open porosity is less 0.6%, Hardness by Rockwell-93 HRA, thermal resistance (800^0C water) is more than 50 heat changes. Composites with high modular properties were obtained on the basis of SiC-TiC-Al_2O_3 systems.
A homogeneous binder mass with a xenomorphic structure of densely packed crystals is obtained. The X-ray structural analysis of the samples is in agreement with the microscopic research data. After further processing of the samples obtained by reactive sintering on the basis of SiC and after hot pressing them, there is a leap in physical and technical indicators. It is possible to control the structure of materials by adjusting the supramolecular structure of the binder and forming three-dimensional cluster structures from nanometer particles. Aluminum oxide nano-powder leads to a sharp improvement of tribological properties of composites in a wide temperature range. Composites can be used for operation under high temperature and wear conditions.

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Keywords: Al_2O_3, Nano-powder, Nitriding, Compsite.

THE STUDY OF A SEPARATED BOUNDARY VALUE PROBLEM FOR A FRACTIONAL EQUATION INVOLVING A DERIVATIVE OF LOWER ORDER AT THE SCHAUDER FIXED POINT

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Abstract

In this study, we explore a new category of separated boundary value problems for non-linear fractional differential equations where the non-linear term f relies on a lower-order fractional derivative given by:

$$c_{D_{0^+}}^{\alpha} x(t) = f\left(t, x(t), c_{D_{0^+}}^{\beta} x(t)\right) \quad , \quad t\epsilon[0,T], \quad 1 < \alpha \leq 2 \, , \quad 0 < \beta \leq 1$$

subject to separated fractional boundary conditions:

$$a_1 x(0) + b_1 \left(c_{D_{0^+}}^{\gamma} x(0)\right) = c_1 \quad , \quad a_2 x(T) + b_2 \left(c_{D_{0^+}}^{\gamma} x(T)\right) = c_2 \quad , \; 0 < \gamma < 1$$

Here $c_{D_{0^+}}^{\alpha}$, is the Caputo fractional derivative, f : [0,T] × $R^2 \rightarrow$ R is a continuous function, and a_i, b_i, c_i ,i = 1, 2
are real constants satisfying: $a_1 \neq 0$ and T > 0.
The aim of this work is to study the existence and uniqueness of solutions to the separated fractional boundary value problem using the Schauder fixed point theorem, which is a topological theorem that asserts a relatively compact map has a fixed point that is not necessarily unique. Therefore, it is not necessary to establish estimates on the function, but rather on its compactness.
To conclude, an example is presented to illustrate the application of this theorem.

Keywords: fractional differential equation; separated fractional boundary conditions; Schauder fixed point theorem; existence.

IMAGE CAPTION GENERATOR WITH CNN AND LSTM

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Abstract

Recently, visual captioning has become one of the most needed tools. All built-in applications that generate and provide a title to a particular image are done with the help of deep neural network models. In this study, an artificial intelligence-based image annotation generator that aims to understand the given visual content and automatically generate explanations will be examined. The model sits at the intersection between computer vision and natural language processing and includes a hybrid data stream. The image description generator ensures that each image is properly understood and the appropriate title can be created with the appropriate grammatical structure. One of the central components of the model is the Convolutional Neural Network (CNN) architecture, which is trained to identify objects and features in images. In the visual caption task, text data as well as image data are taken into account. Text data is first converted into numeric form (Text Embedding) to be expressed mathematically. This helps map words to vectors and better understand the model. The basic architecture of the model includes long short-term memory (LSTM). In this study, pre-trained on ImageNet to detect different objects in an image and to create subtitles by recognizing the relationships between these objects; Experiments were carried out on MS COCO and Flickr8k datasets using the ResNet-50 and AlexNet CNN models. During the training phase, the model is trained to minimize the loss of annotation generation by comparing the predicted explanations with the actual explanations. The performance of the proposed approach was evaluated using the BLEU, and METEOR evaluation criteria. Experimental results show that the model is satisfactory in correctly detecting objects in images.

Keywords: CNN, Deep Learning, Image Capturing, LSTM.

INTRODUCTION

The expectation that machines will understand the visual world at the level of human insight has increased the need for effective visual identification and interpretation in today's world where visual content dominates. Automatically identifying and automatically extracting the content of a given image using natural language is called image captioning. The aim here is to produce the sentence that best describes the sample image semantically (Chaudhari and Devane, 2021). Creating captions from images is considered as a combination of computer vision and natural language processing (Bai et al., 2021) (Wang et al., 2022). Therefore, creating an image caption is not only about understanding the content of the image, but also finding a correct subtitle by extracting the semantic relationships between objects syntactically and semantically and capturing the details in the image. The process of understanding visual content created by complex objects and associating it with language is a very difficult task for the computer, but it plays an important role in many applications.

For example, it can help visually impaired people better understand their environment. Machine learning techniques,computer vision and natural language processing methods are used to extract the

meaning of visual data and accurately reflect this meaning in text. Image caption components are shown in Figure 1.

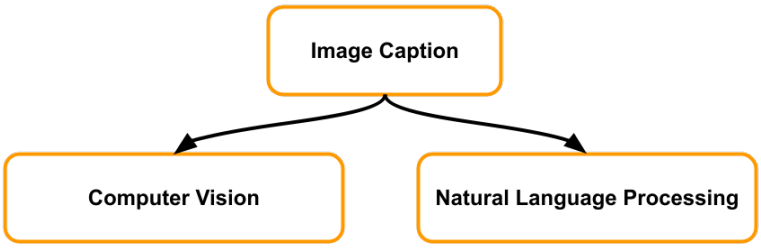


Fig. 1. Image caption components.

Convolutional Neural Networks (CNN) are widely used for computer vision and Long Short Term Memory (LSTM) for natural language processing. While CNN is used as an Encoder in image captioning processes (Mustafa, 2021), LSTM is used as a Decoder (Hochreiter and Schmidhuber, 1997). An end-to-end Encoder-CNN, Decoder-LSTM framework for image captioning is shown in Figure 2.

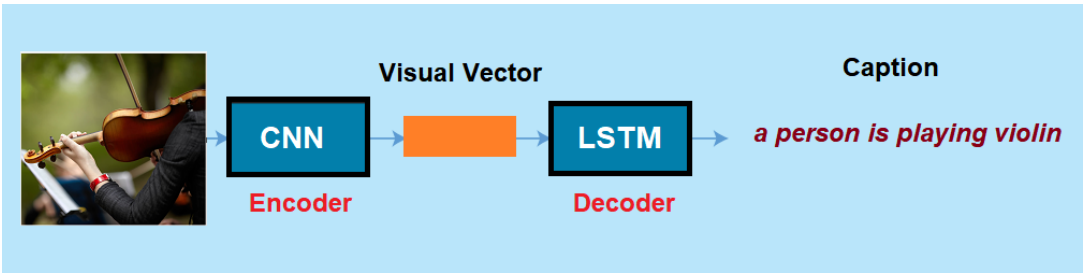


Fig. 2. The CNN-LSTM based image caption.

CNNs are special deep neural networks that can process data with a two-dimensional matrix shape. To predict a particular image class, CNN models add a predefined class label to each image in the training set. It learns how to classify an image through the supervised learning process. Generally, in this type of tasks, the content of the image is simple and evident in the objects to be classified. In image captioning, in order to create a meaningful and syntactic title for the image, the model must detect distinct objects in the image, understand the relationships between them and provide a consistent explanation. However, due to the object complexity in the image, it may not be easy to represent the significant differences between them with a simple classification feature. Therefore, in image caption model training, it is not enough to just classify the image, but also requires a complete description of the content of a given image in natural language. In early approaches to image captioning (Farhadi et al., 2010), objects and contents in images are detected and filled into a manually prepared rigid sentence template. Subtitles designed with this method are not always fluent and impressive. Or images are selected from similar images from a large database, and then titles are transferred to the retrieved images to match the query image (Hodosh et al, 2013). There is little flexibility to change captions based on the content of the query image because they are directly tied to the captions of training images and cannot create new captions (Xiaodong and Li, 2017). The remainder of the article is organized as follows. In section two, studies in the literature are briefly introduced. In the third section, the CNN and LSTM model are included along with the data set used as material, and the evaluation metric criteria are mentioned. In the fourth section, the findings regarding the proposed method are shown and a summary of the study is presented in the conclusion section.

RELATED WORK

There are many different studies in the literature on creating image captions. Machine learning and deep learning methods were generally used in the studies.

(Bai et al., 2021) used the Multi-model Graphical Convolutional Network (MGCN) method to generate the image caption. (Lu et al., 2022) proposed a model to identify fine art image content using the ArtCap dataset. (Yang et al., 2022) created a new data set to create human-centered captions. (Agrawal et al., 2021) proposed a caption generator model based on an encoder and an attention-based decoder. They used the Inception V3 model as the encoder in the study. (Hodosh et al. 2013) proposed the sentence-based image caption annotation framework as the task of editing a specific set of captions. (Fang et al., 2014) introduced a multi-instance predictive learning framework learning perceptrons for various visual concepts and then applied a language model trained with captions to the perceptron results. (Mao et al., 2014) designed a multimodal RNN (m-RNN) to predict the resulting distribution of the caption. (Kiros et al., 2014) created a similar multimodal application environment using a robust CNN model and an LSTM that encodes text. (Vinyals et al. 2014) combined deep CNNs of image diversity with LSTM suitable for sequence text format to make a single network that generates annotations from images. (Donahue et al., 2014) used LSTMs as a regular model to extract subtitles.

MATERIAL AND METHODS

In this study, an image captioning model is introduced that uses a convolutional neural network (CNN) to extract patterns and feature placement of an image and feeds it as input to LSTM cells to generate a caption. For this, ResNet50 (Kaiming et al., 2015) and InceptionV3 (Szegedy et al., 2016) CNN models pre-trained on ImageNet were used. ResNet50 architecture performs first convolution max pooling using a 224×224×3 input image with kernel sizes of 7x7 and 3x3, respectively. InceptionV3, on the other hand, consists of a 299×299×3 input image and multiple convolution and maximum pooling layers. Subsequent layers comprise a fully connected neural network. The key

component of the model replaces small kernels with large kernels, minimizing the computational process and the total number of parameters.Since general image classification was not performed, the last Full Connect (FC) layer was removed from the two models and only the image feature vector was connected to the LSTM in the decoder.

Dataset

In this study, the popular Flickr8k (Hodosh et al., 2013) (GitHub) dataset, consisting of images and English sentences describing these images, was used to understand the relationship between images and words and to train the two proposed models. The Flickr8k dataset contains 8,000 visual images, and each image is annotated with 5 sentences of content. The dataset is split between 6,000 images for train, 1,000 for validation, and 1,000 for testing, out of a total of 8,000 images, where each image has 5 captions. The dataset images prepared with multiple labels for a single image consist of different manually selected scenes. The content of the dataset includes annotated photographs of common objects and everyday scenes in a natural context. The distribution statistics of the data set are given in Table 1. Also an example of a reference captioned image is shown in Figure 3. These objects are labeled using predefined classes.

Table I. Data set distribution.

Dataset name	size		
	train	valid.	test
Flickr8k	6.000	1.000	1.000



Fig. 3. Sample image with reference captions.

Convolutional Neural Network (CNN)

Deep neural networks, which stand out with their generalizability abilities, have increased the ability to better understand visual content, especially their success in image classification and object detection (Ataş, 2023). Therefore, it has revealed the potential to create more fluent and impressive image captions other than those in the existing training set. In the end-to-end framework, initially the input image is encoded by a global visual feature vector that represents the global semantic information of the image via deep CNN. It scans images from left to right and top to bottom to extract important features from the image and combines all the parts to classify the images. Feature vector extraction of deep CNN for image classification A CNN as shown in Figure 4; It consists of three main layers: convolutional, maximum pooling and fully connected. Its performance is high in large-scale image classifications (Pan et al., 2016), and the learned feature vectors have been proven to

transfer to different vision tasks (Hochreiter and Schmidhuber, 1997). Of these models; Different CNNs, such as Inception and ResNet, have strengths and weaknesses due to their architectural structure. In CNN models, it is known that the deeper the network, the more detailed and relevant the learned features (He et al., 2016). However, when the depth of the network exceeds a threshold value, a decrease in performance may occur. The problem that causes this problem is; It is when the input image features are eventually lost or distorted in the network after passing through many layers. This problem has been solved in the literature using residual learning mechanisms such as ResNet (Hossain et al., 2021).

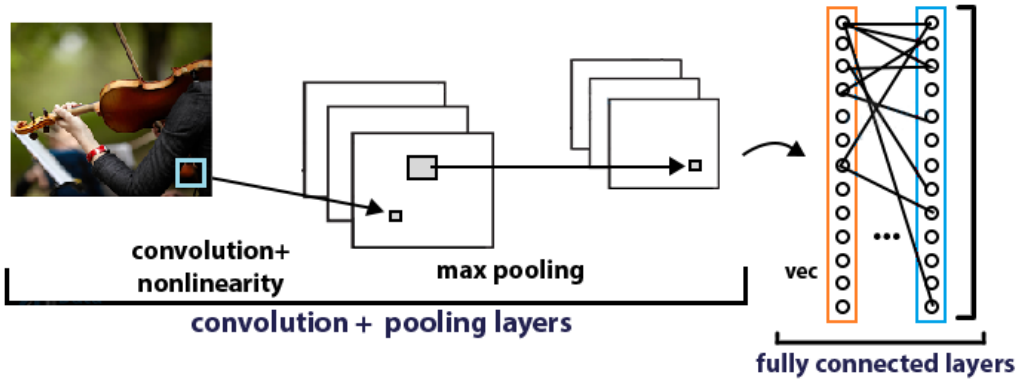


Fig. 4. The deep CNN model.

Within the scope of this study, the performances of InceptionV3 and ResNet50 pre-trained CNN models in creating image captions were examined. To obtain the best results from these models, hyperparameters, which are the size of the training dataset and the number of periods, were set. Additionally, the number of convolution layers and the number of learnable parameters, which give an idea about the filter numbers of network architectures, are given in Table 2.

Table II. Properties in CNN models.

CNN	Pretrained Network				
	Size	Convolution Layers	Learnable Parameters	Image Size	Year
InceptionV3	92MB	48	23.81M	299 x 299	2016
ResNet50	99MB	50	25.63M	224 x 224	2015

Long Short-Term Memory (LSTM)

Given an input image, the activation values in the fully connected layer, which is the output layer of the deep CNN architecture, are extracted as a visual feature vector. Instead of the extracted layer, LSTM, which is a recurrent neural network (RNN) (Chen and Zhuge, 2019)-based decoder and is frequently used in applications, is connected. LSTM is designed to solve the vanishing gradient problem, known as the problem in RNN. Architecturally, it consists of a single memory unit. The The LSTM unit includes neural networks. LSTM unit consists of input and output layers. In these networks, input neurons are connected to all output neurons. Figure 5 shows the LSTM model consisting of basic gates. The LSTM model has fully connected layers, three of which are responsible

for the selection of information. These are the forgetting gate $f[t]$, the entry gate $i[t]$ and the exit gate $o[t]$. The definition of the gates and the cell update and output are as follows:

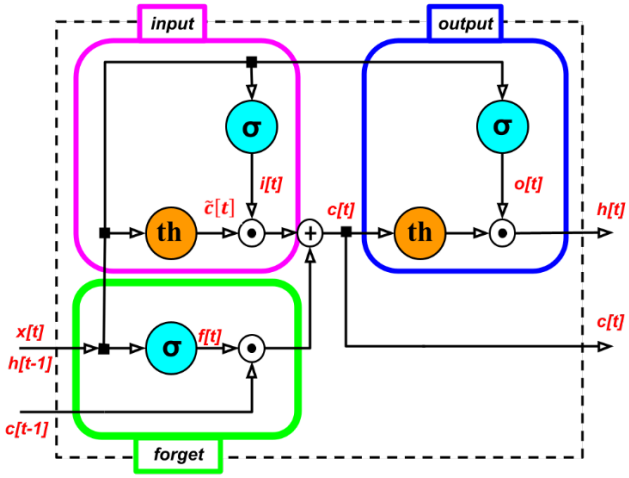


Fig. 5. The LSTM model.

These three ports are used to perform three typical memory management operations: where; Weight matrices are indicated by the indices W, deviations by b, deletion of information from memory $f[t]$, addition of new information to memory $i[t]$, and use of existing information in memory $o[t]$. The fourth neural network, $c[t]$, is used to generate new candidate information to be added to memory. The forget gate is simply applied to the stored cell value. If the forget is close to 1, it takes the stored value into account, otherwise the stored value is ignored, it is enough to find a value for the forget value where the error is minimized. LSTM solved the vanishing gradient problem by controlling the data level through the generated gates. Can predict what the next word will be based on previous text. It also executes relevant words throughout the processing of inputs and discards non-relevant words through the forget gate. The CNN + LSTM model that we use to take an image as input and create a caption output (subtitle) is shown in Figure 6.

$$i[t] = \sigma\left(W_i \begin{bmatrix} x[t] \\ h[t-1] \end{bmatrix} + b_i\right) \quad (1)$$

$$f[t] = \sigma\left(W_f \begin{bmatrix} x[t] \\ h[t-1] \end{bmatrix} + b_f\right) \quad (2)$$

$$o[t] = \sigma\left(W_o \begin{bmatrix} x[t] \\ h[t-1] \end{bmatrix} + b_o\right) \quad (3)$$

$$\tilde{c}[t] = tanh\left(W_c \begin{bmatrix} x[t] \\ h[t-1] \end{bmatrix} + b_c\right) \quad (4)$$

$$c[t] = \left[f[t] \odot c[t-1]\right] + \left[\mathrm{i}[\mathrm{t}] \odot \tilde{\mathrm{c}}[\mathrm{t}]\right] \quad (5)$$

$$h[t] = o[t] \odot [\tanh(\mathrm{c}[\mathrm{t}])] \quad (6)$$

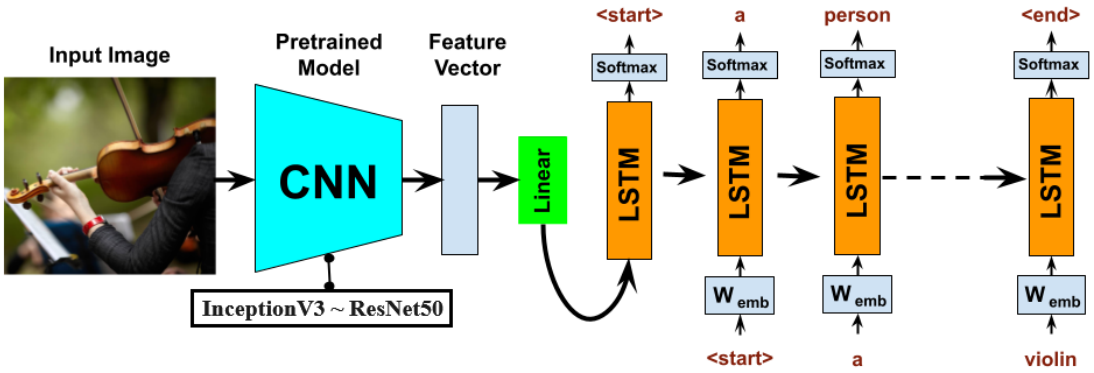


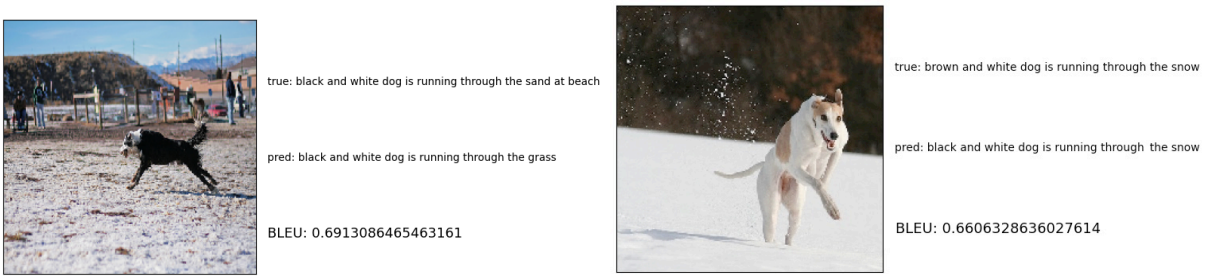
Fig. 6. Model-image caption generator.

Metric

In image classifications, whether the predicted output is correct or not can be found by comparing it with the target class. However, in image captioning or text summarization applications, the comparison is much more complicated because the output is a sentence. In such a situation, there may not always be a single correct answer in the output; There may be many correct answers. In addition, the quality of automatically generated subtitles or machine translations in the literature is reported with certain evaluation metrics. The purpose of these metrics is to determine the quality of the predicted text based on the input text. To evaluate the proposed methods, the Bilingual Evaluation Understudy (BLEU) (Papineni et al., 2002) metric was used in this article. BLEU; It is widely used in machine translation and measures the fraction of n-grams (sequences of four consecutive words) that are common between a hypothesis and a reference or set of references. The BLEU metric assigns scores from B-1 to B-4 to sequential words by measuring how many words overlap. BLEU score is the type of metric that works best when applied to large amounts of data. The BLEU score is a sensitivity-based measurement and ranges from 0 to 1. A score close to 1 is practically unrealistic and may be a sign that your model is overfitting. Measurement metrics used in the literature can greatly accelerate the development of image captioning algorithms. However, it is also known that all these automatic measures are only roughly related to human reasoning (Elliott and Keller, 2014).

EXPERIMENTAL RESULTS

In this study, we carried out our experiments with Python codes using the Google Colab platform. Since the amount of memory offered by the free Colab was only 12 GB of RAM, the running time was not enough and the entire virtual memory was used only during data preprocessing. Therefore, we analyzed our experiments by creating a Colab Pro account that offers extended RAM memory service. The feature map of the last convolution layer in the ResNet and Inception models was used as the input image feature vector of the decoder. Each model was run for 100 epochs lasting 115 minutes. During the training phase, the preferred batch size was 60 and the dropout value was 0.5. The models' activation function ReLU optimization function 'Adam' was used. The estimated subheadings in this study are divided into two groups according to good and bad performance. probability of BLEU; Values of 0.6 and above were considered good subtitles, and values below 0.6 were considered bad subtitles. To demonstrate the validity of both estimated models, a total of 6 sample image contents from the Flickr8k dataset, including 1 good subtitle and 3 bad subtitles, are shown in Figure 7, Figure 8 and Figure 9.



(a) (b)

Fig. 7. Result (Flickr8K) good captions (a) ResNet50 (b) InceptionV3

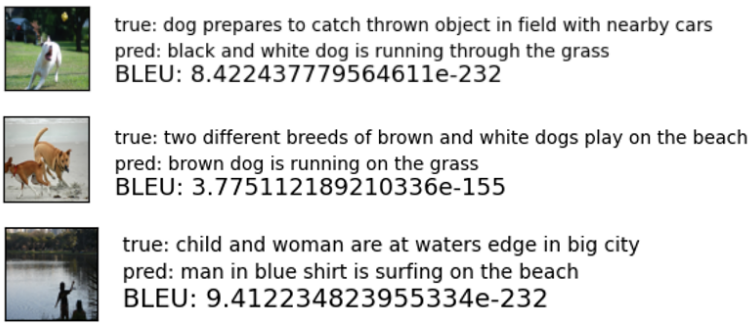


Fig. 8. Result (Flickr8K) ResNet50 bad captions

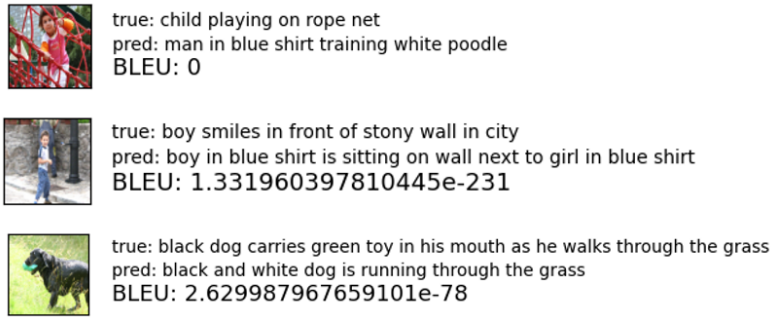


Fig. 9. Result (Flickr8K) InceptionV3 bad captions

B1-B4 scores of the BLEU metric and epoch and batch size values for both models are given in Table III.

Table III. Experimental results on Flickr8K for different deep learning models.

Model and Hyperparameter			Flickr8K			
			B-1	B-2	B-3	B-4
InceptionV3	epoch: 100	batch size: 60	63.7	40.8	29.4	20.1
ResNet50	epoch: 100	batch size: 60	54.6	29.3	17.9	10.4

Yapılan deneyler sonucunda her iki modelin metrik değerleri birbirine yakın çıkmıştır. Fakat InceptionV3 modeli ResNet50 modeline göre biraz daha iyi tahmin yaptığı söylenebilir.

CONCLUSION

In this study, existing approaches to obtaining captions in the literature are examined and a CNN+LSTM based model approach is proposed. In the proposed approach, images taken from the Flickr8k dataset are given as input to pre-trained ResNet50 and InceptionV3 models, and the aim is to create a title describing that image as the output. In the proposed approach, it has been observed that both CNN+LSTM models produce captions. Due to the Flickr8k dataset, it could not exceed 45% for train accuracy and 30% for verification accuracy. We believe that this accuracy can be improved by using Flickr30k or MS-COCO330k on larger datasets of the same model.

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AN EXPERIMENTAL STUDY ABOUT DBD PLASMA ACTUATOR BASED FLOW CONTROL AROUND A NACA0015 AIRFOIL AND TiO_2 BASED FLOW VISULATIONS

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Abstract

Active and passive flow control methods are used today to increase the aerodynamic performance of aircrafts. In passive flow control methods, performance improvement is realized without using external energy, while in active flow control, the flow around the object is controlled by using energy in the system without any change in the body structure.

Some passive flow control methods used today; placing a separator plate on the back of the object, surface roughness or flow disrupting wire-like elements placed on the surface, rounding made at sharp corners, notches-slits opened to certain parts of the object and controlling the flow with a control rod placed in front of the object. The methods used in active flow control are deforming surfaces, zero net mass flux actuators, non-zero net mass flux actuators, moving object/surface actuators, flexible and displacement blades and plasma assisted actuators. In recent years, hybrid control methods also have been developed by combining both active and passive control methods.

In this paper, a study was carried out on plasma actuators, which are classified as active flow control. The scope of the study includes selection of the plasma type, selection of the airfoil type, designing and producing the experimental wing, plasma placement on this wing and some experimental studies for defining the flow separation points of the wing. All these studies will shed light on future aerodynamic performance tests, the aerodynamic performance coefficient changes to be obtained as a result of wind tunnel tests such as CL, CD and L/D, and finally the determination of positive / negative effects of plasma actuators on a real platform.

Keywords: Plasma, plasma aerodynamics, wind tunnel tests, surface dielectric barrier discharge, surface oil visulation.

Introduction

It is known that by integrating plasma technology, which is among the new generation and futuristic aviation technologies, into aircraft, there will be some improvements in the performance of the aircraft. The ability to stay in the air with the same amount of fuel or to perform the same task with less fuel, the aircraft not losing performance its carrying power despite higher angles of attack, the increase in the lift coefficient (C_L), the decrease in the drag coefficient (C_D) and therefore the increase in the L/D value are among these performance expectations are some of them.

The applications of some futuristic studies aimed at increasing the flight performance of aircraft are increasing day by day. Solar energy, fuel cell, hydrogen energy and plasma technology are the leading

ones. Although the number of academic studies on plasma technology is increasing day by day, there is no "aircraft performance increase study" yet that has been mathematically proven or verified in a simulation environment (or has not been published). It is known that by integrating plasma technology into aircraft, there will be some improvements in the performance of the aircraft. These are staying in the air with the same amount of fuel or being able to perform the same mission with less fuel, and also the aircraft doesn't lose its carrying power despite higher angles of attack, an increase in the lift coefficient (C_L), a decrease in the drag coefficient (C_D) and therefore an increase in the L/D value, this performance are some of the expectations.

The scope of this study includes selection of the airfoil type, selection of the dielectric type, selection of the paslama type and dimensions, designing and producing the experimental wing, plasma placement on this wing and some experimental studies for defining the flow separation points of the wing. Thus, the first stage for the future wind tunnel tests will be completed.

In the aviation industry, for improving the flight performance of aircraft, saving fuel, increasing ergonomics; engineers, researchers and companies around the world are constantly working for many benefits. Among these researches, improving flight performance has received increasing attention in recent years. This flight performance can be achieved by increasing the lift force, reducing the drag force, improving the lift-drag ratio, delaying the stall angle, shifting the central position of the wake, etc. It contains many effects. Of course, as Gad-el-hak (2000) stated in his study, methods that affect the flow around an object in the flow field around an object play an important role in improving this performance. These flow control methods are divided into two: active and passive. While passive flow control methods do not use energy, they involve geometric modifications. Riblet, splitter plate, groove, bump, step geometry, shelt, vortex generators, winglet etc. Many techniques can be given as examples of passive flow control methods. Energy is used in active flow control methods. Synthetic jet mechanisms, morphing surfaces, macrofiber composites, plasma actuators, etc. Many techniques can be given as examples of active flow control methods. Among these active flow control methods, plasma actuators stand out among active methods in that they have a fast response time, do not require surface modification, and do not contain moving mechanical parts. Moreover, these plasma actuators can be used to increase the lift force, reduce the drag force, shift the stall angle, change the wake, etc. It has increasingly attracted the attention of researchers in recent years because it affects many effects both separately and sometimes together. When the studies in the literature are examined, the differences in electrical parameters, electrode geometries, the importance of the type of dielectric material, etc. on plasma actuators are revealed. It is noteworthy that many issues need to be researched.

Erfani et al. (2013) studied plasma actuator structures in their study. In their study, they examined the performance of multiple embedded electrode structures. They explained that when a multi-electrode structure is used, the speed of reduced flow is higher compared to the traditional method. Hale et al. (2010) examined the structure of the reduced flow created by the plasma by considering the multiple buried electrode geometry. They explained that the reduced jet height was higher when multiple buried electrodes were used. Moreover, they explained that they achieved a higher flow rate in the multiple embedded electrode geometry structure compared to the classical method. Akansu et al. (2013) studied the control of the flow around the NACA0015 airfoil by placing plasma actuators in different positions. They explained that plasma actuators reattach the flow leaving the wing surface to the surface. Zhang et al. (2009) conducted research by placing a plasma actuator on the Gurney Flap to increase the lift. Wang et al. (2011) examined the three-dimensional flow structure of four different electrode geometries on a flat plate in their numerical study. They stated that the models they tried were more effective than the linear actuator in creating three-dimensional vortices. Roy and Wang (2009) investigated the effect of boundary layer thickness by studying horseshoe and

serpentine structured plasma actuators in their study. In their experimental study, Lu et al. (2016) demonstrated that by placing saw-toothed plasma actuators on the NACA0015 wing model, they shifted the stall angle by 5 degrees and increased the lift force by 9 percent. By comparing different electrode geometry with a linear plasma actuator, Akbıyık et al. (2018) revealed that they reduced the drag coefficient by 31 percent, increased the lift coefficient by 91 percent and shifted the stall angle by 2 degrees. Moreau et al. (2016) conducted their research on delaying the flow separation around the NACA0015 wing model at a value of 1.33x106. In their study, they placed three different plasma actuators on the wing model, operated them one by one, and examined the effect of the position. They demonstrated that the electrode closest to the separation point is the most effective in controlling the flow leaving the wing. Potocar et al. (2012) used plasma actuators to control the flow around the NACA4421 airfoil. In their studies, they demonstrated the importance of energy level for effective flow control. Khoshkoo and Jahangirian (2016) investigated the control of the flow around the NACA0015 wing model for steady and unsteady states in the release of plasma. They proved that, the steady mode is more effective in controlling the flow around the wing.

Materials and Methods

Within the scope of the study, the airfoil type was chosen first. Following this selection, the maximum size of wing prototype was produced, taking into account the dimensions of the wind tunnel to be used. TiO_2 was applied to the produced wing prototype to observe flow phenomena. Wind tunnel tests were performed and flow separation points and bubbles were detected. Based on this information, the most suitable plasma points were determined.

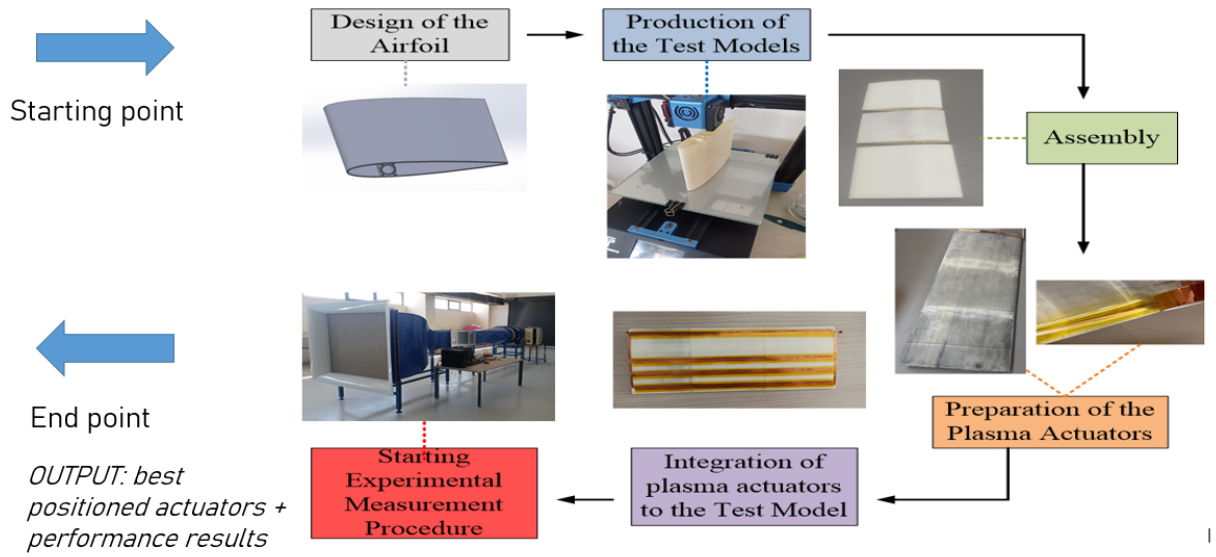

Figure 1. Flow Chart of the Campaing

NACA0015 wing geometry was chosen as the experimental model to be used in this study. The main reason for this choice is that the NACA0015 wing model has a symmetrical structure and is frequently used in UAVs/MAVs. The main reason for choosing a symmetrical wing model is that plasma actuators, one of the active flow control methods, will be used in this project. As a result of placing the plasma actuators on the suction surface of the symmetrical wing model, the change in aerodynamic forces can be easily revealed. In addition, since the suction and pressure surfaces of the

symmetrical wing model have the same characteristics, it is possible to clearly interpreted the flow phenomena occurring on the surface.

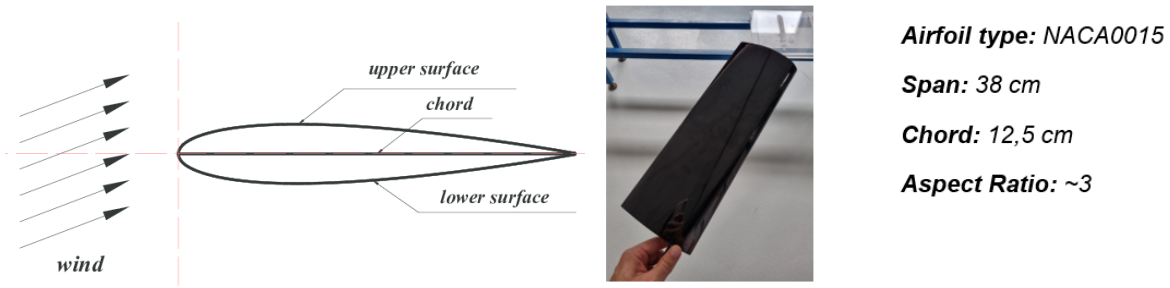

Figure 2. NACA0015 airfoil view (left) and 3D produced wing prottotype (right)

Considering the studies in the literature, dielectric material is one of the basic parameters affecting the performance of actuators. In literature studies, dielectric material type, thickness and number of layers are important parameters. When examined in this context, in this study, Kapton was chosen as the most commonly used dielectric material in the literature, and the layout was made with a single layer assembly as the layer thickness.



Figure 3. Selected kapton for this project and specs (left) and other dielectric alternatives fiber glass and ceramic tapes (right)

In the DC version, plasma actuators create plasma from a single point to the nearest distance, while in the AC version allows plasma production in the form of a line/strip. When examined in this context, plasma actuators, which will be used as an active flow control method, will be placed linearly along the leading edge on the wing model and flow control will be achieved as a result of plasma creation. In carrying out this application, it is planned to produce plasma using an AC version type device.

SCD (Surface corona discharge actuators) and SDBD (Surface di-electric barrier discharge actuators) actuators are used for aerodynamic flow control. However, since SCD type actuators are DC based, they create plasma from a single point to the closest distance. SDBD type plasma; Since it is AC based, it allows plasma production in a line/strip form. Therefore, the most suitable plasma type for this project is AC based, SDBD type actuators.

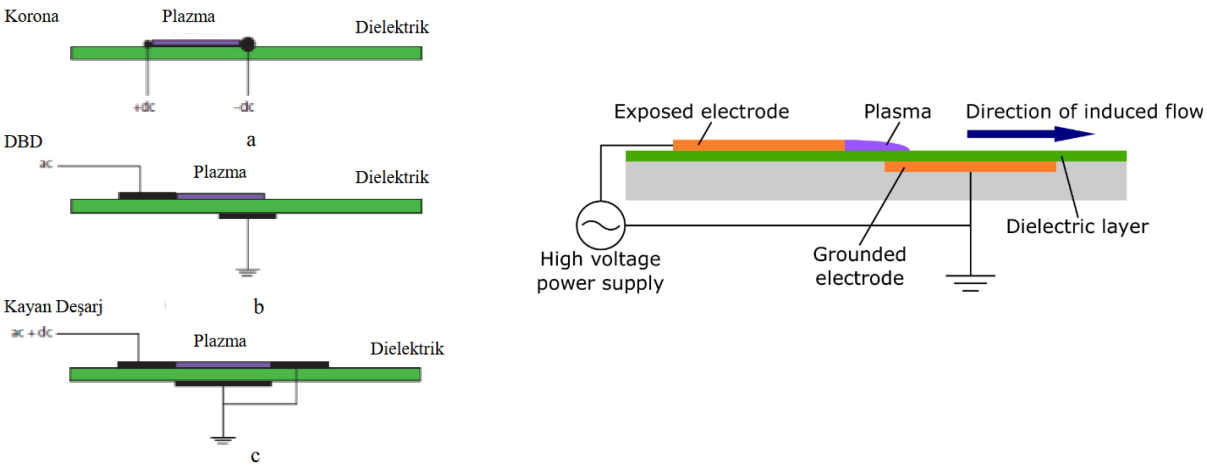

Figure 4. Plasma types (left) and details of SDBD type (right)

The characteristics of the plasma actuators to be used in this study were determined as follows:

Table 1. Plasma actuator specs

Electrode type	Copper
Embedded electrode width	3mm
Embedded electrode length	Span wise
Exposed electrode width	3mm
Exposed electrode length	Span wise
Dielectric type	Kapton
Dielectric strength	303 V/µm
Dielectric constant	3.4
Plasma Current Type	AC
Plasma Type	SDBD

Wing Tunnel Tests:

The purpose of these experiments is to determine the most suitable actuator positions. Adana Alparslan Türkeş Üniversity wind tunnel was used for this. Tests were carried out by pouring TiO_2 onto the produced wing prototype and flow separation points (bubbles) were determined.



Figure 5. Adana ATU Wing Tunnel

And also some different systems have been used to perform these tests. Tektronix TDS 2012B brand oscilloscope was used to measure the current and voltage supplied to the system and to adjust the frequency and amplitude values. An in-house produced power supply was used to provide the necessary current and voltage to the system. Adjustable power range is between 0-20 kVA. Tektronix P6015A brand high voltage probe and Zero brand current measurement probe are connected to the oscilloscope and measure the current and voltage values given to the system.



Figure 6. Osiloscope, Power Supply, Current Probe and High Voltage Probe (left to right)

Experiments were carried out at four different angles of attack (α: 50, 100, 120, 140) and 120.000 Reynolds number. TiO_2 based surface flow visualisation experiments were carried out to understand flow phenomena around the airfoil.

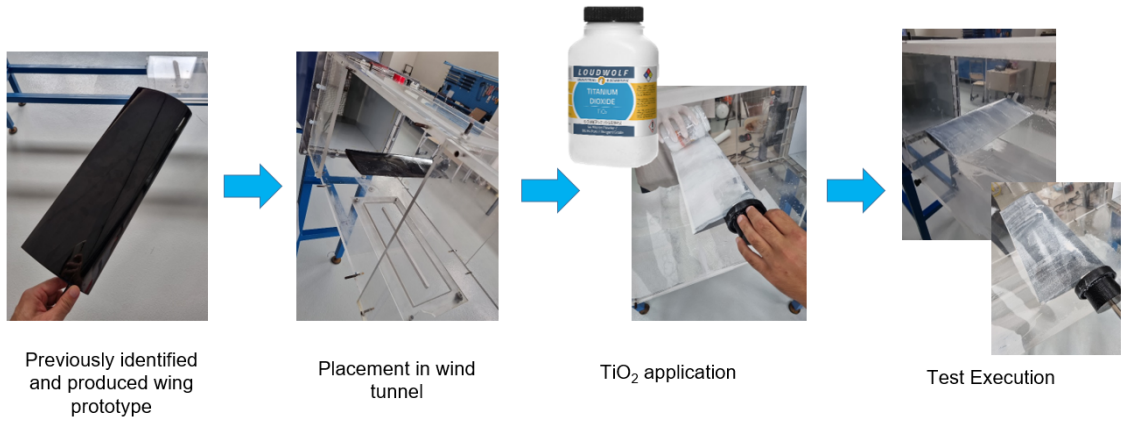

Figure 7. Wing tunnel tests flow chart

Findings and Discussion

TiO2 based surface flow visualisation experiments are conduected to understand flow phenomena around the airfoil at Reynolds number of 120.000.

Leading-edge flow seperation, turbulent flow region, transition region and trailing edge flow separation region are revealed by using this technique.

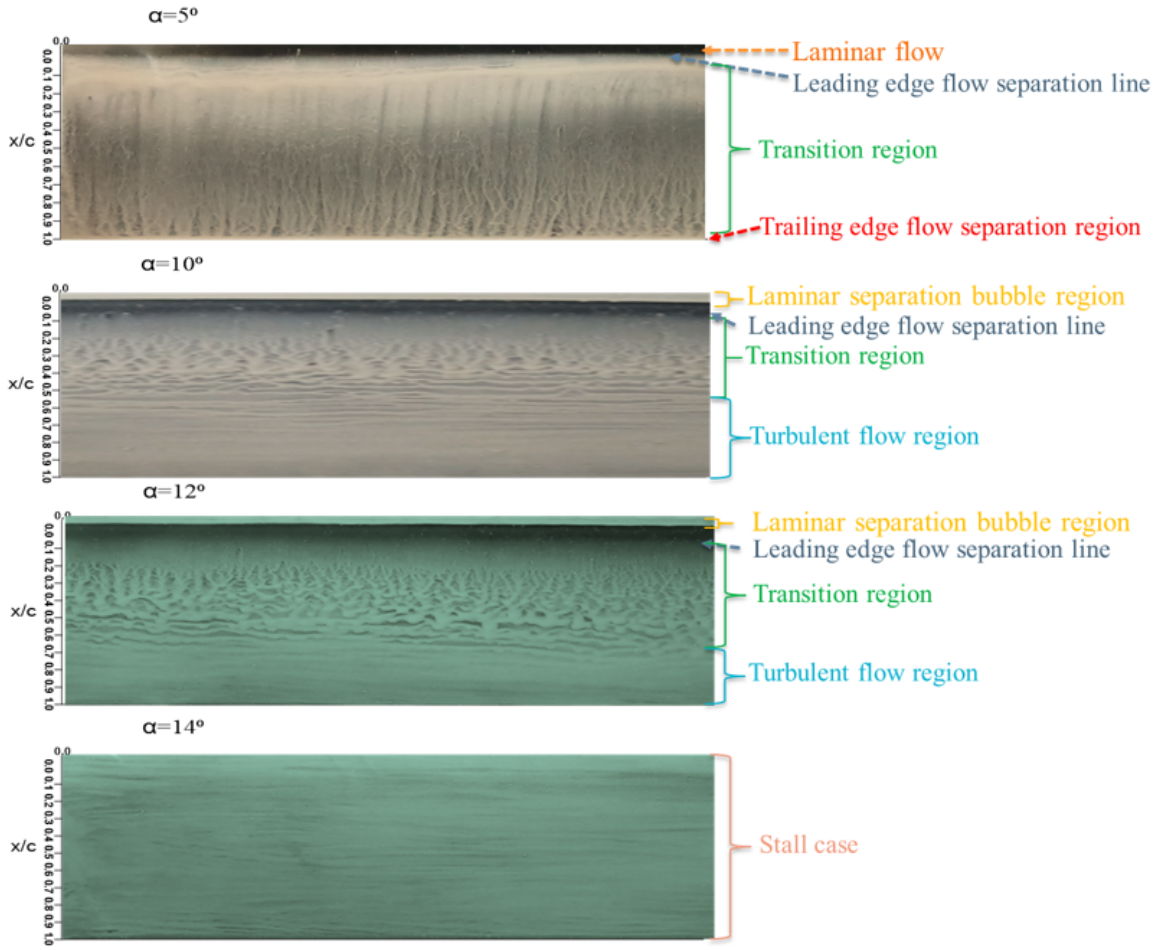

Figure 7. Experimental results where flow phenomena were observed

In the end, different views were obtained in 4 different AoAs. At an angle of 5 degrees; as can be seen, laminar flow was obtained at the leading edge. The transition regime is spread over a very wide area. Flow separation was observed at the trailing edge. As the angle of attack increases, the transition regime becomes smaller and the turbilent flow regime becomes larger. At 14 degrees, the system enters a complete stall. Since there is a flow separation in 5 degree and a bubble formtion at 10 degree, an actuator strip was placed in this region (number 1). Because it is necessary to immediately restore the separated flow and disrupt the bubbles. Since the transition regime covers a large area at low angles, it is necessary to place it right in the middle (number 2). There is one actuator for post stall and another for the pre stall regimes (numbers 3 and 4). This way our plasma actuators are optimally positioned.



Figure 8. Plasma actuators positioned at the most optimum points

Conclusion and Recommendations

As a result of this work, the first phase of the final project, "plasma aerodynamics", has been completed. Within the scope of the study, airfoil selection, wing production, pulse type selection, dielectric selection, and the most suitable positions for plasma actuators were determined. Future studies will consist of the following items:

- After this stage, other wind tunnel tests that will affect the flight performance of the aircraft will be carried out.
- More than 7,000 tests will be performed by changing the variables of volt, frequency, actuator group and Reynolds Number.
- Once a certain amount of data is received, one of the artificial neural network-based methods (such as ANFIS) will be tried to predict the test results.
- As a result of these tests, C_L, C_D, and L/D values obtained according to plasma on and off status will be analyzed.
- The effects of these gains on a real-size aircraft will be shown by CFD analysis.
- In addition to its positive effects on a real-size aircraft, negative effects such as weight will also provide input to this study, and real performance results of an aircraft fitted with a plasma actuator will be obtained.

Thanks and Information Note

We would like to thank Associate Professor Hürrem Akbıyık, who supported all these studies and provided valuable support throughout the entire process, from the production of prototypes to the execution of the tests.

We would also like to thank Adana Alparslan Türkeş Research & Techlogoy University for using its testing and production infrastructure.

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HYBRONE DMC: AN INNOVATIVE CLOUD-BASED ALARM MONITORING SOLUTION

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Abstract

This paper introduces Hybrone DMC (Data Monitoring Center), an innovative cloud-based alarm monitoring solution that revolutionizes the field of security and alarm reception. Developed by our team, Hybrone DMC offers a paradigm shift in alarm monitoring, presenting an efficient, scalable, and web-based approach to managing security signals and tasks. Hybrone DMC's architecture is rooted in microservices, enabling the platform to seamlessly handle a vast number of signals from various devices and sensors. It supports multiple communication protocols, including ContactID, SIA, and custom integrations, ensuring compatibility with a wide range of security and Internet of Things (IoT) devices. The system is complemented by third-party receivers that convert DTMF signals to data, extending the reach and efficiency of existing traditional alarm systems. One of Hybrone DMC's distinguishing features is its web-based interface, which streamlines operator workflows. Operators can access their assigned tasks, respond to events in real time, and proactively address potential issues—all through a user-friendly web browser. This approach not only enhances operator efficiency but also minimizes response times, ensuring rapid, effective action in critical situations. This paper delves into the technical aspects of Hybrone DMC, shedding light on its signal handling capabilities, test signal frequency, and secure cloud-based infrastructure. It emphasizes the platform's user-centric design, which empowers operators to focus solely on relevant tasks, thus optimizing their performance. Hybrone DMC represents a significant milestone in the evolution of alarm monitoring software, and this paper provides insights into its development, features, and practical applications. By presenting our work on Hybrone DMC at this scientific congress, we aim to contribute to the ongoing discourse surrounding innovative solutions in the realm of security and IoT.

Keywords: Data Monitoring, Alarm, Signal, Task, IoT.

INTRODUCTION

The security and alarm monitoring industry is becoming increasingly complex and needs innovative approaches to process more data and ensure security. In this article, we introduce an innovative cloud-based alarm monitoring solution called Hybrone DMC (Data Monitoring Center), developed to meet this need. Hybrone DMC offers an efficient, scalable and web-based approach to manage security signals and tasks.

Today, data monitoring centers monitor security and performance by analyzing large amounts of data from sensors connected to security devices such as burglar and fire alarm systems and Internet of Things (IoT) devices. Based on the results of these analyses, these centers can communicate with users or direct the relevant security forces.

This study aims to shape the future of data monitoring services. With rapidly developing technologies, data monitoring center software is aimed to move to a more intelligent and advanced level. Hybrone DMC supports a range of communication protocols such as ContactID, SIA and custom integrations, enabling compatibility with various security and IoT devices. It also integrates with third-party receivers by converting DTMF signals into data to increase the reach and efficiency of existing traditional alarm systems.

Hybrone DMC features a web interface that makes it easy to seamlessly manage a wide range of devices and signal types. Operators can use the software through their web browser, accessing assigned tasks and responding to events in real time. Thanks to this cloud integration, the data monitoring software will operate more efficiently and have autonomous scheduling, dynamic monitoring, reporting and analysis capabilities to improve operational efficiency. In addition, the automatic classification and prioritization of incoming signals and the recommendation of appropriate actions will help operators take faster and more effective interventions. This approach increases efficiency and enables quick verification of alarms, enabling faster response to critical situations.

Some of the important literature on data monitoring services software includes various approaches to improve the performance of data monitoring software. The study conducted by Barış Şimşek and Yusuf Tansel [1] used simulation-optimization methods to improve the performance of alarm monitoring software. This research aims to improve the effectiveness of alarm monitoring systems and increase their capacity to respond faster. Homero J. Velasteguí et al. [2] focused on the diversity of communication protocols used by different manufacturers in data monitoring systems with rapidly evolving technology. This work examines how this diversity contributes to inter-system compatibility and security weaknesses. Yufen Cheng et al [3] used data analytics to develop a nationwide ATM device monitoring service platform. This study investigates how to build a more effective platform for monitoring and managing ATM devices. Asma Mahgoub et al.[4] propose a study on IoT-based wireless fire alarm systems with easy installation that inform end-users. This study aims to provide users with information via SMS and calls in alarm situations, and they have used the MQTT protocol for improving message queuing. Kayode E. Adetunji et al. [5] address the development of a cloud-based monitoring platform in the agricultural sector to monitor agricultural resources, discussing a compact approach to enhancing agricultural resources through cloud-based monitoring of related factors. Meikang Qiu et al. [6] address emergency management studies. This article proposes a cloud-based emergency management system for environmental and structural monitoring that utilizes the powerful computing and storage capability of datacenters to analyze the mass data collected by the wireless intelligent sensor network deployed in civil environment. These studies present different approaches to improve the performance of data monitoring software, address security weaknesses, and develop more effective monitoring platforms. The results of these studies contribute to more reliable and effective operation of alarm monitoring systems.

This paper examines how Hybrone DMC is transforming security and alarm monitoring services and how it can contribute to future data monitoring solutions.

DETAILS HYBRONE DMC

Screen Descriptions

This section provides a comprehensive overview of the various screens and interfaces within Hybrone DMC, shedding light on its user-centric design and the transformation processes involved in creating this innovative cloud-based alarm monitoring solution.

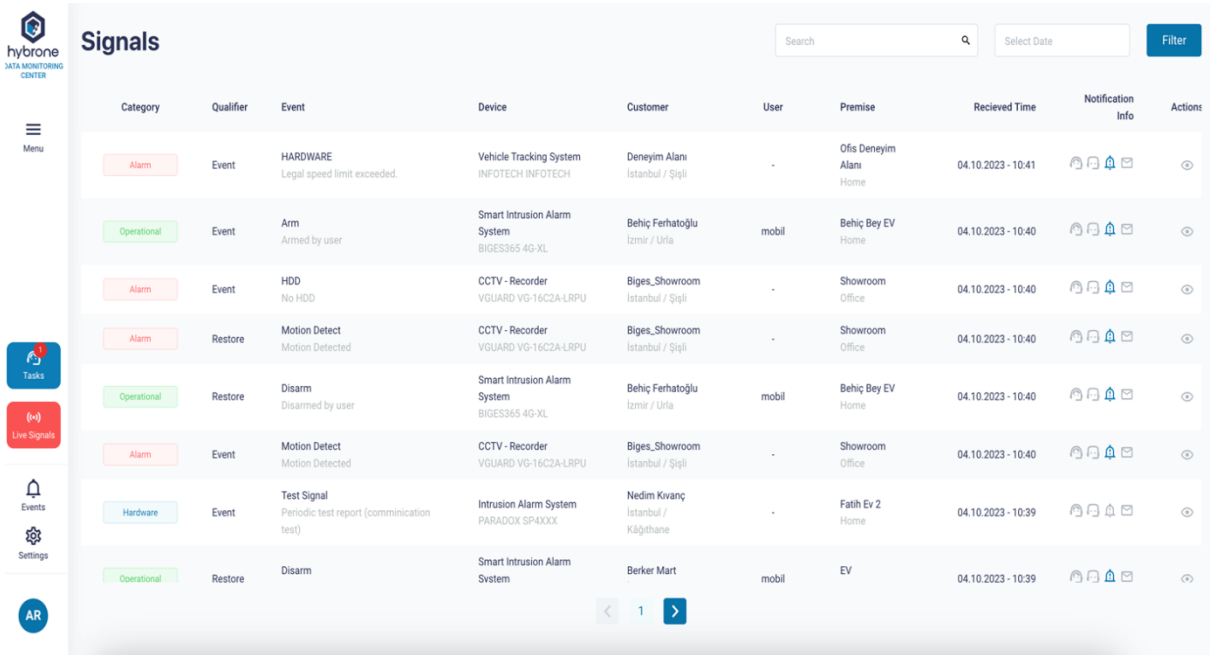

Figure 1. Signals Page

a. Signal Page

The Signals page (Figure 1) is the section where details of signals received on the DMC screen are displayed. In the upper right corner of the screen, there is a search and filter area. There are ten main headings that display the details of the signals. Firstly, the information about which category the signal belongs to is provided. Categories include Hardware, Alarm, Operational, and others. Secondly, the signal's attribute information is presented. For example, a signal that reads 'Sensor Status - Motion Detected' is categorized as an Event. However, 'Sensor Status - Motion Detection Ended' is categorized as Resolved. Thirdly, event information is available, providing a description of the event that occurred in the signal. Details of events or resolutions for signals can be accessed here.

Following this, information about the device that sent the signal is provided. Successively, the headings include customer name, user, location, signal date, and notification information. In the notification information section. Finally, at the end of the relevant signal, there is a 'Details' button. Clicking it opens detailed view on the main screen. The Signals page serves as a central hub for operators to monitor and respond to various signals, providing a comprehensive overview of each signal's category, attributes, events, device information, and notification preferences.

b. Customer Page

In this page, customer details are analyzed under seven main headings. Once again, in the top right corner, there is an area for search and filtering options. Additionally, next to the filter area, there is a button that allows exporting the list of customers. Users can create reports and set default report types to export customer lists according to the report details. This feature allows for flexibility in reporting,

allowing DMCs to tailor their reporting needs to various aspects of customer management and security monitoring.

Finally, at the bottom of each customer's row, there is a section labeled "Actions." Below that, there is a "Details" button. Clicking this button opens the detailed page for the respective customer. Firstly, there is a summary screen for the customer. In this section, there are charts displaying the numbers of premises, devices, users, and services. Below that, there is a section containing customer, integrator, and distributor information. At the bottom, there is a section displaying the last 5 signals and service details for the customer. In the top right corner of these sections, there is a text button "Show More." Clicking on this button allows access to all signal or service details. Subsequently, there are four main sections displaying the customer's premises, owned devices, subscription information, and document details. By clicking on the relevant headings, this information can be accessed.

Under the "Premises" section, all premises associated with the respective customer are listed. Shortcut buttons are available for quick access to premise details and devices linked to those premises. In the 'Devices' section, detailed information about the customer's devices is provided, and users can access device details.

The "Subscriptions" section displays the subscription packages owned by the customer. It includes information regarding the active/inactive status of services, payment statuses, and validity dates. Descriptions of digitally delivered products and services are also managed in this section. Lastly, in the "Documents" section, a list of the information and documents the customer wishes to maintain on record is presented. These documents can be downloaded as needed. The Customers page plays a crucial role in providing a comprehensive view of customer information, facilitating efficient customer management and access to detailed customer-specific data.

c. Finance Page

The Finance page begins with the "Summary" section. Under the "Earnings" heading, the balance amount is displayed. In this area, there is also a "Create Payment" button. By clicking on this button, users can create payments by specifying the desired amount and uploading the invoice on the page that appears. On the side of the page, there is a chart displaying a monthly income schedule. This chart allows for easy calculations of monthly averages, fluctuations, and more. At the bottom of the page, you will find the "Current Status" section. In this section, fields are available for viewing the number of customers and add-ons.

Under the "Add-Ons" section, there are segments showing the ratios of Income-Generating Integrators, Income-Generating Customers, and Used Packages to the total numbers, as well as the Total Package Usage and Total Monthly Revenue figures. Beneath these numerical data sections, there is a part displaying package usage details. Here, the package name, price, activation status, the number of integrators, the number of customers, and the revenue generated from this package in one month are presented.

In the "Payment Orders" section, you will find a list of payment orders with details such as the amount, payment date, acceptance date, stage, transaction, status, and more. The Finance page provides comprehensive financial insights and tools, allowing users to manage payments, track income, and view financial summaries efficiently.

d. Personel Page

This section of the system is dedicated to managing the profiles of personnel who use the DMC. At the top right corner, there is a search bar for quick access to specific personnel records. Adjacent to this search area, users can access roles and create new personnel profiles.

By clicking the "Roles" button, users can navigate to a page where detailed information about the roles assigned to personnel is available. This section allows for the management of role names, the personnel assigned to each role, and the permissions associated with those roles. The system includes default roles such as Manager, Operator, and Supervisor. However, personnel have the flexibility to create and define custom roles by clicking the "Create" button, enabling them to tailor permissions to their specific requirements. These permissions may include tasks such as signal monitoring, package access, and work hour management, among others.

The lower section of the page provides in-depth information about each personnel member. It includes fields for full name, phone number, assigned roles, creation date, and an "Actions" section. In the "Actions" section, users have the ability to delete or edit personnel profiles, facilitating efficient personnel management.

The Personnel Information and Role Management page is a vital component of the system, enabling the administration of DMC users, the allocation of roles, and the customization of permissions to ensure smooth and secure system operation.

e. Task Page

The Tasks page contains assignments generated from signals received from devices. Initially, tasks are categorized into three different types: New, Postponed, and Past. Tasks can be sorted based on specific criteria as needed. When a task is created, it is displayed under various headings on this page.

Firstly, the "Task Type" is shown. For instance, if the task is newly generated, its type will be "New Task." In the case of completed tasks in the past, the type will be "Completed Task." The display format of past tasks is similar to that of new tasks, but it additionally includes details about task completion and the operator who performed the task. Following that, the "Category" field is presented, which can be alarm, hardware, or operational.

Next, information about the device on which the task was created is provided, along with a section that includes the description of the triggered event. Here, the signal's description can be viewed.

In another section, the name and premise of the customer who owns the device are listed. Lastly, the creation date of the task and its priority information are displayed. The priority of a task is dependent on the priority of the signal. For example, if a "Low Battery" signal is received from a device, and a task is created, and subsequently, a "Burglary Alarm" signal is triggered from the same device, the task is updated to "Burglary Alarm" because of the higher priority of the alarm signal.

At the bottom of each task row, there are task details and a "View" area where actions can be performed. Clicking this button opens the detailed page of the task. First and foremost, at the top of this page, the information from the task row is reiterated. The first heading is "Task Details."

Below this information, on the left side, there is a section containing customer details. On the right side, there is a "Contact List" section. Here, contact information for individuals to be notified in case of an alarm is provided. Below the contact list, there is an "Actions" section. In this section, the operator can select the action to be taken. With a text field below, where they can enter additional notes. The operator enters notes in this field to complete the task. The "Signals" section displays the signals associated with the task. In the "Customer" section, detailed information about the customer and integrator is provided. The "Devices" section contains detailed information about the device.

In the "Work Hours/Holidays" section, if work hour tracking and holiday options have been added to the device, the details are displayed here. The "Past Tasks" section contains a list of previously generated tasks for the device. The "Technical Services" section provides details of any technical service or maintenance actions performed or assigned to the device.
Finally, there's the "Task Log" section where all actions related to the task are logged in chronological order from the moment the task is assigned to an operator. This log includes actions taken by the operator and any search activities conducted. The Tasks page provides a comprehensive overview of assignments based on device signals and allows for efficient task management and prioritization based on signal importance.

Within the application, a dedicated screen has been defined for operators to view live signals in real-time. This screen is structured similarly to the Signals page (See Figure 1). Live signals become active the moment the user enters this page and reset when exiting. This screen is specifically designed for monitoring real-time signals, providing operators with immediate insights.

The final two sections added are "Events" and "Settings." In the "Events" section, user information regarding application logins is recorded. The "Settings" section, on the other hand, offers the ability to customize aspects of the application. In summary, these screens provide a comprehensive solution for alarm monitoring and management. They enable operators to efficiently monitor signals, manage tasks, review customer details, and perform actions seamlessly. The inclusion of live signal monitoring ensures that critical events are addressed promptly, enhancing security and operational efficiency. The combination of these screens empowers users to optimize their workflow, respond effectively to incidents, and maintain a high level of security and control.

METHODOLOGY

The application was developed in three stages. The first stage encompasses analysis and design activities. The parts included in the scope of analysis and design are as follows: customer services, premises services, device services, signal services, task-based evaluation of signals, and operational procedures, along with subscription services. During the analysis phase, API and SDK documents of the devices whose signals would be received were examined. This enabled the evaluation of all the features and requirements of the devices that would send signals to the Data Monitoring Center system. Then new user interfaces were designed to provide user-friendly experiences. Furthermore, based on industry and competitor analysis, the decision was made to integrate the system with cloud technologies.

In the second phase, the front-end was developed using the open-source JavaScript library React, in line with the analyses and designs. ReactJS efficiently manages update processes using a virtual DOM (Document Object Model), thereby accelerating web applications and enhancing performance.

The third stage involves the development of backend modules specific to the system. The developed services are as follows: customer services, signal services, tasks (operations), and subscription system. The platform must be capable of handling a large number of signals from multiple devices simultaneously without issues for different users and operators. Therefore, it is crucial that the system is structured using scalable technologies. To create scalable APIs, the NestJS framework was used in services development. NestJS is a framework used to develop server-side applications in Node.js using TypeScript. It is specifically designed for building large and complex applications, harnessing the type safety features of TypeScript. Additionally, NestJS offers features such as dependency injection and modular architecture, which contribute to developers ability to create applications that are more organized and easier to maintain. In the application, MongoDB, as a NoSQL database, and PostgreSQL, as a relational database, were chosen to store signals originating from various devices in the databases in the most suitable manner. This approach not only ensures that data is stored in the most appropriate format but also takes scalability and performance into consideration.

This methodology outlines the comprehensive process through which the application was developed, from initial analysis and design to the implementation of scalable backend services and efficient database management.

RESULTS AND DISCUSSION

The process of developing the platform resulted in several achievements. The benefits of the transformed application can be summarized as follows

- An alarm monitoring platform integrated into the cloud environment was developed.
- Integration into the cloud environment facilitated access to data and increased its security.
- Autonomous programming, dynamic monitoring, reporting and analysis features have been added to the developed software.
- Increasing device and signal diversity has brought challenges to monitoring systems. The platform has been made able to accommodate signals from different device categories.
- The wrong actions that can be taken by the alarm monitoring operator have been minimized.

CONCLUSION AND FUTURE WORK

In this article, we introduced Hybrone DMC (Data Monitoring Center), an innovative cloud-based alarm monitoring solution designed to meet the evolving complexities of the security and alarm monitoring industry. Hybrone DMC offers a scalable, web-based platform for efficiently managing security signals and tasks, addressing the increasing need for processing vast amounts of data while ensuring the highest levels of security and responsiveness.

There are several ways Hybrone DMC can be developed and improved in the future. With the large amount of data collected, the application of machine learning algorithms can further improve the accuracy of signal classification and prediction of optimal response actions. This will help reduce false alarms and increase the overall efficiency of the system. Additionally, expanding Hybrone DMC's IoT range can enable comprehensive monitoring of smart homes and businesses.

In summary, Hybrone DMC represents a significant advance in the field of alarm monitoring, but it is only the beginning. The future holds opportunities to further develop and expand the platform's capabilities to meet the evolving needs of the security and alarm monitoring industry.

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DEVELOPMENT OF MANAGEMENT SYSTEM FOR ANALYTICS DATA IN ANDROID APPLICATIONS

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Abstract

Analytics Provider is a tool that measures various data such as sessions, user behavior, location devices of the target audience, e-commerce transactions, and conversions of all websites where the provider is located and tracking code is installed. During the Android application development process, a lot of analytics data is generated, which need to be displayed immediately during the development process. As the amount of data increases during the application development phase, monitoring the accuracy of the data becomes more challenging. The teams at Trendyol use multiple analytics providers (Firebase, Facebook Analytics, Correct, Salesforce, etc.) to track applications. Panels from each provider are used to determine if the analytics data being sent is incomplete or incorrect. However, these panels are outside of the teams' purview and it is possible that the data can not be verified and could be inaccurate. Inaccurate or incomplete data and testing performed by other teams might lead to waste of time in the development phase. This study aims to develop an Android library that speeds up the development process by allowing the analytics data sent in Android applications to be tracked at runtime and observe which data is sent to which analytics provider. For this purpose, Kotlin software language has been preferred and the Modern Android Development Methods (MADM) recommended by Google have been used. A local database has been set up and data has been stored to display the sent analytics data in the notification bar. This allows the test team to run tests with the developed application without depending on the application development team and intervene early in case of an error. As a result of this study, false transaction/advertising spending due to incorrect or incomplete analytics data has been reduced by 70%.

Keywords: Analytics Data, Android Application Development, Kotlin.

INTRODUCTION

E-commerce companies use analytics and measurement tools to measure the performance of their applications and analyze user behavior. These tools track how users use the application, which pages they spend the most time on, which products they buy, and which features they do not use, providing important data to optimize application performance. Analytics and measurement tools also provide new opportunities to increase revenue by tracking customer behavior. For example, if there is a problem with a particular product page, the application owner can identify this and redesign the product page or organize a special discount promotion for users. Therefore, it is very important for e-commerce companies that the application has analytics and measurement capabilities.

Android applications generate a lot of analytics data during the development process. Keeping track of the accuracy of this data becomes more and more difficult over time. In this regard, the need for instant display arises during the data development process.

Teams at Trendyol use multiple analytics providers to monitor Android applications. Each provider has different panels and different integration methods. Having multiple analytics providers creates the need to review multiple provider panels to determine if the submitted data is incomplete and/or inaccurate. Checking for inaccurate or incomplete data and having other teams perform the testing results in a loss of time in the development phase. Since the testing environments of the analytics providers' panels are not always stable, the data is usually only displayed on the panel and cannot be viewed while the applications are running. Finally, testing the same data sent to different providers on different panels also leads to a loss of time.

To address all of these issues, this study aims to develop an Android library that accelerates development by allowing analytics data sent in Android applications to be tracked at runtime and which data is sent to which analytics provider.

This paper is organized as follows: Section 2 presents related literature. Section 3 provides information on the details of study. Section 4 concludes the paper.

LITERATURE REVIEW

In recent years, many methods have been used to manage analytics data in Android applications. (Koval et al., 2023) presented a scalable algorithm for both appointments and buffered channels. The solution was based on an array for send and receive operations. This array had two positional counters. The performance of the presented solution was compared with other academic offerings using Kotlin. Then, the algorithm was added to the standard Kotlin Coroutines library. (Oskari, 2023) aimed to explain how the Model View ViewModel (MVVM) architectural pattern and software principles affect the application from a software engineering perspective and the differences between Model, View, Controller (MVC), Model, Appearance, Presentation (MVP) and MVVM architectural patterns. In the results, it was observed that the application of the MVVM architectural model and software principles increased the lifespan of the application. (Yunis, 2022) presented a review of SQLite and Firebase NoSQL databases. They were also explained how to add data with ContentValues objects, how to test databases with the open-source SQLiteBrowser tool, and how to increase or decrease the database version with the onUpgrade()/onDowngrade() method call. In the study, the Room library was defined as a layer above the SQLite database to facilitate the creation, use, and maintenance of databases. (Almeida, 2020) presented an investigation of the impact of concurrency in Android development. After accepting that Kotlin Coroutines and RxJava were the most suitable approaches to concurrency for Android, a case study was conducted. The main software quality features that should be considered for Android development have been identified. The performance of each library in an Android application and the library's impact on maintaining performance was measured using software metrics with a combination of static analysis, benchmarks, and profiling tests. In the results, it was observed that RxJava and Kotlin Coroutines have good performance in an Android application and developers should not be limited when choosing between these libraries. (Siregar et al., 2020) aimed to control low voltage and electrical energy usage in order to obtain efficient patterns in the use of electrical energy. For this purpose, they introduced a smart kWh (kilowatt-hour) electricity meter system. Experiments showed that the difference between the differential current using the sensor and the voltmeter test was less than 0.5. (Dwivedi et al., 2018)

presented a study to determine software design patterns. The study was carried out in two stages: creating a metric-oriented data set and identifying software design patterns. Experiments were conducted using JHotDraw, QuickUML and JUnit to evaluate the proposed method. (Sarcar, 2016) aimed to enable the same production processes to create different representations. In the study, a system that allows separating the construction of a complex object from the representation of a complex object was presented. (Lou, 2016) provided an analysis to compare MVP and MVVM architecture with MVC. For this purpose, the Architectural Balancing Analysis method was used. Three criteria were determined to evaluate the study: testability, modifiability and performance. In the results, it was observed that MVP and MVVM provided better performance than MVC in all three selected criteria. (Warren et al., 2014) aimed to identify design issues related to push notification systems and present the basic concepts of notification channels that connect mobile devices to push services. Toward this end, they identified five service offerings and provided an empirical study. (Jalil and Noah, 2007) presented a study to identify the difficulties experienced by researchers and educators in teaching the subject of Elements of design patterns, which was included in computer science.

DETAILS OF THE STUDY

Usage diagram of the library developed with Kotlin and MADM is shown in Figure 1 and notification diagram is shown in Figure 2. Also, screenshots of an example test application performed with analytics data are shown in Figures 3 through 5.

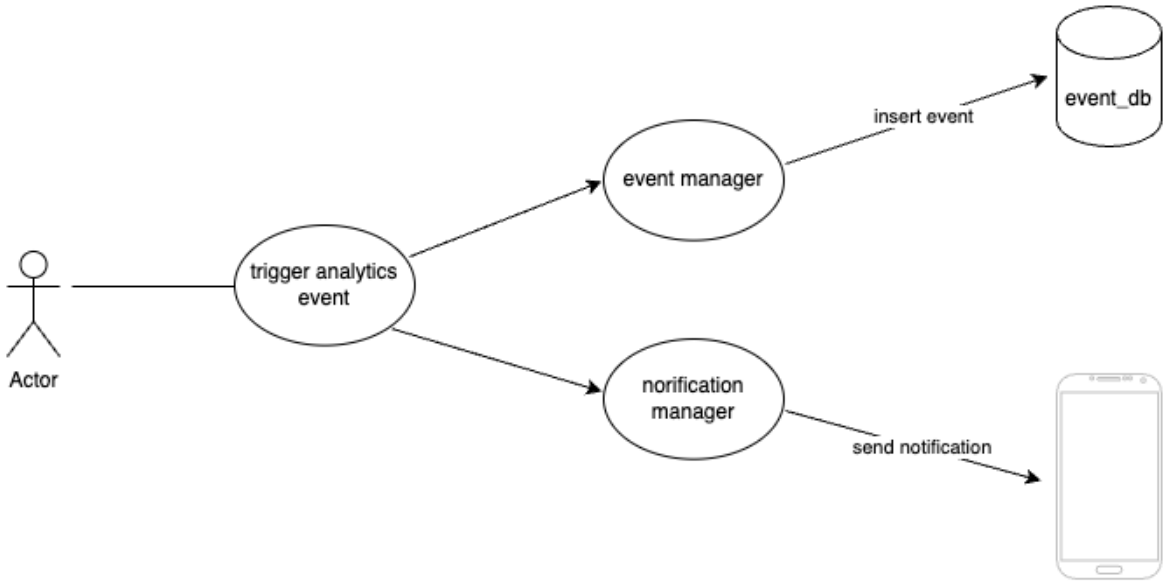

Figure 1. Usage Diagram

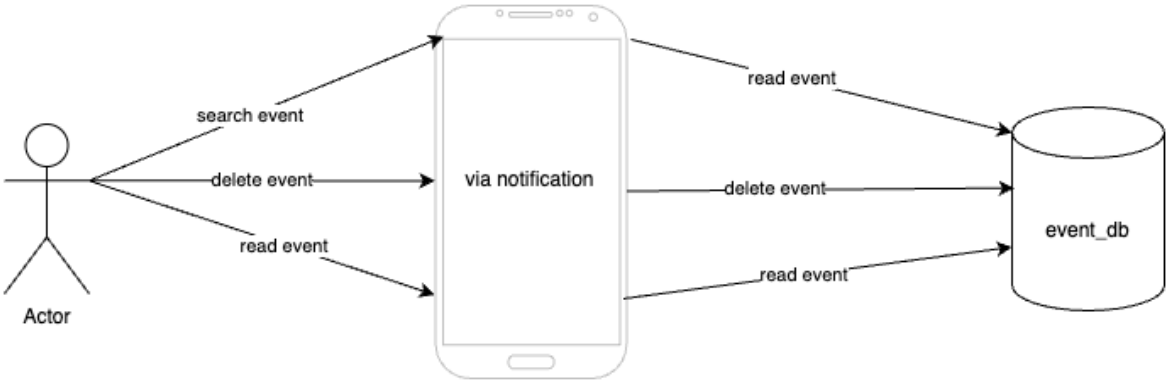

Figure 2. Notification Diagram

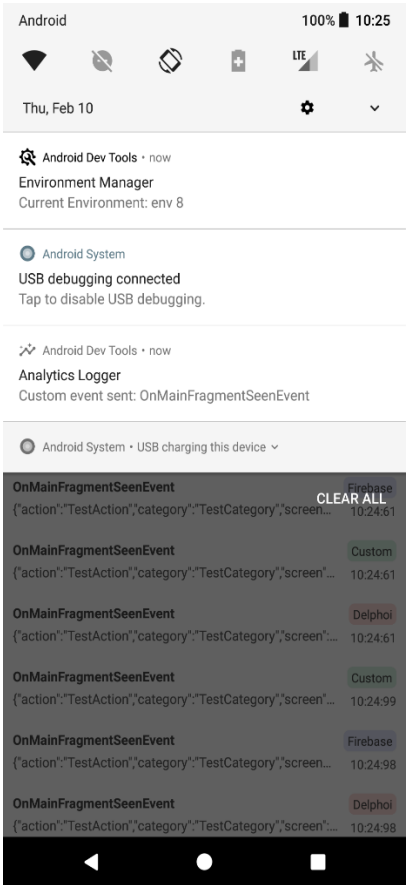

Figure 3. Example Test - 1



Figure 4. Example Test - 2

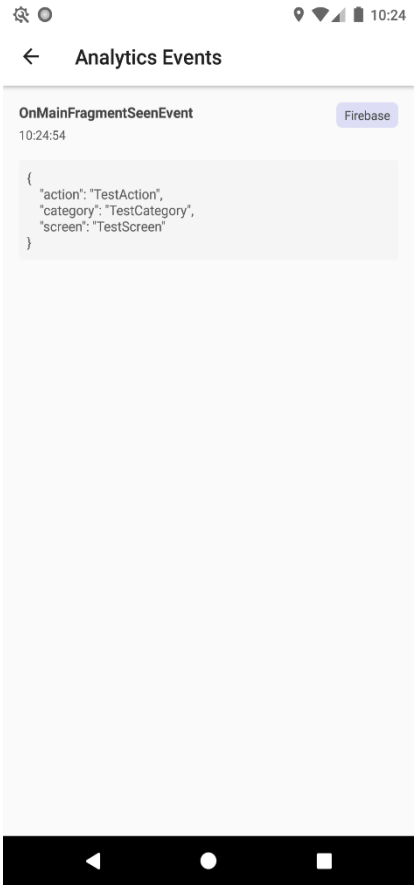

Figure 5. Example Test - 3

CONCLUSION

Nowadays, the increasing penetration of smartphones has paved the way for the use of mobile applications. People now shop through their mobile devices and can easily shop anywhere, anytime. Developing the right strategies for mobile users helps businesses reach a larger audience and gain a competitive edge. Proper processing of in-app data is an important criterion for businesses when developing their strategies for their existing or to-be-developed Android applications. Tracking and analyzing data can be a very difficult task, especially in large enterprises like Trendyol where multiple analytics providers are used. In this study, an Android library has been developed to view analytics data during the development phase of an application and speed up the development process. With this library, developers can easily view analytics data during the development process and detect potential errors early. As a result of this study, false transaction/advertising spending due to incorrect or incomplete analytics data has been reduced by 70%.

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THE IMPORTANCE OF RENEWABLE ENERGY IN CLIMATE CHANGE

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Abstract

Energy is one of our most important needs, which is rapidly increasing today and will continue to increase in the future. Rapid population growth, traffic density, developments in urbanization and industrialization increase energy consumption and cause environmental problems to reach high levels. Energy resources can be grouped under two headings: fossil energy resources and renewable energy resources. The main fossil energy sources are coal, oil and natural gas, and these are non-renewable. Renewable energy sources can be listed as solar, wind, biomass, geothermal and hydroelectricity. Energy obtained through the use of fossil fuels is one of the main reasons of climate change. That's why energy production plays a key role for future sustainability. Greenhouse gases are formed as a result of the combustion of fossil fuels. If the necessary changes are not implemented in the current state of greenhouse gases and the energy sources used, it will be inevitable to encounter serious weather changes, serious health problems, sea level rise and changes in the ecosystem. In light of these facts, all countries have begun to review their energy strategies and develop and implement policies to minimize these problems in order to avoid these scenarios. In this regard, the priority is to increase the efficiency of existing technologies, while the second and safest way is to completely get rid of fossil energy sources and turn to renewable energy sources. The aim of this study is to investigate the positive impact of renewable energy sources on climate change. In this context, the main renewable energy types were examined and the effect of production technologies on climate change was investigated.

Keywords: Climate change, renewable energy, greenhouse gases, environment.

INTRODUCTION

Energy is indispensable for meeting human basic needs and increasing living standards. Since energy is one of the fundamental factors of economic and social development, it is among the most important factors in the formation of national and international policies of countries (Yilmaz and Yurtsever, 2022). Although fossil fuels (coal, oil and natural gas) are not sustainable and trigger serious environmental and health problems, they are still the main contributors to energy. They leave negative effects on air, soil, water and the entire environment during the production, transportation, conversion, transmission and consumption stages. The greenhouse effect caused by gases released as a result of the burning of fossil energy sources causes global warming and climate changes (Olabi and Abdelkareem, 2022).

Climate is defined as average weather conditions and is characterized by long-term statistics for meteorological data in a particular area. Climate change is a broad term used to refer to changes in Earth's climates on a local, regional or global scale (Muluneh, 2021). These facts motivated all countries to have started to develop and implement policies to minimize these problems by reviewing their energy strategies to avoid these scenarios. For this problem, which started to be expressed towards the end of the 1980s, the United Nations and international organizations signed the United Nations Framework Convention on Climate Change in 1992 and the Kyoto Protocol in 1995. The

contractual decisions of the Paris Agreement signed in 2015 entered into force in 2020. With this convention, carbon emission reduction targets of member countries in 2030 and 2050 were determined. According to the recently published Fifth Intergovernmental Panel on Climate Change evaluation report, it has been stated that humans are the biggest responsible for these temperature increases with a high rate of 99%. In this direction, the priority was to increase the efficiency of existing technologies, while the second and safest way was to get rid of fossil energy sources completely and turn to renewable energy sources. According to the 2020 data of the International Energy Agency (IEA), although the share of renewable energy in our country is over 42% and the average of G20 countries is 28.7%, this value is behind countries such as Germany, England and Sweden (Theokritoffa and D'haen, 2022).

The most important and common greenhouse gas is CO_2. Since 75% of this gas comes from the burning of fossil energy sources such as coal, oil and natural gas, efforts to prevent climate change, reduce the use of fossil fuels and use other energy sources that have less or no impact on climate change are on the agenda. At this stage, another limitation confronts humanity. All the energy resources available in the world are not sufficient in quantity in terms of sustainable development and are not evenly distributed among geographical regions and countries. If the current consumption trend continues, existing energy sources other than coal will approach the point of exhaustion towards the end of the 21st century. In this case, since humanity cannot remain without energy, even if global warming and climate change are not taken into account, reserves that are more expensive to extract from fossil energy sources will gradually be put into operation, and technologies that will save energy in every field from industry to agriculture will develop, solar, geothermal, biomass. Efforts will be made to increase the use of renewable energy sources (Zhang, 2022; Russo et al., 2022).

The aim of this study is to find out the positive effect of renewable energy sources on climate change. In this context, the main renewable energy types were examined and the effect of production technologies on climate change was investigated.

CLIMATE CHANGE and GREENHOUSE GASES

Energy production plays a key role for future sustainability. Greenhouse gases are formed as a result of the burning of fossil fuels. The types of greenhouse gases, (carbondioxide, methane, nitrogen oxide, carbonmonoxide, halocarbon gases) their rates of increase in the atmosphere and their sources can be explained as follows. The concentration of carbondioxide (CO_2) in the atmosphere has increased by 31% since 1750 until today. Over the last 20 years, approximately three-quarters of the human caused CO_2 gas released into the atmosphere has come from the burning of fossil fuels, and the rest has come from land use change and, in particular, deforestation. In the last twenty years, the annual increase in CO_2 gas in the atmosphere was 0.4%, and after 1990 the annual increase varied between 0.2 and 0.8%. The amount of methane (CH_4) in the atmosphere has increased by 151% since 1750 and is still increasing. A certain slowdown was observed in the annual increase in methane gas concentration in the 1990s. Approximately half of methane gas emissions come from human activities such as the use of fossil fuels, cattle breeding, rice farming, and landfilling waste. Recently, the release of carbon monoxide gas has also been detected due to the increase in methane gas. The concentration of nitrogen oxide (N_2O) in the atmosphere has increased by 17% since 1750 and continues to increase. Approximately one-third of nitrogen oxide emissions come from human activities such as arable land, cattle feed and the chemical industry. There has been little increase or decrease in the emissions of halocarbon gases, which both weaken the ozone layer and have a greenhouse gas effect. On the other hand, an increase is observed in other halocarbon gases, which

are used instead of these gases in industry and have a greenhouse gas effect (Abeliotis et al., 2015; Reynolds, 2021).

While the limitations and unequal distribution of energy resources already impose restrictions and constraints on countries in the use of energy on a national basis, international conventions and agreements (United Nations Framework Convention on Climate Change, Kyoto Protocol) that stipulate the use of energy resources in a way that does not cause climate change require countries to choose and implement energy resources. It has led to new searches in its use. If current rates of greenhouse gas emissions continue, the average temperature of the Earth's surface could increase by as much as 2°C by 2036. This amount of increase has been determined by the United Nations Intergovernmental Panel on Climate Change as an upper limit to avoid "dangerous" levels. If the necessary changes are not implemented in the current state of greenhouse gases and the energy sources used, it will be inevitable to encounter serious weather changes, serious health problems, sea level rise and changes in the ecosystem (Panagopoulos, 2021; Owusu and Asumadu-Sarkodie, 2016).

Since global warming and climate change are problems that threaten all life, international programs, projects and studies come to the fore in the fight against global climate change. Along with the international studies that started with the First World Climate Conference in 1979, the UN Framework Convention on Climate Change, which was opened for signature in Brazil in 1992, came into force on a global scale in 1994. As a result of the work carried out in the following years, the Kyoto Protocol, which came into force in 2005, envisaged a 5% reduction in greenhouse gas emissions compared to 1990. In 2015, the Paris Agreement, the first global agreement, was accepted by 195 countries. The Paris Agreement includes various provisions to keep the earth's temperature increase below 2°C and to strengthen its resilience against the effects of climate change, to cover losses and damages arising from mental disasters, and to provide the financing and technology necessary to combat it. The contractual decisions of the Paris Agreement entered into force in 2020. With this agreement, carbon emission reduction targets of member countries in 2030 and 2050 were determined.

RENEWABLE ENERGY SOURCES AND SUSTAINABILITY

Energy obtained from biomass, hydraulic, geothermal, solar, wind, sea tides and waves are renewable, while energy obtained from oil, coal and natural gas are non-renewable energy sources. Non-renewable energy sources are considered as the primary energy source. One of the main benefits of most renewable energy sources is that they do not emit carbon dioxide or pollute the air when used to generate electricity or heat. Use of renewable energy resources globally is increasing its because of the low carbon economy policies. With the incentives implemented by the International Energy Agency (IEA) countries to increase this share, the share of renewable energy sources doubled between 1970 and 2002, reaching 5.7% per year (www.iea.org, 2023). The main forms of renewable energy and their uses are presented in Table 1.

Table 1. Renewable energy sources

Energy	Area of use
Hydroelectric	Electric production
Biomass	Heat and electric production
Geothermal	Heat and electric production
Solar	Heat and electric production
Wind	Electric production

Renewable energy sources provide 15% of the global primary energy today. 10% of this value consists of biomass energy, 3% hydroelectric energy and the remaining 2% other sources such as solar, wind and geothermal energy. According to the evaluation report prepared by the International Energy Agency, renewable energy sources will provide 20-30% of the world's primary energy by 2040 and it will theoretically be possible to move towards a completely renewable energy in 2050 (Gernaat et al., 2021; www.iea.org, 2023).

Renewable energy sources significantly reduce greenhouse gas emissions if they are replaced with fossil fuels. These sources must be sustainable as they are naturally derived from the energy flows going on in our environment. In order for renewable energy to be sustainable, it must be unlimited and provide products and services without harming the environment (Majid et al., 2018). For example, a sustainable biofuel should not increase net CO_2 emissions, negatively impact food security, and not threaten biodiversity. There is no doubt that climate change will affect renewable energy production. Climate-induced production variability can be positive or negative depending on the region and renewable resource. Therefore, it is very important to quantify these potential changes for planning new renewable energy facilities and assessing the future performance of existing ones (Güner and Turan, 2017; Russo, et al., 2022).

EVALUATION OF RENEWABLE ENERGY SOURCES

Solar Energy

The sun is the greatest source of heat and light and sustains ecological life on Earth through photosynthesis. Photosynthesis is the source of bacterial, plant and animal formation that we call organic life on earth. When solar energy is evaluated from this perspective, it is considered to be the most important alternative to all fossil fuels and indirectly to wind energy, bioenergy and hydraulic energy. It is the reason for the formation of renewable energy sources. Solar energy has many benefits compared to other types of energy. It has many advantages. First of all, heat is obtained from solar energy. This heat can be used directly or in electricity production. Thermal technologies include low-temperature applications such as hot water heaters and pool heating technologies, medium and high temperature applications involving any form of focused concentration of sunlight, and heating and ventilation. In many cases, solar power has been the default solution for renewable application at urban scales and can provide useful amounts of energy almost anywhere in the world. For this reason, studies on the effect of solar energy on climate change attract less attention. In addition, clouds are one of the most difficult meteorological features to simulate realistically in global, national and regional climate modeling studies. Therefore, estimating their variation in climate change scenarios remains a challenge. Therefore, the assumption is that solar energy will either stay the same or decrease slightly, as average temperatures will increase in future climate scenarios. The reason for its decrease is the decrease in the effectiveness of solar panels at higher temperatures and the increased amount of cloud due to increased ambient humidity (Russo et al., 2022).

Wind Energy

Wind is an air movement that occurs when sunlight heats different surfaces of the earth differently. Wind will always exist in our world as long as sunlight reaches our world, and in this respect, it is renewable. Also, it is a source of energy. In other words, wind is another form of solar energy. Since wind energy does not involve any chemical processes to produce power, it does not create water and

air pollution. Wind is abundant and free in the atmosphere. For remote or small settlements where electricity cannot reach via cables, wind turbines provide an alternative for local electricity production. Agriculture and animal husbandry are not negatively affected in regions where wind turbines are located. The cost of wind energy is competitive with other power plants. Maintenance and operating costs are low. Wind turbines can be installed wherever the wind is suitable. In addition, since wind formation is a natural phenomenon, it is difficult to determine the speed and direction of the wind in advance. Wind energy is not an uninterrupted energy source. The loud operation of wind turbines can be disturbing to people living nearby. Wind turbines can create visual pollution and negatively affect the electromagnetic wave in the environment, TV broadcasts, and the flight paths of migratory birds. It may cause bird death. Since wind energy changes depending on the wind speed, the effect of climate change on this energy is great. In addition, the increase in extreme weather events and high changes in wind speeds are among the factors that can disrupt power generation. As wind turbines get larger and higher, they become more vulnerable. Security services, especially in the design and operation of wind turbines located offshore, should be increased to adapt to climate change. Production is highly dependent on wind speeds and a small change can have a significant impact on electricity production (Solaun and Cerda, 2019).

Biomass Energy

Biomass energy is one of the most remarkable renewable energy sources due to its role in waste management. Biomass energy is obtained from burning plants, plant by products or waste. These include the production of ethanol from corn or sugar cane, the production of biodiesel from vegetable oils, used cooking oils and animal fats, the production of green diesel from algae, sustainable wood crops or sawdust, and the production of biogas from animal manure and other wastes. The biomass structure mainly contains cellulose, hemicellulose and lignin. They also contain extractives, lipids, protein, starch, esters and triglycerides. There are many types of biomass. The main ones are, energy forestry, agricultural product waste, animal waste, forest waste, urban solid waste. Compared to fossil fuels, biomass energy is not only renewable but also the most Its important advantage is that its contribution to CO_2 emissions in the atmosphere is zero. The impact of climate change on biomass production is discussed within the scope of the effects of climate change on agriculture and forestry. As a result, there are no specific predictions of how climate change may affect biomass for electricity generation worldwide. It is assumed that most of the impacts will be related to agriculture and forestry, not waste or livestock (nhm.ac.uk, 2023; Solaun and Cerda, 2019).

Hydroelectric Energy

Hydroelectric energy is the oldest, best known and cheapest energy technology. It generates electricity by turning turbines and electric generators, using the flow of water from rivers and lakes, usually controlled by a dam. In hydroelectric energy technology, energy conversion into electrical energy occurs with highest conversion (from water power to electrical cable, approximately 90%) compared to all other energy sources. Although the investment cost is high, their biggest advantages are that their operating costs are low and their technical life is very long. Hydroelectric power is reliable and renewable as long as it rains or there is running water. Reservoirs can provide additional benefits, such as providing drinking water, irrigation, and recreational opportunities, including swimming or boating. However, hydroelectric power plants take up a lot of space and are not suitable for every climate. They are sensitive to drought. Creating artificial water reservoirs can harm biodiversity in natural water systems by limiting nutrient flows and impeding the journey of migratory fish populations. They use renewable water as a resource, do not create greenhouse gas emissions

since there is no burning of any fuel, reduce foreign dependency on energy, have a long technical lifespan, do not produce waste that is harmful to the environment, and can produce electricity at a fixed rate. Assessing the effects of climate change on hydropower is complex due to nonlinear and region-specific changes in precipitation and temperatures. Literature information about hydroelectric energy is broader than other technologies. Most studies focus on changes in river flow due to changes in precipitation and temperature. River type plants that do not have a water reservoir are significantly affected by daily and seasonal changes. Storage capacity can be valuable when the water intake is matched with the operating capacity of the facility. However, in some cases, due to changes in source, additional capital costs for storage facilities may not be economically justified (nhm.ac.uk, 2023; Solaun and Cerda, 2019).

Geothermal Energy

Geothermal energy uses underground hot water reservoirs or steam created by the heat of the Earth's core to generate electricity. It works best in areas close to tectonic plate boundaries. Geothermal energy is highly reliable and has a consistent power output. It also has a relatively small carbon footprint on land. However, geothermal wells are expensive to drill and can affect the stability of the surrounding land. It should be carefully monitored to minimize environmental impact. There is also the risk of releasing greenhouse gases trapped under the Earth's surface. Geothermal energy, as renewable energy, is a type of energy that can be obtained from the earth itself without harming the atmosphere and our planet. The word geothermal came into our language as ground heat by combining the words geo (earth) and thermal (heat). Geothermal is hot water and steam under pressure, found in various depths of the earth's crust, which may contain molten minerals, various salts and gas. Geothermal energy is a type of energy created by heat and emerges from a mass of magma that has not yet cooled deep in the earth's crust. There was limited information about the use of geothermal resources during prehistory and the first civilizations. That's why geothermal energy found a place in those days with simple uses such as heating bath water (Ajibade et al., 2017).

DISCUSSION and CONCLUSION

The world is facing serious environmental problems. The ever-increasing population, urbanization, consequent life-threatening change, energy consumption are among the main reasons for the problem caused by the management of huge wastes, energy production and the climate change. Climate parameters that directly affect renewable resources, such as the amount of solar energy reaching the Earth, temperature, wind speed and groundwater flows are among the factors affected by climate change. As a result, the effects of climate change can differ significantly between regions and study periods. Follow up studies are needed to assess climate impacts at a more local level. In addition, the findings may be prudent, as most model and simulation studies do not take into account extreme weather events due to the climate change. Renewable energy is an economical and usable way to get rid of fossil fuels, which have limited resources and serious harm. Various regulatory policies, technical and economic barriers prevent the widespread use of renewable energy around the world. There are the ways to overcome this situation that can be explained as following. New regulations and policies are needed to encourage the widespread use of renewable energy resources. Technological developments are essential to increase the economy and efficiency of renewable energy processes. It is necessary to develop effective carbon capture methods to control climate change.

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COMPARISON OF MECHANICAL PERFORMANCE OF HOOP GLASS FIBRE AND HOOP BAZALT FIBRE REINFORCED THERMOSET POLYESTER COMPOSITES

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Abstract

In this experimental study, composite materials were produced by unsaturated polyester polymer reinforcing with glass fiber and basalt fiber. The mechanical properties of the composites such as tensile and flexural properties were investigated. In the study, the fiber ratio was kept constant at 30 wt. % in composite production. Tensile and flexural tests were applied to the composites. Composite test specimens were produced by pouring into specially manufactured silicone molds by liquid resin casting method. The properties of the composite materials such as tensile strength, modulus of elasticity in tension and deformation rate in tension, bending strength, modulus of elasticity in bending and deformation rate in bending were investigated. As a result, it was observed that glass fiber and basalt fiber reinforcements made some changes in the mechanical performance of the composites. Compared to pure polyester resin, the tensile and flexural strengths, tensile modulus and flexural modulus of both hoop glass fiber and hoop basalt fiber composite materials increased, while the deformation rate in flexure decreased and the elongation at break did not change much. In the study, the highest tensile modulus was 1990 MPa, the highest flexural modulus was 26.000 MPa, the highest tensile strength was 350.41 MPa and the highest flexural strength was 698 MPa values were obtained in glass fiber reinforced polyester composite. Again, the lowest deformation rate in bending was obtained in 30wt.% glass fiber reinforcement to polyester with a rate of 2.8%. As a result, scanning electron microscopy (SEM) was used to investigate the interfacial bonding of glass fiber and basalt fiber reinforcements with the main matrix polyester.

Keywords: Glass fiber, basalt fiber, polyester, mechanical properties, composite, thermoset.

INTRODUCTION

With the development of industry and technology, human needs are increasing in many areas. People expect higher levels of performance from products than what is added. In order to meet this, it is necessary to select and use the right and appropriate materials. In recent years, the use of plastic materials as an alternative to traditional materials has been increasing. Plastic materials have advantages such as light weight, easy shaping, corrosion resistance, but also disadvantages such as

low strength, low UV resistance, scratch-ability, thermal resistance. In order to provide the desired purposes, composite materials are produced by adding different solid materials to plastic materials. Composites can be plastic-based as well as metal-based and ceramic-based. However, in terms of lightness, price/performance and strength, plastic-based composites developed in recent years can be an alternative to metal and ceramic-based composites. Plastic-based composites stand out in terms of strength, thermal resistance, corrosion resistance and light weight. In order to meet these properties, carbon fibre, glass fibre, aramid fibre, textile fibre and natural fibre reinforcements are widely used in applications such as aircraft/aerospace, construction, automotive and defence industries. In composite construction, fibres can be added to the main matrix as short fibres, long fibres, continuous fibres and woven fibres. Depending on the type of fiber, the choice of thermoplastic or thermoset based polymers comes to the fore. Short, long and continuous fibers are more commonly used in thermoplastics, while woven fibers are widely used in the thermoset sector. There are many studies in the literature on the mechanical, thermal and tribological properties of thermoplastic-based plastic composites [1-5]. At the same time, many studies on the mechanical, thermal and tribological properties of thermoset based composites have been found in the literature [6-20]. However, there are few articles on hoop glass fiber and hoop basalt fiber.

In this study, glass fiber and basalt fiber reinforcement was selected to replace the additive used to improve the mechanical properties of an industrial product. The effect of these reinforcements on the tensile, flexural, compressive and hardness properties of the composite was investigated. For this purpose, tensile and bending tests were carried out. The stress at break, tensile modulus, strain at break, flexural strength, flexural modulus, deformation ratio in bending values of the composites were determined. In addition, scanning electron microscopy (SEM) was used to examine the interface between the matrix and the reinforcements.

MATERIALS AND METHOD

Materials

In this experimental study, unsaturated polyester polymers belonging to the thermoset polymer class were used as the main matrix material. The unsaturated polyester resin used in the study was obtained from Boytek Co./Istanbul/Turkiye. To create a cross-linking structure, Methyl Ethyl Ketone Peroxide (MEKP) was added to the unsaturated polyester resin. As a reinforcement, 2400 tex hoop E-glass direct roving fiberglass with an average diameter of 24 μm and a density of 2.62 g/cm3, which is highly mechanical and excellent acid corrosion-resistant, compatible with thermoset polyester, and coated with silane, was used in the study. The hoop glass fiber reinforcement material was purchased from Jushi Co./China. Additionally, in the study, hoop basalt fiber reinforcement material with a density of 2.7 g/cm3 was used. The 2400 tex hoop basalt fiber was obtained from Basaltfiberuz company/Uzbekistan.



a) Hoop glass fiber | b) Hoop basalt fiber

Figure 1. Hoop glass fiber and hoop basalt fiber used in the experiments

Preparation of Composites

In the production of thermoset-based polyester composite materials, the density of the additives added to the liquid resin is denser than the resin, so they precipitate in the liquid resin. This is an undesirable situation. Homogeneous distribution of additives in the composite is desired. For this, the fluidity of the liquid polyester resin must be adjusted. In order to increase the viscosity of the polyester, 2% thickener was added to the liquid resin. It was then mixed in a mechanical mixer for 30 minutes. Glass fiber and basalt fiber reinforced unsaturated polyester based composites were produced for tensile and flexural tests using the hand lay-up technique in a mould prepared to be 40x40 cm^2 in size and 5 mm thick. First, pure polyester resin was poured into the mold, then hoop glass and basalt fibers were laid in the mould and resin was applied with a roller and the fibers were wetted. This process was repeated until the sample thickness specified in the standard was obtained. The composite plates were produced by keeping them in the room for at least 24 hours. The tensile and flexural test specimens were then kept in an oven at 70°C for 1 hour to allow crosslinking to fully take place. The test specimens were then conditioned in a room temperature of 23°C and 50% humidity for 1 day. The test specimens were then prepared by precisely cutting the specimens from the plate with a diamond saw.

Mechanical Tests

Tensile Test

Tensile tests of hoop glass fiber and hoop basalt fiber reinforced composite test specimens were performed on a Zwick Roell Z250 universal tensile testing machine. Tensile tests were also performed at a tensile speed of 5 mm/min and at a controlled laboratory ambient temperature. Tensile tests were performed in accordance with ISO 8513 standards. At least five tensile test specimens were used in the tests. The data obtained in the tests were recorded on a computer and averaged. The average values were used to create the graphs in the experimental studies section.

Bending Test

Bending tests of hoop glass fiber and hoop basalt fiber reinforced composite specimens were performed on a Zwick Roell Z250 tensile testing machine. Flexural test specimens were prepared in

accordance with TS EN ISO 14125 (ISO178) standards. Bending test specimens were performed at a bending speed of 5 mm/min. Again, at least five test specimens were subjected to bending test. The data obtained were recorded in computer environment. The arithmetic mean of the data obtained was then taken. The average values were used to create the figures in the experimental studies section.

Scanning Electron Microscope Microstructural Analysis

Fracture surface microstructure examinations of hoop basalt fiber and hoop glass fiber reinforced composite test specimens obtained as a result of tensile tests were carried out using scanning electron microscopy. JEOL brand JSM6060LV model scanning electron microscope was used for microstructure examinations. Prior to the microstructure examination, the fracture surfaces of the composite test specimens were coated with gold as a thin film by spraying method using SC7620 brand coating device.

RESULTS AND DISCUSSION

Figure 2 shows the variation of the breaking strength of unsaturated polyester composites reinforced with 30 wt% hoop glass fiber and 30 wt% hoop basalt fiber and UP polymer with 2wt. % Aerosil thickener. As can be seen in the figure, the breaking strength of the unsaturated polyester resin containing 2% aerosil was determined as 48.20 MPa. The breaking strength of the 30wt.% hoop glass fiber reinforced composite was determined as 350.41 MPa, while the breaking strength of the 30wt.% hoop basalt fiber reinforced composite was determined as 261. 45 MPa. Compared to 2wt. % Aerosil filled polyester, the breaking strengths of both glass fiber and basalt fiber increased. The increase in breaking strength of 30wt.% glass fiber and 30wt.% basalt fiber composites was 6.27 times and 4.42 times, respectively.

The change in the tensile modulus of 30wt.% glass fiber and 30wt.% basalt fiber reinforced polyester composites and UP polymer filled with 2wt.% Aerosil thickener is given in Figure 3. As can be seen in the figure, the tensile modulus of unsaturated polyester resin containing 2wt.% aerosil was determined as 1080 MPa. The tensile modulus of 30wt.% glass fiber reinforced UP composite was determined as 1900 MPa, while the tensile modulus of 30wt.% basalt fiber reinforced unsaturated polyester composite was determined as 1460 MPa. Compared to the tensile modulus of 2aerosil filled polyester, both 30wt.% glass fiber and 30wt.% basalt fiber reinforcement showed a significant increase in the modulus of elasticity values of the composite. The increase in the modulus of elasticity of glass fiber and basalt fiber reinforced composites was 75.9% and 35.1%, respectively.

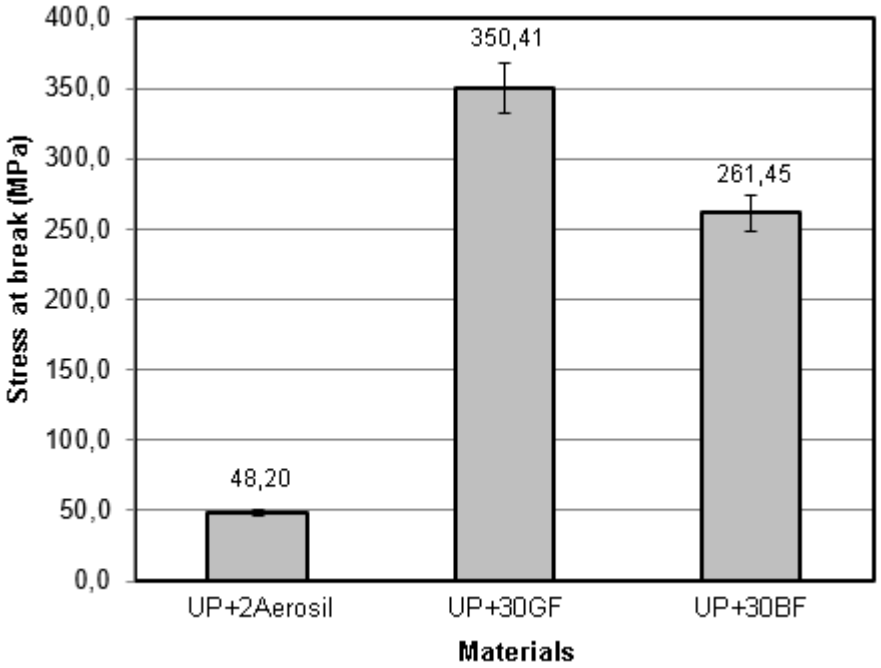

Figure 2. Variation of tensile strength of unsaturated polyester composites reinforced with glass fiber and basalt fiber with UP polymer containing 2% Aerosil

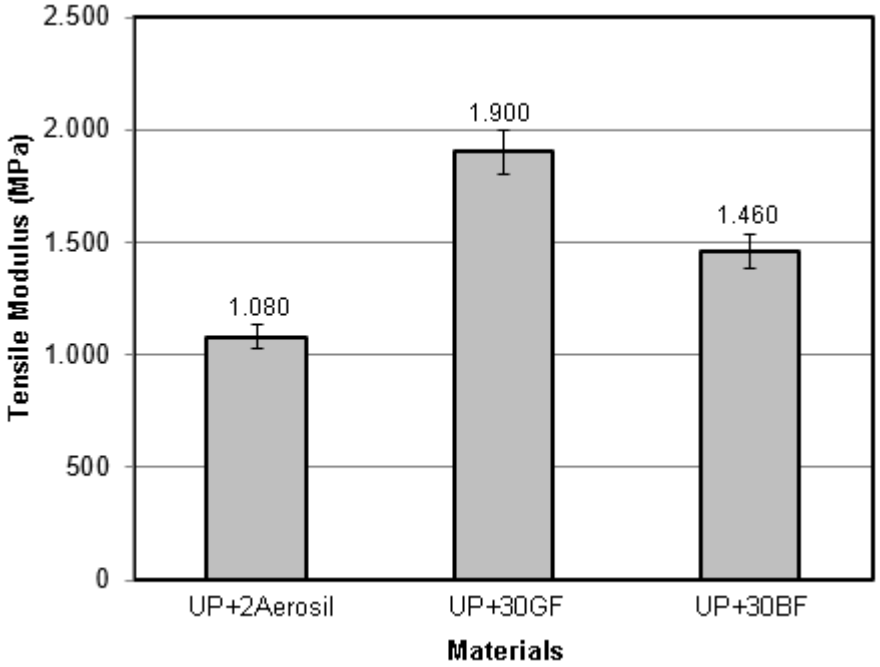

Figure 3. Variation of modulus of elasticity in tension of unsaturated polyester composites reinforced with glass fiber and basalt fiber with UP polymer containing 2% Aerosil

Figure 4 shows the variation of % elongation at break values of UP composites with 30 wt% hoop glass fiber and 30 wt% hoop basalt fiber reinforcement and UP polymer with 2% aerosil additive. The elongation at break of UP resin with 2wt.% aerosil additive was found to be 3.9%. The elongation at break of 30wt.% hoop glass fiber and 30wt.% basalt fiber reinforced composites were 12% and

12%, respectively. Compared to the UP polymer with 2wt.% aerosil, the elongation at break of both glass fiber and basalt fiber increased.

The variation of flexural strength of UP polymer filled with 2wt.% aerosil and UP composites reinforced with 30 wt% hoop glass fiber and 30 wt% basalt fiber is given in Figure 5. As can be seen in the figure, the flexural strength of 2wt.% aerosil filled polyester was 116 MPa, while a significant increase was observed in the flexural strength of hoop glass fiber and basalt fiber reinforced polyester composites. The flexural strengths of 30 wt.% hoop glass fiber and 30 wt.% basalt fiber reinforced UP composites were 698 MPa and 337 MPa, respectively. Compared to the flexural strength of UP polyester with 2 wt.% aerosil additive, the flexural strengths of 30 wt.% glass fiber and basalt fiber reinforced composites increased by 5.01 times and 1.9 times, respectively. The flexural strength of the composites increased with the addition of hoop glass fiber and basalt fiber to UP/Aerosil resin. Since glass fiber and basalt fiber are present in the composite like continuous fibers, it caused the flexural strength of the composite to increase.

The change in the flexural modulus of UP polymer with 2wt.% aerosil and UP composites reinforced with 30wt.% glass fiber and 30wt.% basalt fiber is given in Figure 6. As can be seen in the figure, the flexural modulus of unsaturated polyester resin containing 2wt.% aerosil was determined as 3040 MPa. The modulus of elasticity of 30% glass fiber reinforced UP composite was determined as 26000 MPa, while the modulus of elasticity of 30wt.% basalt fiber reinforced UP composite was determined as 10600 MPa. Compared to the flexural modulus of 2wt.% Aerosil filled polyester, a significant increase was observed in the flexural modulus values of both 30wt.% glass fiber and 30wt.% basalt fiber reinforced composite. The increase in the flexural modulus of glass fiber and basalt fiber reinforced composites was determined as 7.55 times and 2.48 times, respectively.

The variation of the deformation ratio in bending of 2wt.% Aerosil filled UP polymer and 30wt.% glass fiber and 30% basalt fiber reinforced UP composites is given in Figure 7. The deformation ratio in bending of 2wt. %Aerosil filled UP resin was determined as 6.0%. The flexural deformation ratio of 30wt.% glass fiber and 30wt.% basalt fiber reinforced composites were 2.8% and 3.6%, respectively. Compared to UP polymer containing 2wt.% aerosil, the flexural deformation ratio of both glass fiber and basalt fiber decreased. The reduction rate was 53% and 40% for 30wt.% glass fiber and 30wt.% basalt fiber reinforced composites, respectively.

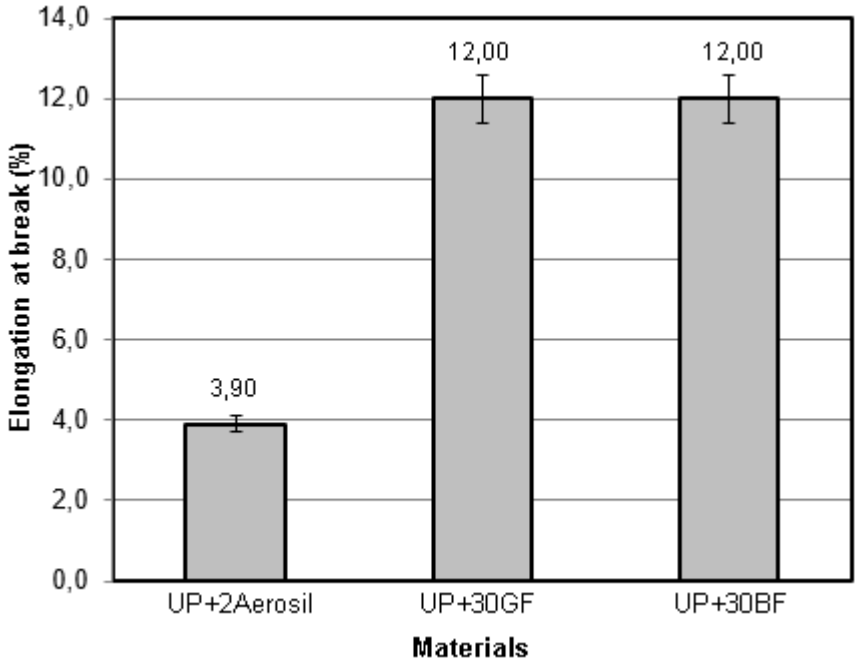

Figure 4. Elongation at break of unsaturated polyester composites reinforced with glass fiber and basalt fiber with UP polymer containing 2wt.% Aerosil

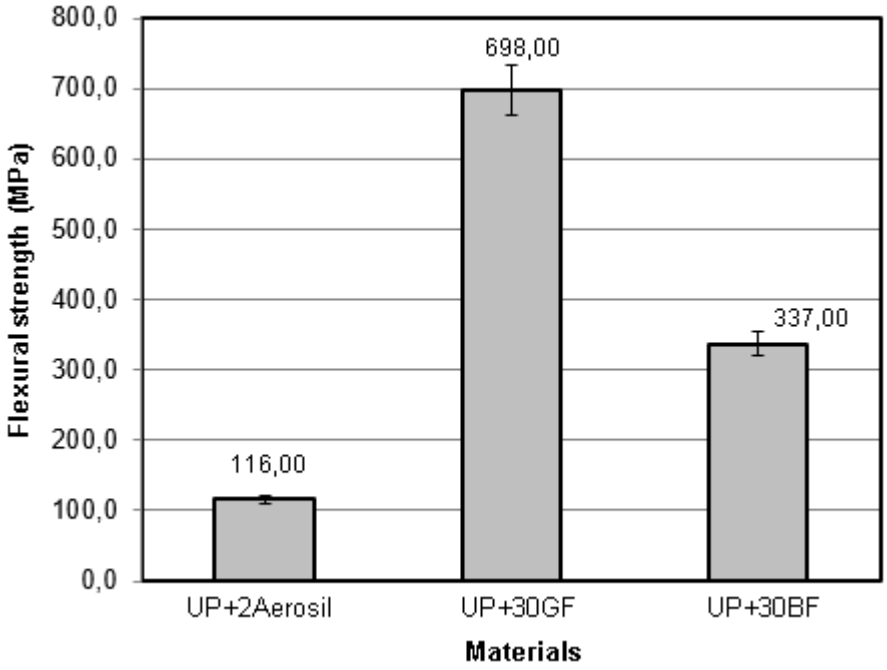

Figure 5. Variation of flexural strength of UP polymer containing 2% Aerosil and glass fiber and basalt fiber reinforced unsaturated polyester composites

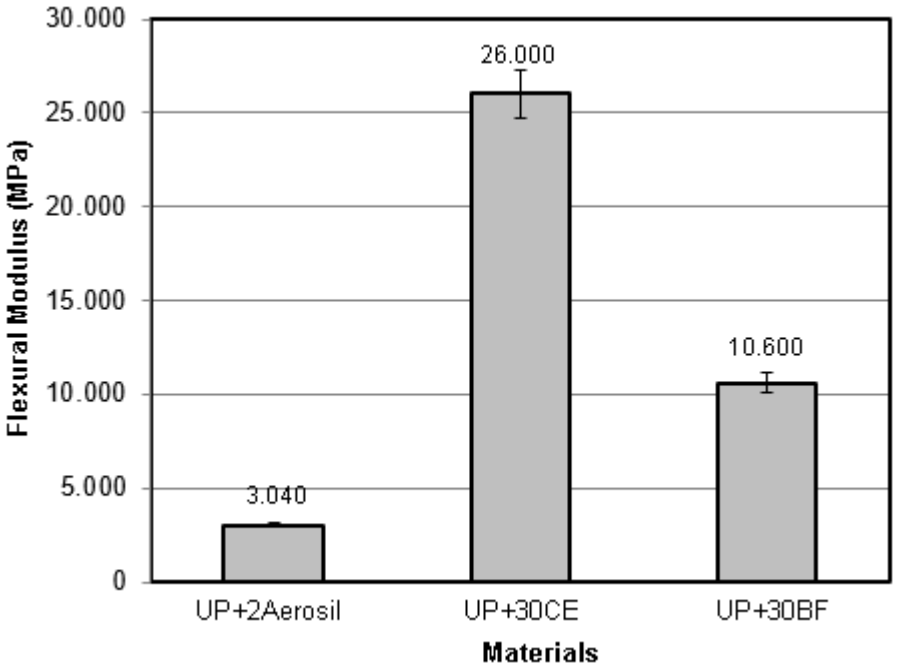

Figure 6. Modulus of unsaturated polyester composites reinforced with glass fiber and basalt fiber with UP polymer containing 2% aerosil

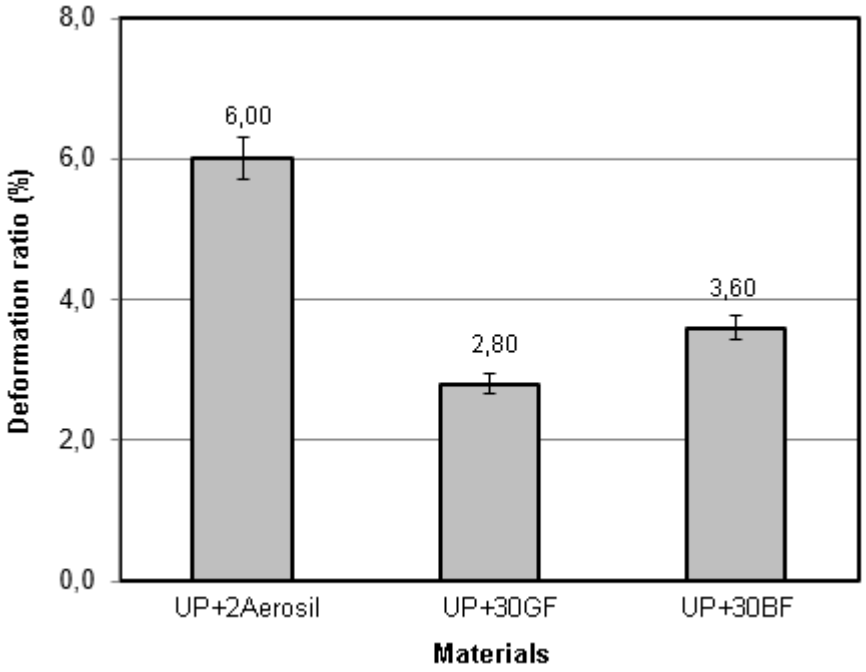

Figure 7. Variation of deformation rate in bending of unsaturated polyester composites reinforced with glass fiber and basalt fiber with UP polymer containing 2% Aerosil

The fracture surface image taken from the fracture surface of 30wt.% hoop glass fiber and hoop basalt fiber reinforced polyester composites after tensile test is given in Figure 8. Figure 8a,b shows the fracture surface images of hoop glass fiber composite and Figure 5c,d shows the fracture surface

image of hoop basalt fiber reinforced composite. In Figure 5a,c, it is seen that both glass fibers and basalt fibers are oriented in one direction. In addition, both fibers show ruptures as a result of tensile forces. In addition, ruptures also occurred in the polyester main matrix and the broken surface in the form of small particles is seen in SEM images.
Figure 8b,d shows the images of glass fiber and basalt fiber reinforced composites taken at 1000x magnification in scanning electron microscopy. When the images are examined and analysed together with the mechanical results, the mechanical property results of the glass fiber reinforced composite are higher. As a result of microstructural examinations, it can be stated that a better interfacial bond is formed between the glass fiber and the polyester base matrix in the glass fiber reinforced composite compared to the basalt fiber composite.

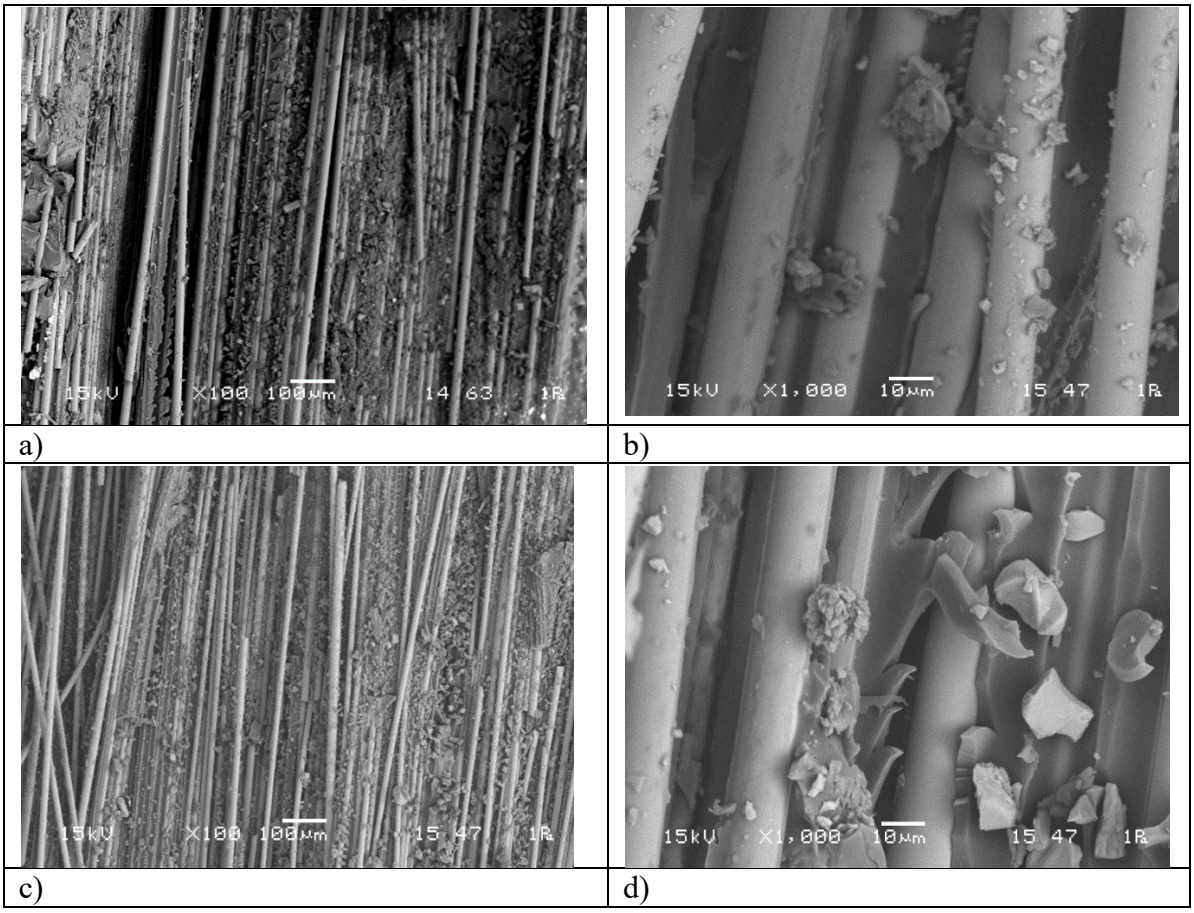

Figure 8. shows the variation of % elongation at break values of UP composites reinforced with 30 wt.% hoop glass fiber and 30 wt.% hoop basalt fiber and UP polymer doped with 2% aerosol thickener.

CONCLUSIONS

The following conclusions were drawn from the experimental study investigating the mechanical properties of unsaturated polyester composites reinforced with glass fiber and basalt fiber with UP polymer containing 2wt. % Aerosil.

- Compared to 2wt. % Aerosil filled polyester, the stress at break of both glass fiber and basalt fiber increased. The increase in the stress at break of 30wt. % glass fiber and 30wt. % basalt fiber composites was 6.27 times and 4.42 times, respectively.
- Compared to the tensile modulus of 2%Aerosil filled polyester, both 30wt. % glass fiber and 30wt.% basalt fiber reinforced composites showed a significant increase in the tensile modulus. The increase in the tensile modulus of glass fibre and basalt fibre reinforced composites was 75.9% and 35.1%, respectively
- Compared to unsaturated polyester containing 2wt. % Aerosil, both 30wt. % glass fiber and 30wt. % basalt fiber showed an increase in strain at break.
- Compared to the flexural strength of UP polyester filled with 2wt. % Aerosil, the flexural strength of 30wt. % glass fiber and basalt fiber reinforced composite materials increased by 5.01 times and 1.9 times, respectively.
- Compared to the flexural modulus of 2wt. % Aerosil filled polyester, both 30wt. % glass fiber and 30wt. % basalt fiber reinforced composite showed a significant increase in the modulus of elasticity values. The increase in the flexural modulus of glass fiber and basalt fiber reinforced composite materials was determined as 7.55 times and 2.48 times, respectively.
- Compared to UP polymer containing 2wt. % Aerosil, both glass fiber and basalt fiber decreased the deformation rate in bending. The reduction rate was 53% and 40% for 30wt.% glass fiber and 30wt.% basalt fiber reinforced composites, respectively.

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EFFECT OF SILICON-DIOXIDE PARTICLE SIZE ON TENSILE, COMPRESSION, FLEXURAL AND HARDNESS PROPERTIES OF UNSATURATED POLYESTER COMPOSITES

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Abstract

In this study, the mechanical properties of unsaturated polyester (UP) based polymer composites filled with silicon dioxide were investigated. Composites were produced by adding silicon dioxide additives with different particle sizes (90, 125 and 250 µm) to unsaturated polyester resin at 35 wt.%. Composite production was carried out by liquid resin casting method. The effect of particle size on the mechanical properties of the composites was investigated. Bending, tensile, compression and hardness tests were performed to determine the mechanical properties of the composites. The properties of the test specimens such as flexural strength, flexural modulus, and deformation rate in flexure, hardness, tensile strength, strain at break, compressive strength and strain in compression were investigated. As a result, it was determined that the particle size of the silicon dioxide additive has a significant effect on the composite mechanical properties. The values of flexural strength, flexural modulus, stiffness, tensile strength and compressive strength of the composites with smaller particle size (90µm) silicon dioxide additives increased while little change was observed in the values of deformation rate in flexure, % elongation at break and % strain in compression. The highest mechanical properties were obtained for silicon dioxide filled composites with the lowest particle size (90µm). That is, flexural modulus was 5420 MPa, flexural strength was 77.23 MPa, tensile strength was 32.3 MPa and compressive strength was 111 MPa. Fracture surface microstructure investigations were carried out using scanning electron microscopy (SEM). As a result of the microstructure investigations, it was observed that polyester resin and silicon dioxide additives with different particle sizes were well bonded to each other, i.e. the interfacial bonding was good.

Keywords: Silicon dioxide, unsaturated polyester, composite, mechanical properties, particle size.

STRUCTURAL AND AERODYNAMIC ANALYSIS OF NACA 65_1-412 WING PROFILE

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Abstract

In this study, NACA 65_1-412, a regional passenger plane NACA profile, SOLIDWORKS program was used in the design process and the ANSYS program was used in flow and structural analysis with the finite element method. The wing profile length was taken as 4 meters and the design of 9 rib, 2 spar, wing lower-upper profiles were included in the design. In the static analysis process, ribs and spars are coated with Al 7050-T7451, and the airfoil is coated with Al 2024-T3 and Al 7075-T6 materials respectively and structural parameters such as total deformation, von-mises stress, equivalent strain, maximum principle stress and minimum principle stress were aimed at being carried out on the wing profile. The purpose of the static analysis is to calculate the deformation and stresses under the loads that the blade is exposed to and to ensure that these values are within the safety limits. Within the scope of the analysis, flow analysis was performed at 3° and 6° angle of attack under standart atmospheric conditions and 141 m/s velocity value was taken as reference and static analysis was performed by finding the pressure values that would affect the airfoil. As a result of the flow analysis, it was observed that the pressure on the airfoil surface increased as the angle of attack increased. In the static analysis, it was observed that as the angle of attack increased, the structural parameters such as total deformation, equivalent stress, equivalent strain, maximum principle stress, minimum principle stress increased.

Key words: Finite Element Analysis, Static Analysis, Aircraft wing, Rib and Spar.

ESTIMATED MAINTENANCE DATE OF CORPORATE CUSTOMER VEHICLES IN THE AUTOMOTIVE INDUSTRY: TAKING USE OF LIGHTGBM FOR IMPROVED CLASSIFICATION

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Abstract

In general, corporate customer behavior may differ from individual customer behavior. The number of product/service usage, frequency, size, and frequency of exchange between services may differ between the two groups. These differences may require separate focus points in the studies to be carried out for the customers. It has been observed that there are differences between the behaviors of corporate and individual customers in After Sales Services in the automotive industry. It would be beneficial to extend customer retention strategies to all customers to ensure customer satisfaction in the long run. In this study, as a continuation of the Service Appointment Estimation study, which was first studied for individual customers, the Service Appointment Estimation study for corporate customers was emphasized. A CRM analytics study was completed to increase customer loyalty and minimize customer loss in After Sales Services by blending real sector data prepared by using customer demographics, vehicle technical features, and customer-vehicle maintenance history with machine learning methods. The main purpose of this study is to predict active license holders and corporate customers who will likely come to maintenance next month. The motivation of this study is to expand the Service Appointment Estimation study, which was completed for individual customers, to all customers by working on corporate customers as well. The main problem in the study is to take advantage of machine learning methods, which is a more effective method in terms of both time and workforce, by eliminating the rule-based potential maintenance customers estimation process. The problem is a classification problem. LightGBM, XGBoost, Random Forest, and CatBoost, which are machine learning methods, were used in the study. After the performance comparison between the F1 Score, Recall, and precision performance metrics, and the algorithms were completed, the application was continued with the most successful algorithm. The factors and implications that are effective in problem-solving are discussed. The article consists of a problem definition, similar studies in the literature, a comparison of solution methods, and a conclusion.

Keywords: Customer Relationship Management, Corporate Customers, Automotive Sector, Machine Learning, Predictive Maintenance.

FORECASTING OF CORPORATE CUSTOMER CHURN IN THE AUTOMOTIVE SECTOR: LEVERAGING LIGHTGBM FOR ENHANCED CLASSIFICATION

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Abstract

In the dynamic automotive industry, maintaining the loyalty of corporate customers is a critical endeavor, especially for brands with a large corporate customer profile. This study delves into the realm of corporate customer churn prediction in the automotive sector, employing LightGBM (Gradient Boosting Machine) as the core algorithm. The primary objective is to proactively identify potential churn instances and engage with customers, when necessary, by implementing effective retention strategies. The study leverages a rich dataset encompassing historical interactions of a car in the authorized service centers, transactional behavior, and preferences of corporate customers. By harnessing the power of LightGBM, a machine learning model is developed to capture intricate patterns that could signify an impending churn. This model enables businesses to allocate resources wisely and initiate targeted engagement efforts. Data preprocessing plays a pivotal role, encompassing data cleaning, feature engineering, and encoding categorical variables. The LightGBM model is trained on the prepared dataset, utilizing its capacity to handle complex relationships within the data efficiently. The results underscore the effectiveness of the LightGBM-based approach in predicting corporate customer churn. The model achieves notable accuracy and precision, providing a reliable tool for decision-making in customer relationship management. The insights derived from this study empower automotive enterprises to tailor their services to meet the specific needs and expectations of corporate customers. By doing so, these companies can significantly enhance customer satisfaction and cultivate long-term relationships, which are essential for sustaining success in this fiercely competitive market. By embracing machine learning and algorithmic insights, automotive companies can gain a competitive edge in predicting corporate customer churn and, consequently, devising strategies that cultivate enduring partnerships.

Keywords: Churn Prediction, Corporate Customers, Automotive Sector, Machine Learning,

Customer Retention.

INTRODUCTION

In today's digital age, particularly in sectors like the automotive industry where authorized dealers for vehicle service and maintenance face intense competition, the issue of customer loyalty has become of paramount importance. The cost of acquiring new customers often exceeds that of retaining existing ones, making it inevitable for dealers to focus on improving their current customer relationships [5]. With the emergence of big data, there is an increasing emphasis on leveraging this data to predict corporate customer churn and implement effective loyalty strategies [4]. The telecommunications industry, for instance, has been at the forefront of this trend, with companies increasingly turning to digital solutions to address corporate customer churn [4].

Authorized automotive dealers, in particular, face a significant challenge with corporate customer churn. Customers may prefer private service providers over authorized service centers for various reasons, such as socio-economic factors, location-based considerations, customer relationships, or others. This can lead to customer loss for Authorized Automotive Maintenance Services. The aim of this article is to predict corporate customers who are unlikely to bring their vehicles for maintenance in the coming months. As a result of this prediction, corporate customers with a low likelihood of bringing their vehicles for maintenance are referred to as "churn customers." To predict churn customers, historical maintenance service behaviors/records of customers have been examined. The most critical aspect of this study is that it is based on real data. The proposed methodology aims to provide actionable insights to dealers, allowing them to proactively communicate with at-risk customers and tailor their services to specific needs in order to prevent customer loss. In doing so, dealers can not only improve customer satisfaction but also develop long-term relationships that are vital for sustained success in today's competitive environment. The study is treated as a classification problem, and complex predictive models using ensemble learning algorithms like Catboost, LightGBM, and Random Forest have been applied [6]. The best results in terms of the F1-Score, an important performance metric in classification problems, were obtained with the LightGBM algorithm/method. The article thoroughly discusses the main problem, data analysis, solution methodology, and findings.

MATERIALS AND METHODS

In this section, the methods and processes of the corporate customer churn prediction problem will be detailed. The problem involves the use of machine learning algorithms to predict the likelihood of churn among customers visiting authorized automotive service centers.

Data Collection and Preprocessing

The data set provided by automobile authorized service dealers consists of service and maintenance records entered from 2010 to 2021. At the outset of our project, we embarked on the task of preparing our dataset by following the subsequent steps:

Handling Missing Data: As an initial step, the issue of missing data within the dataset was addressed. Missing data points were scrutinized and either filled in appropriately or, in cases of a significant amount of missing data, the respective columns were removed from the dataset. Proper handling of

missing data is a crucial step in enhancing the reliability of the model.

Removal of Irrelevant or Redundant Columns: Some columns in the dataset were either irrelevant for churn prediction or carried redundant information. Such columns were removed from the dataset as they could potentially adversely affect the model's performance. Particularly, unique identifiers such as OWNER_CUSTOMER_ID, FK_VEHICLE_ID, WORK_ORDER_ID, CHASSIS were omitted as they might diminish the model's learning capabilities.

Conversion of Date into a Suitable Format: The dataset contained date-related information (e.g., CREATE_DATE, CUSTOMER_LICENCE_START_DATE). To utilize this data effectively with machine learning algorithms, the data was transformed into a suitable format. Typically, such data is split into separate columns for day, month, and year or converted into a numerical format using timestamps.

Dummy 0's: Since the service records only contained one label (not churn), dummy entries with a label of 1 were introduced for cases indicating "churn." This critical step was taken to maintain a balanced representation of both churn and non-churn instances within our dataset, a pivotal factor for the effectiveness of subsequent classification modeling.

Transformation of Categorical Data into Numerical Values: Categorical data (e.g., MARKA_CODE, ADDRESS_COMMUNICATION_CITY) were present in the dataset. Machine learning models perform better with numerical data. Consequently, categorical data was transformed into numerical values using techniques such as one-hot encoding or label encoding.

These preprocessing steps were instrumental in making our dataset cleaner, more complete, and suitable for modeling. Preparing the dataset in this manner facilitates better model learning and accurate predictions.

Table 1. Dataset Overview

Features	Sample	Meaning
CREATE_DATE	11.11.2222	It specifies the date of work order.
OWNER_CUSTOMER_ID	1234567	It specifies the vehicle owner's id.
FK_VEHICLE_ID	8912345	It specifies the vehicle's id.
WORK_ORDER_ID	1111111	It specifies the work order number.
BRAND_CODE	X	It refers to the brand of the vehicle.
VEHICLE_MILEAGE	999	It describes measured kilometers in the maintenance service.
MAINTENANCE_PERIOD	222	It indicates the maintenance period.
IS_MAINTENANCE	0	It refers to whether the work order is for maintenance or for service.
CUSTOMER_LICENCE_START_DATE	11.11.2222	It refers to the customer's license start date.
CUSTOMER_LICENCE_END_DATE	11.11.2222	It refers to the customer's license end date.
SECTOR_ID	123	It refers to the sector ID in which the customer works.

CUSTOMER_TYPE	X	It represents the customer's type such as corporate or individual customer
ADDRESS_COMMUNICATION_CITY	ABCD	It represents the province of the customer.
ADDRESS_COMMUNICATION_TOWN	EFGH	It represents the town of the customer.
CHASSIS	XWTHJZ	It expresses the chassis number of the vehicle.
TRAFFIC_DATE	11.11.2222	It refers to the date when the vehicle entered traffic.
MOTOR_GAS_TYPE	ABCD	It shows the motor gas type of the vehicle.
GEAR_BOX_TYPE	ABCD	It identifies gear box type of the vehicle.
BASEMODEL_CODE	AAAA	It refers to the vehicle's base model code.
BASEMODEL_DEFINITION	BBBB	It refers to the vehicle's base model definition.
TOPMODEL_CODE	AAAA	It refers to the vehicle's top model code.
TOPMODEL_DEFINITION	BBBB	It refers to the vehicle's top model definition.
GUARANTY_START_DATE	11.11.2222	It refers to the date on which the warranty of the vehicle begins.
GUARANTY_END_DATE	11.11.2222	It refers to the date on which the warranty of the vehicle ends.
EXTENDED_GUARANTY_FINISH_DATE	11.11.2222	It refers to the date on which the extended warranty of the vehicle ends.
TOTAL_DISCOUNT_AMOUNT	123	It refers to the discount amount applied by the authorized dealer in TL for the maintenance of the vehicle.
TOTAL_CAMPAIGN_DISCOUNT_AMOUNT	123	It refers to the amount of discount on the basis of TL applied to the vehicle within the scope of the campaign.
TOTAL_NET_AMOUNT	123	It refers to the TL amount paid to the authorized dealer for the maintenance of the vehicle.
TOTAL_DISCOUNT_AMOUNT_EUR	123	It refers to the discount amount applied by the authorized dealer in EUR for the maintenance of the vehicle.
TOTAL_CAMPAIGN_DISCOUNT_AMOUNT_EUR	123	It refers to the amount of discount on the basis of EUR applied to the vehicle within the scope of the campaign.
TOTAL_NET_AMOUNT_EUR	123	It refers to the EUR amount paid to the authorized dealer for the maintenance of the vehicle.
KAC_AYDA_BAKIMA_GELMELI	1	It refers to which churn definition the vehicle falls into in terms of months.

Feature Engineering

Subsequently, the process of feature engineering is undertaken to enhance the model's performance. These newly crafted features consider customer-vehicle relationships and maintenance history, thereby enriching the dataset with invaluable information. Key engineered features include "bakım_musteri-arac_last_recency," signifying the time elapsed since the last maintenance event, "bakım_musteri-arac_last_car_age," denoting the age of the customer's most recent vehicle, and "bakım_musteri-arac_last_guaranty_remaining," indicating the remaining warranty period for the latest vehicle, “bakım_musteri-arac_shift_dif1" indicating the number of days between the customer's

last 1st and 2nd maintenance with the relevant vehicle, “bakım_musteri-arac_shift_dif2" indicating the number of days between the customer's last 2nd and 3rd maintenance with the relevant vehicle and so on. These engineered features provide the model with additional insights and context, enabling it to make more informed predictions regarding corporate customer churn and ultimately improving the model's predictive capabilities.

Model Selection

In this problem, three different machine learning models were employed: Catboost, LightGBM, and Random Forest. These models utilized the same dataset to predict corporate customer churn. Catboost was chosen for its adept handling of categorical features, effectively managing the diverse categorical data present in the dataset [1]. LightGBM, known for its efficiency and capability to handle extensive, high-dimensional datasets, was included [2]. Additionally, Random Forest, an ensemble learning method valued for its interpretability and capacity to capture complex data relationships, was part of the model selection [3]. This diverse model selection approach enabled the exploration of various methods for churn prediction, each model contributing its unique strengths to the analysis. The final choice of the most suitable model was made based on performance on the churn customer classification problem and dataset.

RESULTS

In this phase, optimization was carried out on the models, focusing on a specific brand and churn month definition. Initially, the dataset was divided into training and validation sets, with filtering applied to isolate the chosen brand and churn month. This partitioning allowed for an assessment of the model's performance in this particular context.

Hyperparameter tuning was conducted systematically, exploring various combinations to enhance the model's performance further. Techniques such as grid search and random search were applied to determine the best hyperparameter settings. This process not only improved the model's ability to generalize but also ensured result reliability.

The model underwent training using the optimized hyperparameter settings, learning from the training data. Following that, the model's performance was assessed using the test dataset, and key metrics such as Precision, Recall, and F1 Score were calculated. In this context, Recall quantifies quantifies the ratio of the model's correct predictions among the customers who will not visit authorized dealers for service - maintenance purposes in the next 7 months, while Precision indicated the proportion of customers the model predicted would not visit authorized dealers for service – maintenance purposes within the next 7 months and who actually did so. As a result, the champion model LightGBM achieved a 0.68 F1-Score, for the specified brand and churn month definition on the test dataset.

Forecasts with a probability of 0.35 and above have been categorized as "1," indicating an expectation that these customers are unlikely to visit authorized dealers for service and maintenance in the next 7 months. Forecasts with a probability of less than 0.35 have been labeled as "0," suggesting that these customers are expected to visit authorized dealers with their vehicles for service and maintenance within the next 7 months.

The forecast records for the 7 months following the prediction month were compared against the

actual records. Evaluation of the classification performance of the algorithms utilized F1-Score, Recall, and Precision metrics. To offer a comprehensive model comparison, here are the performance metrics for each model on the test dataset:

Table 2. Performance Metrics of Algorithms

Algorithm	F1 Score	Recall	Precision
LightGBM	0.68	0.73	0.64
Catboost	0.66	0.68	0.65
Random Forest	0.65	0.69	0.62

DISCUSSION

Upon a thorough examination of the models' performances, the model with the highest predictive power was carefully selected. The results obtained with the chosen model were comprehensively interpreted. Additionally, feature importance was meticulously analyzed to identify which attributes played a more significant role in corporate customer churn prediction.

In this phase, the high F1-Score achieved by the LightGBM model for a specific brand and churn month definition on the test dataset were considered. These results strongly indicated that the LightGBM model outperformed the other models in this particular scenario. Notably, features reflecting corporate customer-vehicle relationships and maintenance history were observed to have a critical impact on churn prediction.

Furthermore, a comparison was made with the results obtained by other models, namely Catboost and Random Forest. This comparative analysis consistently showed that the LightGBM model exhibited higher predictive power compared to the other models. Consequently, the LightGBM model was selected as the most effective and reliable choice for corporate customer churn prediction.

CONCLUSION

In conclusion, this study delved into the performance evaluation and interpretation of various machine learning models for corporate customer churn prediction. Through a meticulous assessment of model performance and feature importance, it was evident that the LightGBM model excelled in predicting corporate customer churn, particularly for a specific brand and churn month. The inclusion of features that captured corporate customer-vehicle relationships and maintenance history significantly contributed to its success.

Comparisons with alternative models, Catboost and Random Forest, reaffirmed the superior predictive capabilities of the LightGBM model in this context. As a result, the LightGBM model emerged as the preferred choice for effectively and reliably predicting corporate customer churn.

These findings serve as a valuable reference for model selection and result interpretation in machine learning-based corporate customer churn prediction projects, emphasizing the importance of feature engineering and model optimization to achieve the highest predictive accuracy.

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CORRELATION BETWEEN HEMATOLOGICAL PARAMETERS AND SUPPLEMENT DURING PREGNANCY

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Abstract

Pregnancy as a normal physiological process in women is accompanied by numerous anatomical and physiological changes during the first trimester, during the second trimester and during the third trimester.
The purpose of this paper is to follow the hematological changes in women during pregnancy during the period of the first, second and third trimester in the changes in the number of erythrocytes, hemoglobin, hematocrit, leukocytes and platelets and the changes from the beginning of pregnancy until the birth of the child and used the supplement for their normal conditions.

The object of the study are pregnant women in different periods of the first trimester, the second trimester and the third trimester and the laboratory analyzes were carried out through the blood serum which we took from the patient's vein and hematological and biochemical analyzes were carried out as well as the supplements as they are folic acid, vitamin D and, according to the doctor's recommendation, the hormones of the thyroid gland.

Changes during pregnancy in the status of total proteins and albumins, which in most cases are accompanied by hypoalbuminemia and total hypoproteinemia, which are associated with mechanisms of the appearance of edema in the extremities.
Proteinuria is one of the key factors associated with numerous complications during pregnancy, and depending on the current condition, it is associated with the presence of proteins in the urine with one plus, two pluses and three pluses.
The use of nutritional supplements and especially folic acid, vitamin D pregnancy are very important components in the maintenance of pregnancy and the stability of the pregnant woman during this period.

Key word: pregnancy women, supplement, folic acid, vitaminD, proteinuria, hematological and biochemical parametars.

POLYETHYLENE TEREPHTHALATE (PET) PLASTIC TO PRODUCE NANOSTRUCTURE MATERIAL FOR WATER TREATMENT

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Abstract

The accumulation of plastic items on the globe can impact the ecosystem through air, land, and water contamination. The accumulation of plastic items on the globe can impact the ecosystem through air, water, and land contamination. Plastic water bottles are a global environmental issue due to their prevalent use. The worldwide water supply has been facing difficulties in supplying the increasing demand from the population while also grappling with the consequences of climate change and decreasing water quality. Despite the use of several comprehensive approaches for the treatment of wastewater, these technologies exhibit various adverse consequences due to the existence of contaminants**.** Nanostructured plastics made from polyethylene terephthalate (PET) that are becoming more prevalent in the environment are being retained in wastewater sludge and eventually finding their way into wastewater treatment systems. Harmful plastic waste is a global issue, but it is especially difficult to handle in developing countries. The current research used Polyethylene Terephthalate (PET) plastic waste as a base material to examine the nature of organic components and nutrient removal from wastewater. Carbon nanotubes (CNTs) of high value were produced from the toxic waste of plastic shopping bags using an easy technique, hence reducing disposal issues. A significant ecological catastrophe has emerged from the widespread use of plastic water bottles. Some types of plastic bottles can be recycled; however, the great majority cannot. The waste from polyethylene terephthalate (PET) is thermally decomposed in a closed system under autogenic pressure with additives and/or catalysts that can function as cluster nuclei for carbon nanostructure materials such as fullerenes and carbon nanotubes, and the procedure is explained in the article. The study demonstrated synthesizing a variety of carbon nanoparticles from PET waste and using them for the treatment of water.

Keywords: Nanostructure plastics, polyethylene terephthalate (PET), wastewater, Carbon nanotubes (CNTs).

IMPORTANCE OF THE ELECTROPHORESIS TEST IN THE DETECTION OF HEMOGLOBINOPATHY

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Abstract

The statistical data from WHO show that more than 70 million individuals are carriers of hemoglobinopathies worldwide, of which approximately 10 million individuals live in the Eastern Mediterranean area. Meanwhile, in Albania have been identified about 530 patients diagnosed with hemoglobinopathy. These figures keep increasing from year to year, so it is necessary to take measures to prevent homozygous, homogeneous or heterogeneous forms. An extremely important form of prevention is considered electrophoresis, which determines the levels of different types of hemoglobin in the blood or the presence of abnormal hemoglobin.

Awareness of population on the importance of performing the electrophoresis test for the detection of pathologies associated with hemoglobin disorders such as: thalassemia, sickle cell disease or hemoglobin C disease, and the prevention of major or intermediate forms of thalassemic and sickle cell syndrome through performing electrophoresis or other genetic tests.

The study was based on a questionnaire, which included patients of different age groups (18-45 years) as well as health care members. 55 subjects were included in the study and 15 cases were examined. The cases received belong to the time period June 2023 - August 2023.

From 54 patients who were included in the study, 32 were women and 22 were men. The average age was 36 years. According to the questionnaire, 41 patients were informed about the importance of electrophoresis for the detection of hemoglobinopathies, but only 8 of them have performed the electrophoresis test. On the other hand, through the data obtained from the health care members, it was concluded that from June 2023 to August 2023, 15 electrophoresis tests were performed. Of them, 3 patients resulted positive, respectively one patient diagnosed with thalassemia minor and two patients diagnosed with heterozygous sickle cell disease.

Hemoglobinopathies are considered among the most widespread pathologies not only in Albania, but throughout the world, and yet the population still does not have the proper health education regarding them. This study particularly emphasizes the importance of electrophoresis in the detection of hemoglobinopathies and in preventing the increase of positive cases.

Keywords: diagnosis, electrophoresis, hemoglobinopathy, carriers, prevention.

PREVALENCE AND RISK FACTORS OF OSTEOSARCOPENIA IN CAUCASIAN EUROPEAN WOMEN

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Abstract

Osteosarcopenia is a syndrome with a concomitant presence of both sarcopenia and osteopenia/osteoporosis. The pathogenesis and etiology of osteosarcopenia involve genetic, biochemical and lifestyle factors such as an inadequate nutritional status and low physical activity. This study aimed to assess the prevalence and risk factors of osteosarcopenia in 512 Caucasian postmenopausal women.
Bone tissue parameters of the hip and muscle mass were assessed by densitometry (DXA). Muscle strength was measured using a dynamometer. Physical activity, sedentary behaviors, and eating habits were assessed using a face-to-face interview. Osteosarcopenia was diagnosed in 14% of women. The risk of osteosarcopenia was statistically significantly increased by insufficient physical activity, low locomotor activity such as walking, sit time of more than 5 hours per day, insufficient intake of dairy products per day, dietary calcium and protein deficiencies, and dietary calorie deficit. Underweight as diagnosed by Body Mass Index more than doubled the risk of osteosarcopenia.

Keywords: osteosarcopenia, physical activity, sedentary behaviors, eating habits, postmenopausal women.

BICHECTOMY: A LONGITUDINAL STUDY OF OCCLUSAL AREA CONTACT

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Abstract

This longitudinal study, approved by the ethics committee of the School of Dentistry of Ribeirão Preto, University of São Paulo, Brazil (process # 10589419.0.0000.5419), assessed the contact of occlusal forces between the upper and the lower hemiarches and molars before, 30, and 60 days after a surgical procedure named bichectomy, which is an aesthetic procedure that aims to partially removes the buccal fat pad. The sample comprised twenty women (mean ± SD: 31.1 ± 9.8 years old) with no temporomandibular dysfunction, all with normal occlusion and permanent teeth (excluding the four third molars). The T-Scan® III Occlusal Analysis system was used to analyze the contact of occlusal forces between the upper and the lower hemiarches (right and left sides) as well as teeth 16, 26, 36 and 46. Through this methodology, precise and reliable data were collected for the evaluation of the variables. The data were tabulated and subjected to statistical analysis using the repeated measures test ($p < 0.05$). In the clinical analysis, presenting no significant differences, it was observed that 60 days after the surgical procedure, the contact of the occlusal area between the upper and lower hemiarches (right and left side) and teeth 16, 36 and 46 decreased. The authors suggest that bichectomy surgery helped to reduce the occlusal contact area, even though this is merely clinical evidence. These findings may be relevant for understanding the effects of bichectomy on occlusal contacts alterations, highlighting the importance of monitoring the evolution of these aspects during the post-surgical period.

Keywords: Bichectomy, Orofacial Tissues, Occlusal Contact, Stomatognathic System.

BICHECTOMY: A LONGITUDINAL STUDY OF OROFACIAL TISSUE PRESSURE

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Abstract

This longitudinal study, approved by the ethics committee of the Faculty of Dentistry of Ribeirão Preto of the University of São Paulo, Brazil (process no. 10589419.0.0000.5419), aimed to evaluate the pressure of orofacial soft tissues (lips, tongue, right and left orbicularis oris and right and left buccinator muscle) before, 30 and 60 days after a surgical procedure called bichectomy, which is an aesthetic procedure that aims to partially remove the buccal fat pad. The sample was entirely composed of twenty women (mean ± SD: 31.1 ± 9.8 years) without temporomandibular disorder, all with normal occlusion and all permanent teeth (excluding the four third molars). The pressure of the orofacial tissues lips, tongue, orbicularis oris and buccinator was measured using a device called the Iowa Oral Pressure Instrument (IOPI). Using this methodology, all data was collected accurately and reliably to evaluate the variables. The data were tabulated and subjected to statistical analysis using the repeated measures test ($p < 0.05$). Analyzing the data, greater pressure was observed in the orofacial tissues 60 days after surgery, with a significant difference for lip pressure ($p = 0.04$). Through clinical observation, it is also possible to observe an increase in pressure in the right and left orbicularis, although this is merely a clinical finding. The authors suggest, based on data analysis, that bichectomy surgery increased the pressure potential of orofacial tissues, especially between the lips. These findings may be relevant to understanding the effects of bichectomy surgery on oral soft tissue pressure, highlighting the importance of monitoring the evolution of these aspects in the moments following the procedure.

Keywords: Bichectomy, Orofacial Tissues, Occlusal Contact, Stomatognathic System.

OPINION OF AFRICAN WOMEN STUDENTS DURING THE HIGHER EDUCATION PROCESS: THE EXAMPLE OF THE CITY OF ESKIŞEHİR

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Abstract

The objective of this study is to collect the opinions of African women in master's and doctoral studies during their studies in the city of Eskişehir.

The qualitative research method was used to conduct this study. The study population is made up of African women students in masters and doctoral programs at the three universities in Eskisehir, namely Eskisehir Osmangazi University, Eskisehir Technical University, and Anadolu University.

During data analysis, the N-VIVO pro program was used. As a result of the study, it was concluded that the city of Eskişehir is appreciated by the majority of African students for its good environment, clean transport, modern infrastructure, local food, education system, and hospitality.

The study also highlighted the difficulties encountered, especially in the first years, in particular the Turkish language which is the tool of communication and research, the inefficient accompaniment as well as the difficulties linked to the climate. The study also mentions the difficulties of African women students in finding scholarships, internships or easily meeting employers.

The recent economic problems observed in Turkey have also had a negative impact on African women students whether they are scholarship holders, private students or refugees, which can lead to mediocrity, dissatisfaction in meeting their expectations and even dropping out of university. . . .

Based on our results, we suggest that anyone concerned pay particular attention to how to improve the mechanisms for financing the life of female students, to accompany, support and facilitate the integration, in particular of African women refugee students in the city of Eskişehir.

Keywords: Opinions, Study process, African women students.

INVESTIGATION OF THE RELATIONSHIP OF EARLY ATTACHMENT STYLES WITH RELATIONSHIP MANIPULATION AND IMPULSIVIT

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Abstract

The aim of this study is to examine whether early attachment styles significantly predict the levels of manipulation and impulsivity in relationships. The study is a quantitative research since data will be collected with a Likert-type questionnaire. The research is a descriptive and cross-sectional study design using the relational survey model in which young adult individuals will participate. The sample consisted of 191 people in Istanbul province by random sampling method. Socio Demographic Information Collection Form, Manipulation in Human Relationships Scale, Barrat Impulsivity Scale, Experiences in Close Relationships Inventory were used as data collection tools in the study. The data collected for the study were analyzed with the SPSS 27 program. Pearson Correlation analysis was used to analyze the relationship between the scales, Independent Samples t-test and ANOVA were used to analyze the comparison of scale scores with categorical demographic variables, and Multiple Linear Regression analysis was used to analyze the predictive power of independent variables on the dependent variable. According to the results of the study, a significant positive relationship was found between attachment styles and manipulation in the relationship between early attachment styles and manipulation and impulsivity in relationships.

Keywords: Attachment styles, Impulsivity, Manipulation.

REFLECTION OF THE ART OF REPEAT IN TODUR ZANET'S POEMS ON THE SEMANTIC PLANE

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Abstract

The study took into account the semantic appearance in the aesthetic reaction of fictional metaphors harmonized in a rhetorical context. This creative movement, which is analyzed in the context of the text, has gained meaning with the interpretive design pattern. Poetic projections designed on the Gagauz literary horizon were voiced in the orbit of repetition; activated by document analysis factor. The database of theoretical elements specific to the research track is examined in the semantics zone. Thus, the authentic emphasis on the repetition of the word or group of words reflected from the color scale of the semantic form in a synchronous sequence characterized the aesthetic composition of the art of reciprocity.
In the research, the poetic creations of Todur Zanet, a versatile intellectual who brought respectable works to the Gagauz literary plane and cultural axis, were analyzed within the scope of tekrir art. In the first phase of the research proposal, a brief range of information about the biographical image of the artist and his works is presented. In the second phase, the art of tekrir and the aesthetic units revealing the artist's hidden mastery of the tekrir pattern are symbolized through exemplary themes.
In the research, it has been determined that the repetitive elements that revive the attention perception of the addressee and the authentic intuitions that appear in the creative climate are activated. It is noteworthy that deeply coherent utterances are conveyed to the surface texture by sounding an aesthetic description. Thus, it has been seen that the concepts processed in the art orbit are patterned with a repetitive style, and Gagauz literature has an effective and artistic potential in the rhetorical orbit.

Keywords: Todur Zanet, The Art of Repetition, Semantics, Aesthetics, Analysis.

ÖZET

Çalışma, retorik bağlamda armonize edilen kurgusal metaforların estetik reaksiyondaki semantik görünümünü dikkate sunmuştur. Metin bağlamında çözümlenen bu yaratıcı devinim, yorumsal dizayn örüntüsüyle anlam kazanmıştır. Gagauz edebi ufkunda tasarlanan şiirsel iz düşümler tekrir yörüngesinde sesletilmiş; doküman analizi faktörüyle aktivize edilmiştir. Araştırma izleğine özgü teorik unsurların veri tabanı ise anlambilim kuşağında irdelenmiştir. Dolayısıyla semantik formun renk skalasından yansıyan sözcüğün veya söz grubunun senkronik bir dizilimle yinelenmesi temeline dayanan otantik vurgu, tekrir sanatının estetiksel bileşimini nitelemiştir.

Araştırmada, Gagauz edebi düzlemine ve kültür eksenine saygın eserler kazandıran çok yönlü aydın Todur Zanet'in şiirsel kreasyonları, tekrir sanatı kapsamında analiz edilmiştir. Araştırma önermesinin ilk evresinde sanatçının biyografik imgesine ve eserlerine dair kısa bir bilgi yelpazesi sunulmuştur. İkinci evrede ise tekrir sanatı ve sanatçının tekrir izleğine özgü saklı ustalığını açığa çıkaran estetiksel birimler, örnek temler aracılığıyla sembolize edilmiştir.

Araştırmada, muhatabın dikkat algısını canlandıran tekrarlı ögelerin ve yaratı ikliminde beliren otantik sezgilerin etkin kılındığı tespit edilmiştir. Derin bağdaşımlı sözcelerin estetiksel bir betimle sesletilerek yüzey dokuya aktarıldığı dikkati çekmiştir. Böylelikle sanat orbitalinde işlenen kavramların yineleyici bir üslupla desenlendiği, Gagauz yazınının retorik yörüngede de etkin ve sanatsal bir potansiyele sahip olduğu görülmüştür.

Anahtar kelimeler: Todur Zanet, Tekrir Sanatı, Semantik, Estetik, Analiz.

GİRİŞ

1.Todur Zanet'in Kısa Biyografisi

Akademik, şair, yazar, dramaturg, araştırmacı, folklorcu, senarist, rejisör, çevirmen, yayıncı, Gagauz Milli Marşı'nın yazarı (22.07.1990), "Ana Sözü" gazetesinin baş redaktörü, "Gagauzluk" Cümle Birliği'nin başı Todur Zanet (Födor İvanoviç Zanet).

1958 yılı Haziran ayının 14'ünde Moldova Cumhuriyeti'ne bağlı Kongaz köyünde (Gagauziya, Komrat rayonu) doğdu. Kongaz ilkokulunda (Günümüzde Todur Zanet adına lise) (1965-1975), Kişinev Politeknik Enstitüsü'nde (1976-1981), Marksizma-Leninizma Üniversitesi'nde (1985-1987) okudu.

"Bucaan dalgasında" televizyon ve radyo yayınını başlattı, redaktörlüğünü yaptı (1986-1990); Kişinev İnce Sanatlar Enstitüsü'nün pedagogu (1991-1993); 1988-1994 ve 1999 yılından beri baş redaktör olarak "Ana Sözü" nü (ilk Gagauz gazetesini) çıkarmaktadır (25.09.1993 yılından beri Latin alfabesinde). Çocuklar için "Kırlangıç" gazetesini çıkardı (1991-1993, 2001-2002). Gagauz yazılarını Latin alfabesine çevirmek için ilk çalışmaları başlattı (1979,1988-1993).

2. Eserleri

Kitaplar: Zamanêêrsın, evim! (1989-1990), Karımcalık (1989), Böcecik (2012), Akardı batıya güneş (1993), Adımnar (1993), Gıcırdêêr kafamın çarkları (1993), Akar Yıldız (1998), Dramaturgiya (2006), Ana Dilim (2010), GAGAUZLUK: Kultura, ruh, adetlär (2010), Korlaşmış ateş… (2013), Aaçlık kurbannarı (2009, 2014), Onnar geldi sabaa karşı… (2014), REKVİEM: benim bir kabaatsız kırılan Gagauz Halkıma (2015), Gagauzların kayıp olan dilinin hem kultura adetlerinin Moldova'da korunması (2017), Seçmä yaratmalar 60 yaşına (2018), Ana Sözü (2021), Aya Mariya (2022)…

Ödüller: BAY gazetesinin edebiyat ödülü (1998), Halklararası kitap sergisinin ve Moldova Milli Kütüphanesi'nin diplomaları (2007, Dramaturgiya kitabı için; 2010, GAGAUZLUK: Kultura, ruh, adetlär kitabı için; 2013, Korlaşmış ateş… ve Luçafar (Sabaa Yıldızı) kitapları için; 2014, Onnar geldi sabaa karşı… kitabı için), KIBATEK edebiyat ödülü (2007, 2013), Moldova Yazarlar Birliği'nin edebiyat ödülü (2011), Kosova, 18. Uluslararası Süleyman Brina Balkanlar Türk kültürüne hizmet ödülü (2013), TÜRKSOY basın ödülü (2014), TÜRKSAV Türk dünyası hizmet ödülü (2015)…

3. Tekrir sanatı

Sanatsal örüntünün estetik ritmini ve duygu armonisini güçlendirmek adına, anlam ilmeğinin genişlediği bölgede söz veya söz grubunun peş peşe tekrarı, tekrir sanatının betim tablosunu resmeder. Yineleyici unsurun lirik düzleminde tasvir edilen sıra dışı örgeler, ısrarlı bir söylemin coşkun iletimini vurgular. Bu senfonik örgeler, okurun ilgi odağını merak temiyle harmonize ederek eserin semantik boyuttaki yansımasını özgün bir dokuyla yeniden dizayn eder. Yinelenen kurgusal önermelerin sembolik yankısını imgeleyen tekririn asıl gayesi, anlam seremonisine estetik ve otantik bir yön çizmektir. Düşünce enlemini güçlendiren bu yineleyici eksen aracılığıyla, gramatikal doğrultudaki gizil birimler açığa çıkarılarak retorik evrenin kurgu sınırları genişletilir. Reel veya

düşlemsel sözcelerin aynı rotada kesişmesiyle beliren tekrarlı motifler, tekrir sanatının anlam yelpazesini açıklar niteliktedir.

Edebiyat; doğa, toplum, birey gerçekliğinin duygu ve imgeyle estetik bir biçimde yeniden düzenlenip yaratılması (Akt. Karadağ, 2000: 7) eylemidir. Edebi eser ise duyguya, hayale ve estetik heyecana dayalı uyarımlar yoluyla zihinde yer edebilme gücüne sahip olan sözlü ve yazılı kompozisyondur (Akt. Keskinoğlu ve Ökten, 2021: 207). Bu sanatsal kompozisyondan yansıyan edebi metinler, ifade edilmek istenen kelimelerin bağlamını zenginleştirir. Onu etkili, anlamlı ve kalıcı kılar; az sözle çok şey ifade eder (Keskinoğlu ve Ökten, 2021: 207).
Anlamı güçlendirme maksadıyla bir veya birkaç sözcüğün yinelenmesi, bir söz sanatı olan tekriri işaretler (Köklügiller, 2009: 356). Yineleme; bir beyit ya da ibarede kelimelerin manayı kuvvetlendirip pekiştirmesi amacıyla tekrar edilmesidir. Tekrarlanan sesler vasıtasıyla metne ahenk yönünden katkı sağlanır (Selçuk vd., 2022: 140). Bu ifade biçiminde ifadeye açıklık getirme isteğinin yanı sıra okuyanın ya da dinleyenin dikkatini çekme ve bu yolla sözün etkisini arttırma hedefi vardır (Saraç, 2019: 54). Böylece ortaya çıkan kalıp ifadeler ve tekrarlar, sözün kalıcılığına yardım eder (Özkan, 2011: 1649). Tekrir sanatı metne; mânâ ve ses yönünden olumlu bir katkı sunar. Tekrarların birbirine yakın veya uzak oluşu ise sanatkârın o anki ruh haline ve heyecanına bağlıdır (Selçuk vd., 2022: 140).

BULGULAR

Todur Zanet'in şiir ekseninden yansıyan tekrir sanatının semantik boyuttaki görünümü şu şekildedir:

1.
Dışarda kaçêrız,
Oyunnar kurêrız.
Uyumaa yattık -
Çillenmiş yastık.
Çillenmiş yorgan.
Çillenmişim bän.
Çillenmiş gözlär,
Neredän **çillär**?

Dün geldi **çillär** -
Bizi öptülär!
(Zanet, 2012: 93)
Şiirsel katmanda ahenk unsuru olan sözcelerin senkronik tekrarı, yineleme sanatının betim düzlemini yansıtmıştır. Şiirin anlam frekansının neredeyse tamamına yayılan bu estetik donanım, his çarkını düşsel yöne çevirerek sanatsal tepkimeyi başlatmıştır. İmgesel perspektife heyecan yükleyen, sözeylemi yükseltgen bir tarzla sesleten yineleme işlemi, anlatı dizgesine otantik bir haz katmıştır. Sanatçı; "çil" sözcesini iki kez, "çillen-" fiilini de dört kez yineleyerek tekrir sanatını pekiştirmiş, söylem reaksiyonunda coşkun bir lirizm yaratmıştır.
2.
Çımçırık,
Çımçırık -
Dolaylar taa aydınnık.
Gürledi,
Gürledi -

Oyunnar hızlı bitti.
(Zanet, 1998: 242)

Sanatçı, yineleme sanatından esinlenerek "çımçırık" ve "gürledi" sözcelerini özgün bir ezgiyle tekrar etmiş; kendi iç dünyasını ve düşünce yelpazesini çocuksu bir imgelemle aktarmıştır. Kelimelerin armonik tekrarından kaynaklanan sıra dışı bir söylem atmosferi yaratan sanatçı, dinleyicinin hayal ve düşünce dünyasına estetiksel bir dokunuş yapmıştır.

3.
Dzin, dzin, dzin -
türkü çalêr zil.
Can, can, can -
seseder şen çan.
Ta-ka, ta-ka,
Ta-ka, ta-ka -
öter traka,
öter traka.
Neçin bu şamatakık?..
Eni Yıl geldi artık!!!
(Zanet, 1998: 230)

Şiirde, yansıma sözcüklerin harmonik tekrarıyla örüntülenen eğlenceli bir kelime oyununa dikkat çekilmiştir. Mizahi ve öğretici bir yaklaşımla dizayn edilen edebi platform, sanatçının estetik dilindeki yaratıcı gücü ve şiirsel dokunun iç ahengindeki gizil müzikaliteyi işaretlemiştir. Sanatçı; şiirsel üslubun sanatsal boyutuna dair birtakım betimsel örgelere gönderme yaparak senfonik bir betim yaratmış, düşsel çağrışımlarla realist yörüngeyi varsıl bir katmana taşımıştır.

4.
Kızgın güneş yakardı bu topraa,
Hiç bir gölgä da yoktu Türkmendä,
Gidärdik biz,
gidärdik biz.
Susuz yanardı içimiz,
Gidärdik biz.

Te şansora bitti yollar.
Dolaylarda hiç yok pınar.
İyi su da yok,
İyi su da yok.
Salt toz hem çökelek pek çok,
İyi su da yok.
(Zanet, 1998: 218)

Anlam mekanizmasını kuvvetlendirmek amacıyla bir kelimenin ya da kelime grubunun sık yinelenmesiyle oluşum arz eden tekrir sanatı, hissel iz düşümün heyecan unsuruyla olan estetiksel bileşimini yansıtmaktadır. İfade sığasını sanatsal bir yapıya dönüştüren, duygu ekseninde otantik bir haz yaratan tekrir, düşünsel olguyu uzamsal boyutta yeniden inşa etmektedir. Dolayısıyla "Gidärdik biz" ve "İyi da su yok" dizelerinin yinelenmesiyle şekillenen tasviri yörünge, anlam ufkunu estetiksel yönde genişletmektedir.

5.

Bilerim, sän pek şaşacan
Bu laflara, sert okuycum,
Ama ölä bu yaşamam
Geçti…
Bän oyuncuyum! -
Şaşardım nicä kuyumcu
Becerikli altın döker,
Can düülmesi debreştirer.

Da savaşardım lafımı,
Donaklayıp, sizä vermää:
Çoyu onnar etişmedi…
Çoyu sizä yaramadı…
Çoyu ölä da duumadı…
(Zanet, 1998: 164)

Okuyucuya içten bir dille seslenerek vermek istediği iletiyi tekrir sanatı kapsamında işleyen sanatçı; söz konusu duruma açıklık getirmek ve hislerini dışa vurmak gayesiyle beliğ düzlemin estetik birimlerinden ilham almıştır. Bu bağlamda işe koştuğu "çoyu" sözcesini yineleyerek düş frekansını çarpıcı bir üslupla dramatize etmiş, şiirin anlam evrenine renk ve ahenk yüklemiştir.

6.
Kalêr salt mezar eri.
Kimär kerä o diil belli.
Betlän iyi işlerin -
Bu dünneyin, **bu dünneyin**.
(Zanet, 1998: 77)

Sanatçı; söylem çerçevesini estetiksel bir boyuta taşımak adına, "bu dünneyin" sözcüğünü tekrar ederek yineleme sanatına ince bir gönderme yapmıştır. Tekrar skalasına giren sözcüğün, şiirsel dizilimde orijinal bir ahenk tablosu çizerek anlam paletini polisemik renklerle zenginleştirdiği görülmüştür. Şiirde; yaşamın geçici yönüne dikkat çeken Zanet, bu sanatsal vurguyu pekiştirmek için tekrir sanatını belirgin kılmıştır.

7.
Yok hiç vakıdım, uslanıp, durgunmaa,
İşimi-gücümü sona sıbıtmaa,
Aalemcä aylak hem raat oturup,
Kendi keyfimä izmettä bulunmaa.

Yok hiç vakıdım, yan gelip, uzanmaa,
İnsannan bilä şefklerä katılmaa,
Kendimi unudup hem şarap ta yudup,
Haylazlarlan bilä haylazlaa atılmaa.

Yok hiç vakıdım, erleşip, oturmaa,
Sokakta dernektä çenä dokumaa,
Geleni geçeni dildän geçirip,
Maanaylan bilä göklerä kaldırmaa.
Yok hiç vakıdım…

Yok vakıdım yavaş yaşamaa…
(Zanet, 2021: 24)

Şiirin odak noktasında, zamanı verimli ve etkili kullanmanın önemine dikkat çeken sanatçı; söz konusu dizgeyi tekrir sanatının estetik penceresinden yansıttığı "Yok hiç vakıdım…" sözcük dizisiyle vurgulamaktadır. Akıp giden zamana karşı hızlı ve planlı çalışmanın gerekliliğini savunan sanatçı, bu tespitini şiirsel eylemin özgün ritmiyle sembolize etmektedir.

8.
Severim seni, paalı Kongazım!
Yaşasın yıllarda gözäl insanın!
Korunsun hem büüsün ayoz adın –
Kongazım, Kongazım, Kongazım!

Severim seni, paalı Kongazım!
(Zanet, 2018: 77)

Todur Zanet; doğup büyüdüğü yer olan Kongaz'a dair derin ve anlamlı hislerini tekrir sanatı vasıtasıyla iletmektedir. Yinelediği sözcelerin kilit noktalarını estetiksel düzlemde birleştiren Zanet, memleketine yüklediği sanatsal olguyu armonik bir betimle resmetmektedir. Sanatçının, tekrir sanatını ustaca işleyerek; memleketini sevgi, saygı ve bağlılık çatısı altında âdeta yeniden inşâ ettiği görülmektedir.

9.
Ilık denizin dalgası,
Serin lüzgerin esmesinnän,
Suvazlardı yalpak tenini –
Elimnän, elimnän, elimnän…
(Zanet, 2021: 192)

Şair, sevgiliye dair özlemini tekrir sanatının estetik penceresinden yansıtmaktadır. Şiirsel mekanizmada armonik bir ritimle yinelenen "elimnän" sözcesiyle yankılanan duygusal devinim, söylem paradigmasının estetiksel birimlerini senkronize ederek anlam şeridini güçlendirmektedir.

10.
Gittin,
Arda hiç bakmadaan, **gittin**,
Ayırıldın kolay, ilin,
Sansın hiç yokmuş geçmişin!
Neyin kaldı burda! **Neyin**!
Hiç bişeyciin hem hepsiciin!
Kaldı sevdan, **kaldı** evin…
Bunnar kimin!
Bunnar kimin?
Bu köşeyi korumadın,
Duygularmı acımadın,
Sansın hiç vermedin emin:
Gittin, gittin, bizi ezdin…
(Zanet, 2021: 162)

Şiirin bütünsel tasarımında beliren harmonik dizilim, tekrir sanatını özgün bir tarzla inşa etmektedir. Şiirde; "gittin", "neyin", "kaldı", "bunnar kimin" sözceleriyle resmedilen duygusal ve gramatikal perspektif, şairin sıra dışı imgelem gücünü pekiştirmektedir. Sevgili tarafından terk edilen şair, melankolik bir his dalgasıyla boğuşmakta, içinde bulunduğu duygusal yoğunluğu tekrir orbitalinden yansıtmaktadır.

11.
Sän, mari Dünnää Gözeli,
Aldın gözümün şafkını.
Neçin bana salladın elini,
Neçin attın bakışı?!

Neçin gördüm o biyaz tenini,
Näändän geçtin yolumu?
Neredän karşladım bu falcı dilberi?
Neçin kesti önümü?
(Zanet, 2021: 173)

Tekrir sanatının mübalağa (abartma) sanatıyla olan estetik uyumuyla bütünleşen şiirsel dokuda; "neçin" sözcesinin senfonik tekrarı, tasviri reaksiyonun coşkun ezgisini sesletmektedir. Dizelerde birbiriyle adapte olan vurgulu ibareler, karşı tarafın dikkat algısını canlandırarak söylem açısına kinestetik bir yön çizmektedir. Sevda temi etrafında motivize edilen hissel örüntü, yinelenen estetiksel pekiştireçler aracılığıyla anlamsal bir güç kazanmaktadır.

12.
Hep savaştım ürkütmemää seni,
Umutlan **hep** öptüm naazlı o elini,
Avcı gibi attım sana ilmeklermi,
Kara gözlerindä battım, gemi gibi.
Hiç kurtaran da **yok**, gözün da **yok** dibi.
Umut sadä sendä – uzat o elini.
Ürkünmedään, yavaş, açsana üreeni.
Kolver orêy giriim, bulıym orda bir er,
Ama **şüpä, şüpä, şüpä** seni iyer.
Yınanmêêrsın beni, iyersin kendini.
İkiliktän hergün yakêrsın üreeni.
İstärsän **hep** bölä, sän **hep** ölä hayda.
Ama **kimä, kimä, kimä** bundan fayda?!
(Zanet, 2021: 169)

Şiirde; "hep", "yok", "şüpä", "kimä" sözceleriyle desenlenen sanatsal eksen, söylem ufkundaki gramatikal uyumu vurgulamaktadır. Teşbih (benzetme), mübalağa (abartma) ve tekrir sanatıyla yoğrulan edebi kreasyon, sanatçının hayal evrenindeki ekstrem düş partiküllerini gün yüzüne çıkarmaktadır. Tekrir boylamından geçen hayali imgeler, sanatçının duygu düzlemine renk ve ahenk yüklemektedir.

13.
Yabancıydın! **Yakın, yakın** sän oldun,
Pek paalı hem yalpak bir dostum.

Umudum, inanım – hepsi sendä,
Yardımnarlan kalêrsın hep gözümdä.

Satmadın, yakmadın zor vakıtta:
Tuzlan biber bandık tuzlukta!
Bitki dilimi payettik ikiyä…
Kim dedi dostluumuz yaklaşêr **bitkiyä**?!

Diil mi o, kim sattı dostluu ansızdan?
Diil mi o, kim şindi oldu bir "duşman"?
Diil mi o, kim "yakındı" bizä ozaman,
Kim dosttan oldu yabancı bir insan?

Şindi dostlaa atêr bir arkan…
(Zanet, 2021: 155)

Şiirde; sanatçının değer verdiği bir dostuyla arasını bozmaya çalışan kişi için söylediği sözler konu edilmiştir. Tekrir sanatının tasviri yankısıyla şekillenen anlam periyodu, belagat çatısı altında işlenerek şiirsel motifin etkili ve aktif bir tarza bürünmesi sağlanmıştır. Böylece çarpıcı ve içten bir dille iletilen sanatsal yönelim, anlam mekaniğini zenginleştirerek derin yapıyı güçlendirmiştir.

14.
Etti yalan yazdınız,
Ki Balkandan çekileriz biz…
Altaydan, Altaydan…
Altay kırından
Çeketmiş yola DEDEmiz.
ORHONda yazı yaradıp –
Onu dünneyä baaşlayıp.
Sadä son-sonunda
Burayı erleşip.
(Zanet, 2021: 63)

Şiirde sanatçı, yanlış aktarılan bir bilgiye yönelik tepkisini dile getirerek, bu durumu tekrir aynasından yansıttığı "Altay" sözcesiyle pekiştirmiştir. Sanatçı, söz konusu olumsuz durumu açığa kavuşturmak ya da doğru bilgiyi aktarmak adına, yinelenen unsurların estetik vurgusundan ilham almıştır. Öfke, kızgınlık, karşı çıkma izlekleriyle yoğrulan anlatı yelpazesi, yineleme sanatının retorik iz düşümüyle anlamlandırılmıştır. Dolayısıyla sözün inandırıcı kılınmasına yönelik tekrar edilen ögeler, sanatçının verdiği tepkinin haklılık derecesini arttırmıştır.

15.
Dünnää çatlasın - **biz yaşaycêz**.
Göklär cingilsin - **biz yaşaycêz**.
Şeytan patlasın - **biz yaşaycêz**.
Şarap yok olsun - geberecez!!!
(Zanet, 1998: 162)

Şiirsel önermenin anlam düzleminde şarap temine yönelik yansıtılan önem ve hassasiyet, tekrir süzgecinden geçirilerek coşkun bir betim yaratılmaktadır."biz yaşaycêz" söz öbeğinin yinelenmesiyle

gerçekleşen sanatsal vurgu, şairin söylem çerçevesini otantik bir kreasyonla yeniden dizayn etmektedir.

16.
Can erimdä ikonam benim,
Ona da görä olêr işlerim.
Can erimdä - hakikat öz dilim.
Can erimä benim eminim.

Duam da **ona,** betvam da **ona**,
Zor vakıtta danışmam da **ona**.
Sevinmeliklän kısmet ta **ona** –
Ay erimä - can erimä.

Ondansa bana - ilham peetlermä.
Ondansa bana - şılak gözlermä.
Ondansa bana - nur hem umut,
Bütün cümneyä da aydın bir bulut.
(Zanet, 1998: 121)

Şiirin anlam piramidinden yansıyan estetik görüngü, "can erimdä", "ona", "ondansa bana" sözcelerinin tekrarıyla sanatsal bir yaratıya dönüşmüştür. Retorik üslubun betim tepkimesinde işlem gören lirik ürünler, semantik önermenin anlam sığasını orijinal eksende yeniden tasarlamıştır.

17.
Komşu başçasında
Var armut
Hem **var** alma.
Var kirez,
Hem olmuş dut.
Aulda delik bulduk!
Ama, neçin orada
Bir fena köpek **var**, a?
(Zanet, 1998: 234)

Todur Zanet'in edebi platformdaki özgün duruşuyla şekillenen dilsel donanım, tekrir sanatı kapsamında akıcı ve otantik bir imgelem yaratmaktadır. "var" sözcesinden yansıyan yineleyici unsur, ifade enlemini güçlendirerek düşlem mekanizmasını sanatsal doğrultuda aktivize etmektedir. Sanatçının, çocuklara hitaben yansıttığı yazınsal iletideki hissel ve eylemsel tasarımın betimsel aktarımı, O'nun güçlü bir biçem ve zengin bir söylem evrenine sahip olduğunun göstergesidir.

18.
Tersim döner laflarından,
Sana hiç diilim bän duşman,
İnan, **sevdam**…

Kazanmadım bu duygudan
Ne kanaatlık, ne dost, ne şan,

Anna, **sevdam**…

Yapamadım da büük ikram
Duygularna hiç bir zaman,
Ölä, **sevdam**…

Sölä, **sevdam**,
Annat be, can:
İlaç olur mu zihirdän?..
(Zanet, 1998: 44)

Şiirsel üslubun düş basamaklarından yansıyan yineleyici birimler, sanatçının duygu iklimini coşkun bir ezgiyle tasvir etmektedir. "sevdam" sözcesiyle renklenen biçem tablosu, söylem paletini zenginleştirerek sanatçının duygu ağını estetiksel yönde kurgulamaktadır. Tekrir motifinden esinlenen sanatçı, sevgiliye dair hislerini bu sanatsal dizilim aracılığıyla aktarmaktadır.

19.
Birleşip, toplanalım,
Halkımızlan birliktä.
Deyelim biz her zaman:
"Var olsun şannı Vatan!"

Devleti kurduk her zamana –
Yaşasın Gagauzluk!
Maavi renkli bu bayraa –
Binnän yıllara koyduk!

Yaşa, yaşa, yaşa benim halkım!
Yaşa, yaşa, yaşa benim halkım!
Yaşa, yaşa, Gagauziyam benim!
(Zanet, 2018: 57)

Şiirde; vatan sevgisi, bağımsızlığın sembolü olan bayrak figürü, birlik-beraberlik olgusu ve milliyetçilik duygusu tekrir sanatı düzleminde işlenmiştir. Sanatçının, halkına özgü derin bağlılık hissi, yinelenen dizelerin estetiksel vurgusuyla anlam kazanmıştır.

20.
Üreemdä eski sevdalar
Enidän filiz verdilär…
Neredä o yalpak insannar,
Şindi **kimin, kimin** oldular?..
(Zanet, 2021: 220)

Şiirde; sanatçının geçmiş duygusal yaşantılarının yeniden filizlenmesi nedeniyle dışa vuran ruhsal devinime dikkat çekilmiştir. Üzüntü, merak ve hasret odağından yansıyan yoğun hissel bağıntı, tekrir sanatı reaksiyonunda işlenen "kimin" sözcesi vasıtasıyla görünür kılnmıştır.

SONUÇ

Belagat kutbundan yansıyan ses ve söz birimlerini estetik bir hazla dramatize eden Zanet, tekrir sanatını coşkun ve otantik bir tarzla yeniden tasarlar. Söylem yelpazesindeki kinestetik sözce ya da söz demetinin ısrarlı tekrarına dayanan armonik vurguyu simgeleyen tekrir, sanatçının duygu ve düşünce evrenindeki saklı his dalgalarını açığa çıkarır. Todur Zanet; Gagauz edebiyatının beliğ yörüngedeki vokabüler dokusunu orijinal bir üslupla işler. Dolayısıyla tekrir unsurunun yaratı düzleminden esinlenir. Şairin his şemasında beliren sanatsal incelik, O'nun sanatçı profilindeki varsıl imgelem gücünü işaretler. Sezgi atmosferinde örüntülenen gizil bağdaşımları tekrir ekseninde ustalıkla resmeden sanatçı, retorik enlemdeki harmonik ezgiyi yakalar ve ona estetik bir haz yükler. Tekrir sanatının derin katmandaki gizil estetik kodları yüzey katmana ileten ve bu senfonik şifreleri analizleyen Zanet, Gagauz edebi ufkunu orijinal bir yaklaşımla tasvir ederek gramatikal yapıyı sağlam ve estetik bir temele dayandırır.

Çalışma, anlam portresini sanatsal bir inovasyonla tasarlayan ve duygu spektrumunu estetik bağlamda inşa eden tekrir sanatını görünür kılmıştır. Betimsel bir dizgeyle yoğrulan en etkin ya da en gözde sözcenin ritmik tekrarını simgeleyen tekrir, heyecan ögesiyle harmonize edilerek Gagauz edebiyatının anlam potansiyeline lirik bir tarz yüklemiştir. Dolayısıyla Todur Zanet'in tekrir sanatına dair özgün bakış açısının, Gagauz yazın dünyasına estetiksel bir güç kattığı tespit edilmiştir.

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COMPASSION FATIGUE IN CAREGIVERS OF ELDERLY INDIVIDUALS

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Abstract

With the increasing elderly population worldwide, the proportion of the population in need of health care and assistance is also increasing. The process of caring for elderly individuals can be challenging for caregivers. The aim of this study is to determine the levels of compassion fatigue that may occur in caregivers of elderly individuals according to sociodemographic characteristics and to determine the risk factors that may cause fatigue. Using the correlational survey model for this purpose, Sociodemographic Interview form and Compassion Fatigue Scale were used in the study. The study was conducted with 149 caregivers between the ages of 24 and 65. The analyses performed within the scope of the study were performed using SPSS 27. Pearson Correlation analysis, Independent Samples t-test and ANOVA tests were used to compare scale scores according to demographic variables. According to the findings, women's compassion fatigue levels were higher than men's. The married and single group scored significantly higher than the divorced group. The group that did not receive psychological help scored significantly higher on compassion fatigue scores than the group that received psychotherapy and medication. As the duration of caregiving of the participants increased, the level of compassion fatigue increased. It is thought that the obtained data will contribute to the care policies to be developed in the relevant field and will be a source for new studies to be carried out.

Keywords: Caregiving, compassion fatigue, old age.

*Ethics committee approval (Üsküdar University Non-Interventional Research Ethics Committee, 61351342/June 2023-19) and pre-study informed consent were obtained from all participants for this research.

A RESEARCH ON THE FUNCTION OF PUBLIC RELATIONS IN CREATING AND MAINTAINING SOCIAL BENEFIT

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Abstract

As we approach the end of the first quarter of the 21st century, the whole world has been tested by a global pandemic, and problems such as fire, hurricane, earthquake, war, migration, poverty, and hunger have damaged the well-being of humanity. With these evolvements witnessed all over the world, the concept of social benefit has entered the radar of companies or companies have had to incorporate this concept in their agenda. Social benefit means the broadest benefit for the greatest number of people. Today, consumers and civil society organizations are forcing companies to take care of society's welfare more strongly than in the past. Nowadays, when there is no difference between products and services, people choose socially sensitive businesses. As a result of all these, today, the public expects companies to act with a focus on social benefit and to use their expertise for social benefit. The biggest role for companies to center upon social benefit is played by public relations. Social benefit is a relatively new concept in public relations literature. However, because of its emphasis on public interest and social responsibility over the years, public relations is a key component in creating and sustaining social benefit. Being focused on social benefit is an ideal that public relations should guide. As public relations moves towards the ideal of social benefit, it will attract other elements within the system to this field. In this study, the critical role that public relations plays in creating and sustaining social benefit is examined. In this context, in-depth interviews with representatives of civil society organizations were interpreted with the descriptive analysis method.

Keywords: Social Benefit, Public Relations, Civil Society Organizations.

ANALYSIS OF AHISKA TURKS' PARTICIPATION AND ADAPTATION TO THE LABOR MARKET: A QUALITATIVE STUDY ON AHISKA TURKISH WOMEN WORKING IN PERSONAL CARE AND BEAUTY SECTOR IN BURSA PROVINCE

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Abstract

Meskhetian Turks are a Turkish community subjected to "*endless migration*" and scattered in various parts of the world. The Ahiska Turks, all generations of whom are migrants, continue to have problems of adaptation to their social, economic, cultural and educational needs in the countries they migrate to. There is a need to scientifically reveal the adaptation of women of Ahiska Turks, who have a patriarchal social structure and have a high rate of labor force participation unlike many immigrant groups, to the labor market. The aim of the research subject to this paper is to reveal the adaptation of Ahiska women living and working in the beauty (personal care) sector in Bursa province to the labor market and to identify their adaptation problems. Within the scope of BAP project at Bursa Uludağ University, 20 Ahiska Turkish women working in the beauty sector were interviewed using a semi-structured interview form. The collected data were transcribed and subjected to content analysis.
Phenomenology method, one of the qualitative research methods, was used in the study. The field study yielded results showing that Ahıska women migrated due to political reasons, individual and familial needs, and that the femininity and internationality of the profession, the education they received in the former Soviet Union countries where they had to migrate, and their interest/talent were effective in their work in the beauty industry. The participants interviewed within the scope of the research stated that the beauty sector was not sufficiently developed in Turkey and that they entered this sector believing that Ahıska experts were needed. On the other hand, it has been revealed that professional competence, being feminine, similarity of language-religion-ethnicity and higher earnings compared to other sectors are facilitating factors in the adaptation of Ahıska Turks working in the sector to the labor market. However, the specific difficulties of the profession and the disruptions in official procedures such as diploma equivalence, residence permit and obtaining citizenship delay and complicate the adaptation of Ahiskans to the labor market.

Key words: Meskhetian Turks, Bursa, labour market, integration, beauty sector, migrant.

IRREPLACEABLE ROLE OF HEYDAR ALIYEV IN MAINTAINING HISTORICAL GEOGRAPHY OF KARABAKH

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Abstract

In the history of each country there are such personalities who engraved their names in gold letters in the history of the people. It is necessary to emphasize the name of the outstanding statesman, politician Heydar Aliyev, who won the title of national leader of the Azerbaijani people.

If we connect Heydar Aliyev's activity with historical geography, we can see him in protecting the historical geography of Karabakh. Thesis is written mainly in this direction. The historical geography studies the historical and geographical position of area in a certain historical period. It should be noted that in this thesis the method of comparative analysis will be used. The main goal is to carry out the path initiated by the national leader Heydar Aliyev, the reconstruction of our historical monuments in the territory of Karabakh.

Heydar Aliyev increased the country's prestige with his far-sighted domestic and foreign policy during the years of his leadership in Azerbaijan, achieved its comprehensive development and made its independence eternal and irreversible in 1993, elected president of the Independent Republic of Azerbaijan. The Brazilian newspaper Voice of the planet asked the journalists of nine states the question “What three super-politicians of the world can you name”, and the journalists of six states first mentioned the name of a national leader Heydar Aliyev.

After being elected to the post of First Secretary of the Central Committee of the CPSU on July 14, 1969, the national leader Heydar Aliyev showed particular principle for the comprehensive development of the city of Shusha, rich in beautiful architectural monuments and other historical and architectural monuments of Karabakh.

These events proved once again that as a result of the successful policy initiated by Heydar Aliyev, today this path is continued by Ilham Aliyev worthily.

Key words: Azerbaijan, Karabakh, Heydar Aliyev.

Özet

Her ülkenin tarihinde, halk tarihine isimlerini altın harflerle kazıyan kişiler vardır. Azerbaycan halkının ulusal lideri unvanını kazanan seçkin devlet adamı politikacı Haydar Aliyevin adını vurgulamak gerekiyor.

Bütün hayatını halkının ışıklı geleceğine, Azerbaycanının çiçeklenmesine adamış büyük Haydar Aliyevi tarihe yazan, önce, onun Vatanına, halkına, milli-manevi değerlerine – diline, kültürüne ve edebiyatına olan sınırsız aşkı, onların korunması ve gelişmesi uğruna bütün dönemlerde yaptığı

mücadeleler, dönemin sert yasaklarına rağmen milleti ve Vatanı adına yaptığı cesaretli, tarihi çalışmalar, Azerbaycanın bugünü adına gerçekleştirdiği eşsiz ve muazzam projedir.

Haydar Aliyevin faaliyetini tarihi coğrafyayla ilişkilendirirsek Karabağın tarihi coğrafyasının korunmasında onu görebiliriz. Özet esas olarak bu yönde yazılmıştır. Tarihi coğrafya, belirli bir tarihsel dönemde bölgenin tarihi ve coğrafi konumunu inceler. Bu tezde karşılaştırmalı analiz yönteminin kullanılacağına dikkat edilmelidir. Asıl amaç, Karabağ topraklarındaki tarihi eserlerimizin yeniden inşası olan milli lider Haydar Aliyevin başlattığı yolu gerçekleştirmektir.

Haydar Aliyev, Azerbaycandaki liderliği yıllarında ileri görüşlü iç ve dış politikasıyla ülkenin prestijini arttırmış, kapsamlı gelişimini sağlamış ve bağımsızlığını ebedi ve geri döndürülemez hale getirmiş, 1993 yılında Bağımsız Azerbaycan Cumhuriyeti cumhurbaşkanı seçilmiştir. Brezilya gazetesi Gezegenin sesi Dokuz eyaletin gazetecilerine “Dünyanın hangi üç süper politikacısını adlandırabilirsiniz" sorusunu sordu ve altı eyaletin gazetecileri ilk olarak ulusal bir lider Haydar Aliyevin adından bahsetti.

14 Temmuz 1969'da SBKP Merkez Komitesi Birinci Sekreterliği görevine seçildikten sonra, ulusal lider Haydar Aliyev, güzel mimari anıtlar ve Karabağın diğer tarihi ve mimari anıtları bakımından zengin olan Şuşa şehrinin kapsamlı gelişimi için özel bir ilke gösterdi.

Bu olaylar Haydar Aliyevin başlattığı başarılı politika neticesinde bugün bu yolun İlham Aliyev tarafından layıkıyla sürdürüldüğünü bir kez daha kanıtlamıştır.

Anahtar kelimeler: Azerbaycan, Karabağ, Haydar Aliyev.

El Papel Indispensable De Heydar Aliyev En La Preservación De La Geografía Histórica De Karabaj

Palabras clave: Azerbaiyán, Karabaj, Heydar Aliyev

En la historia de cada país hay personas que inscribieron su nombre en letras doradas en la historia del pueblo al que pertenecían gracias a sus actividades. En la historia del pueblo azerbaiyano y en la solución de problemas decisivos hubo muchas personalidades históricas, políticos eminentes y estadistas. Entre estas personalidades históricas Heydar Aliyev desempeña un papel especial como un destacado estadista, un político de escala mundial que recibió el título de Líder nacional del pueblo azerbaiyano. Cabe señalar que la historia predeterminó tanto el destino del pueblo azerbaiyano que Heydar Aliyev estuvo dos veces al mando de la administración estatal de Azerbaiyán. Tanto en el período del primer liderazgo de Azerbaiyán (1969-1982) como en el período de nuestra independencia, gracias a la gran atención, cuidado y sabias decisiones del Gran líder Heydar Aliyev sobre nuestro Patrimonio cultural, se realizó un gran trabajo en la protección de nuestros monumentos y se tomaron las medidas necesarias para enriquecer la base legal en la esfera correspondiente.

A lo largo de los años de su liderazgo en Azerbaiyán, Heydar Aliyev, con sus precavidas políticas internas y exteriores, aumentó la autoridad del país, logró su desarrollo integral e hizo que su independencia fuera eterna e irreversible. Heydar Aliyev, elegido presidente de la República independiente de Azerbaiyán en 1993, como sabio estadista muy fuerte y experimentado en el mundo de la política, dio un gran giro en la política exterior en poco tiempo. Basta con señalar solo el hecho

de que hace más de una década, el periódico brasileño "Voz del planeta" hizo a los periodistas de nueve países la pregunta "¿Cuáles son los tres mejores políticos del mundo?", y los periodistas de seis estados fueron los primeros en nombrar al líder nacional Heydar Aliyev.

Heydar Aliyev de siempre ha servido fielmente a su pueblo natal. Durante el período de Azerbaiyán soviético, en 1969-82, llevó a Azerbaiyán a las posiciones más avanzadas. Fue en esos años que se formó el potencial industrial y económico de Azerbaiyán independiente. Los cuadros preparados en esos años, hasta hoy día siguen trabajando en Azerbaiyán independiente, asegurando nuestro desarrollo común. 1982-87 Heydar Aliyev, como miembro del Buró Político del Comité Central del partido Comunista de la Unión Soviética y primer vicepresidente del gobierno soviético, constantemente mostraba atención y preocupación por Azerbaiyán. Fue gracias a esta atención y cuidado que Azerbaiyán se desarrolló con éxito en esos años. Heydar Aliyev, como Presidente de Azerbaiyán independiente, tiene méritos invaluables. Hoy Azerbaiyán sigue con éxito el camino que ha trazado. Su actividad no se limitó a las reformas económicas. Tenía un gran papel en la preservación de los valores nacionales y espirituales, jugó un papel muy importante en la educación de la generación más joven en el espíritu del patriotismo.

El líder nacional Heydar Aliyev durante todo el tiempo de su liderazgo en el país, hizo un trabajo importante en el campo del estudio de la historia de nuestra nación, la preservación de su Patrimonio histórico y cultural que son innumerables y fundamentales. Si relacionamos las actividades de Heydar Aliyev con la geografía histórica, veremos que sus esfuerzos son invaluables en la preservación de la geografía histórica de Karabaj, imprescindible parte de la República Azerbaiyana. Este artículo está escrito principalmente en esta dirección. Primero hay que destacar el concepto de geografía histórica. La geografía histórica es la ciencia que estudia los cambios en la distribución geográfica en la Tierra a lo largo del tiempo y su relación con los eventos históricos, procesos y cambios en la sociedad. Esta ciencia nos ayuda a comprender qué factores han influido en el desarrollo y la evolución de paisajes, territorios, Naciones y Estados a lo largo de los siglos. Desde este punto de vista, se puede entender la importancia de esta área de estudio.

La geografía histórica como ciencia estudia la posición histórico-geográfica de un territorio, un país en un período histórico determinado. La geografía histórica comenzó como un área de estudio en la intersección de la geografía y la historia. Durante su desarrollo, tradicionalmente estuvo estrechamente relacionado con la toponimia, la etnografía y varias otras disciplinas científicas. La geografía histórica especifica nuestros conceptos históricos en orden cronológico y los vincula con territorios específicos. Por lo tanto, la geografía histórica revela las características de la geografía física, económica y política de un país en diferentes períodos de su desarrollo. En la actualidad, la geografía histórica como ciencia independiente incluye los siguientes elementos principales: geografía física, geografía de la población, geografía económica, geografía política y geografía cultural. La geografía cultural estudia los rangos de las religiones, los objetos de importancia cultural e histórica, etc. La base metodológica de la geografía histórica incluye la mayoría de los métodos utilizados en la investigación histórica. En particular, estos incluyen los análisis-síntesis y métodos comparativos-históricos, el análisis retrospectivo, el método estadístico de observación, el método cartográfico de investigación. Este artículo utilizará un elemento de la geografía cultural, que estará relacionado con la actitud del Gran Líder Azerbaiyano Heydar Aliyev hacia nuestros monumentos arquitectónicos.

Con la llegada del Líder nacional al poder político en Azerbaiyán, se puso fin a la indiferencia hacia nuestros monumentos históricos, arqueológicos y arquitectónicos, y aumentó la fe en el futuro de nuestro pueblo, que tiene una historia antigua y rica. Ha cambiado la actitud hacia el estudio de

nuestras realidades históricas, hacia nuestros recursos naturales, monumentos materiales y culturales. La actividad de Heydar Aliyev en ciertos aspectos del desarrollo de la historia, la arqueología y la etnografía de Azerbaiyán es hoy una fuente de investigación que necesita un estudio serio por parte de los científicos.

El territorio de Azerbaiyán tiene una historia y cultura muy antiguas. En el curso de las investigaciones científicas exhaustivas llevadas a cabo en el territorio de nuestra República, se revelaron ricos ejemplos de cultura material relacionados con diferentes etapas del desarrollo de la historia humana, lo que demuestra con hechos científicos que el territorio de Azerbaiyán es uno de los centros de civilización más antiguos y desarrollados. Heydar Aliyev, quien comenzó a dirigir Azerbaiyán en 1969, desempeñó un papel importante en los logros científicos alcanzados como resultado de todas estas investigaciones (Müseyibli, 2017). Todos estos años, llevó la responsabilidad de Azerbaiyán sobre sus hombros, lo sacó de las duras y consistentes pruebas de la historia como estado y nuestro pueblo como nación, creó una ciudad natal independiente, que llamamos Azerbaiyán Moderno, sus realidades de hoy, una base confiable para una mañana brillante. Con su nombre se asocia el renacimiento a lo largo de los años en todas las esferas de la vida sociopolítica, socioeconómica y cultural del pueblo azerbaiyano.

Fue observado que el territorio de Azerbaiyán tiene una historia y cultura antiguas y ricas. El estudio de la historia de Azerbaiyán es una de las tareas principales. Por lo tanto, no es sorprendente que los arqueólogos hayan podido encontrar las huellas más antiguas de la vida humana y la actividad en esta región, y no en otras regiones de Azerbaiyán. Todas estas condiciones demuestran que la geografía de Karabaj tiene todas las condiciones favorables para el desarrollo humano. Muchos de estos rastros se encontraron en la cueva de Azykh, que se considera el hábitat humano más antiguo en el ex territorio de la Unión de Repúblicas Socialistas Soviéticas. Desde el comienzo de los años 60, se han iniciado complejos estudios arqueológicos de los monumentos antiguos del pueblo azerbaiyano. A los principios de la década de 1970, comenzaron las completas investigaciones arqueológicas de los sitios antiguos y mundialmente famosos de las personas Azyh y Taglar en Karabaj. La expedición arqueológica del paleolítico bajo la dirección del eminente científico Mamedali Huseynov durante los trabajos de investigación en el valle Guruchai de Karabaj estableció que en este territorio desde la antigüedad existían condiciones naturales y geográficas favorables para el desarrollo de la vida. Esto demuestra la diferencia de la geografía histórica del territorio de Karabaj de otros territorios.

La cueva de Azykh es la cueva cársica más majestuosa del Cáucaso por su tamaño. Por lo tanto, incluso durante este período, las excavaciones en la cueva no solo mantuvieron su importancia, sino que incluso adquirieron un carácter intenso. La cueva más antigua de Azerbaiyán en la que vivía la gente es la cueva de Azykh. Esta cueva es uno de los asentamientos humanos más antiguos del mundo. La cueva de Azykh se encuentra cerca de la ciudad de Fizuli en Karabaj. La investigación arqueológica, iniciada en 1960 y que duró hasta 1987, reveló la presencia de ricos estratos geológicos de historia en los sedimentos de la cueva. Aquí en 1974-1976, 1980-1982 y 1986, bajo la dirección de Huseynov, se llevaron a cabo excavaciones arqueológicas. Como resultado de largas excavaciones en la cueva de Azykh, se descubrió un hueso de la mandíbula inferior humana, que pertenece al tipo neandertal. Después de investigar el hallazgo, resultó que su historia se remonta al menos 350-400 mil años. Todos los materiales encontrados en la cueva de Azykh son importantes para obtener información sobre las condiciones naturales de la época, el estilo de vida de las personas primitivas, su cosmovisión, y atestiguan que el territorio de Karabaj tiene una historia muy antigua. Esta cueva tiene más superiridad: la cueva de Azykh también llama la atención por ser la más grande de las cuevas descubiertas en el Cáucaso (Milli Azərbaycan Tarixi Muzeyi, 2021).

Karabaj es el lugar más antiguo para la humanidad. En primer lugar, cabe señalar que la palabra "Karabaj", que se traduce del azerbaiyano como "Jardín Negro", demuestra que esta tierra pertenece históricamente a Azerbaiyán. Karabaj ocupa un lugar especial y desempeña un papel especial en la historia de Azerbaiyán. Esta región de nuestro país es uno de los habitats más antiguos del mundo. En su territorio se han descubierto monumentos de la antigüedad. La mandíbula de un hombre primitivo de Azykh llamado azykhanthropus fue encontrada en la cueva de Azykh en 1968.

Entre los monumentos únicos de Karabaj, las Crónicas de Piedra de Kelbajar ocupa un lugar especial. Las primeras muestras de pinturas rupestres en Azerbaiyán fueron descubiertas en 1939 por el eminente arqueólogo Ishag Jafarzadeh. A pesar de que el primer registro científico de pinturas rupestres en Kalbajar fue realizado por Jafarzadeh en la segunda mitad de los años 60 del siglo pasado, su estudio fundamental se remonta a los años 70. Según las investigaciones realizadas fueron encontrados unas series de pinturas rupestres antiguas en las tierras adyacentes del distrito vecino de Lachin, así como en las orillas de los ríos Perichingyly, Yazyurdu, Chesnakdag, Zalhagel, Garagol.

Durante el período de nuestra independencia, así como durante el primer liderazgo de Azerbaiyán (1969-1982), gracias a la gran atención, cuidado y sabias decisiones del gran Líder Heydar Aliyev sobre nuestro patrimonio cultural, se realizó un gran trabajo para preservar nuestros monumentos. La política de difusión de la cultura nacional, a la que ahora dan gran importancia los analistas mundiales, Heydar Aliyev llevó a cabo a su manera en la época Soviética. Porque el gran Líder presentó a Azerbaiyán a los valores nacionales, la historia y las peculiaridades de la cultura en el mundo. Fue por su iniciativa que famosos músicos, poetas, escritores, cantantes, compositores y artistas del país actuaron en algunos países del mundo. Por supuesto, en este caso hubo un momento político, se hacía para el avance y desarrollo de Azerbaiyán en el mundo (Azərbaycan Arxeologiyası, 2008).

Aprobado por el decreto Nº 132, de 2 de agosto de 2001, por el que se modifica el decreto del Consejo de Ministros de la República de Azerbaiyán "Sobre la aprobación de la distribución según el grado de importancia de los inmuebles monumentos históricos y culturales bajo protección estatal en el territorio de la República de Azerbaiyán" y fue elaborado una lista de los monumentos arqueológicos de importancia mundial, sujeto a registro en Azerbaiyán (Novruzlu, Nuriyev, 2003).

Como sabemos, Heydar Aliyev, en la sesión del Consejo Supremo de la República Socialista Soviética de Azerbaiyán de 21 de julio de 1978 con el fin de garantizar el cumplimiento en el marco de la ley de una amplia labor de investigación, identificación y promoción de monumentos materiales y culturales que demuestren la antigüedad de la historia de nuestro pueblo, firmó la ley de la República Socialista Soviética de Azerbaiyán “Sobre la protección y utilización de monumentos históricos y culturales”. Logró la aceptación de esta ley. Como se indica en el artículo 51 del capítulo V de esta ley, Heydar Aliyev buscó el reconocimiento internacional del patrimonio material y cultural que pertenece al pueblo azerbaiyano. El 5 de diciembre de 1972, como primer Secretario del Comité central del partido Comunista de Azerbaiyán, Heydar Aliyev se reunió con los historiadores de la URSS que habían llegado a Bakú para participar en la XX conferencia científica. Incluso en ese período, el gran Líder en su discurso les comuniqué que el estudio de la historia antigua del pueblo azerbaiyano, su propaganda no solo en la República, sino por todo el mundo debe ser el objetivo principal de todos los historiadores nacionales y externos (Azərbaycan Respublikasının Milli Arxiv İdarəsi, 2003).

Shusha siempre ha sido una cuna de la geografía histórica y de la vida social y política de Azerbaiyán, su importancia fue declarada por diferentes personas famosas. "Shusha no es solo para los habitantes de Shusha, sino también para todos los azerbaiyanos, para todos los ciudadanos que aman a su Patria y a su pueblo. Shusha es una ciudad querida, una tierra querida, un castillo querido, un monumento

querido". Estas palabras del Líder nacional de Azerbaiyán, Heydar Aliyev, nos ayudan a comprender el significado de Shusha. Solo notamos que a fines de julio y principios de agosto de 1982, durante la visita del primer Secretario del Comité central del partido Comunista de Azerbaiyán, Heydar Aliyev, ocurrieron muchos eventos importantes. Heydar Aliyev participó en el Festival de poesía de Molla Panah Vagif y en la inauguración del monumento a Khurshudbanu Natavan. Heydar Aliyev, que siempre ha mostrado atención y cuidado por la ciudad de Shusha, durante la visita destacó la importancia de preservar los antiguos paisajes de la ciudad y de nuestra historia. El gran Líder jugó un papel importante en la perpetuación de la memoria de las personalidades históricas de Karabaj. Cabe señalar que la prevención de la destrucción de Shusha, uno de los centros culturales reconocidos de Azerbaiyán, y el renacimiento de la ciudad fue posible después de la llegada al poder de Heydar Aliyev en 1969.

"Shusha es uno de los únicos centros culturales de Azerbaiyán. Es natural que esta sea una ciudad que se distingue por su belleza y el esplendor de nuestra arquitectura nacional. Es un precioso monumento de arte. Preservando siempre nuestros valores nacionales y espirituales y tradiciones musicales, Shusha, siendo el centro del Janato de Karabaj, ha recorrido un largo camino hasta establecerse como una ciudad de importante económica, política y cultural, que desempeñó un papel especial en la vida del país. Es conocida como la cuna del mugam azerbaiyano", dijo el Presidente de la República de Azerbaiyán, Ilham Aliyev. Y las últimas palabras citadas, pronunciadas por el Presidente de la República de Azerbaiyán, Ilham Aliyev, demostraron la esencia de Shusha. Shusha es una ciudad clave en la región de Karabaj debido a su ubicación geográfica y su importancia histórica como uno de los mayores centros culturales, económicos y administrativos de Azerbaiyán. A lo largo de los años, nuestros poetas han escrito poemas sobre el maravilloso Karabaj y su cuna de la música y la poesía, Shusha. Hoy en día, cada ciudadano escribe poesía en honor a Shusha. Porque Shusha, siendo la perla no solo de Azerbaiyán, sino de todo el Cáucaso, es la cuna de nuestra cultura, el corazón de nuestro país, que canta mugam. Hoy en día, la ciudad de Shusha se está restaurando su propio aspecto histórico y cultural. Actualmente, la ciudad en su conjunto está siendo reconstruida. El gobierno de Azerbaiyán prestó gran atención a la preservación de todos los rastros y legados de la historia antigua de la región.

Nuestra patria, ubicada en un área extremada y geoestratégicamente ventajosa con ricos recursos subterráneos y terrestres, atrajo la atención de los enemigos y los obligó a poner un pie en nuestra Patria. De vez en cuando, los valientes de la patria lucharon contra el enemigo y lograron defender la integridad territorial de nuestro país. Por supuesto, la lucha de las personas por la supervivencia es un proceso muy complejo y variado.

Todos estos eventos demuestran que, como resultado de la política del Líder nacional Heydar Aliyev y el Presidente de la República de Azerbaiyán, Ilham Aliyev, la historia y la cultura de Azerbaiyán siempre han sido y serán preservadas, y también han sido y serán el centro de atención. La tarea principal del estudio fue demostrar el mérito del Líder nacional Heydar Aliyev y la política continuada por el Presidente de la República de Azerbaiyán, Ilham Aliyev, para restaurar y proteger el Patrimonio cultural de nuestro país y nuestro pueblo.

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CYANOTYPE EXPERIENCE AS AN ALTERNATIVE PHOTO PRINTING TECHNIQUE

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Abstract

Cyanotype is a photographic printing process that uses paper and light to produce blueprints. After successfully transferring the first image onto a light-sensitive surface, artists have conducted many experimental studies to produce alternative ways. Some of these experiments were not functional because the chemicals used were hazardous to health, and some of them involved a complicated process. The chemicals used in the cyanotype printing method are cheap and easily accessible. The ability to print on anything made of natural materials provides practitioners with great flexibility regarding material and paper. Cotton, linen, silk, and handmade paper can be easily used in printing. This research was conducted in the 2022-2023 academic year with 3rd-year undergraduate students studying at Izmir Democracy University Faculty of Fine Arts, Department of Traditional Turkish Arts, within the scope of a Photography Course. Due to the lack of a photography studio in the faculty, cyanotype has been a method we used to search for a solution based on the question of what we can do within the scope of the course. In line with the determined purpose, the research was shaped according to the qualitative research method. The data obtained in the research were obtained from the artistic works of the students and semi-structured interviews with the students at the end of the process. The interview records were analyzed according to the thematic analysis method, and the artistic works were evaluated through rubric forms created by the practitioner. Answers to the following questions were sought in the research:

1. What are the students' thoughts about the cyanotype printing technique?

2. During the application process;

a) What are the aspects they enjoy?

b) What are the situations they experience difficulties?

3. What are the students' opinions about the artistic works they produced at the end of the application?

As a result of the research, it was seen that the students who completed their work by participating in the lesson were satisfied with the fact that they worked with a different technique. In addition, their thoughts on photography changed positively, and they believed that different experimental applications could be made in this field.

Keywords: Cyanotype, blueprint, photograhpy.

INTRODUCTION

Cyanotype is a printing method realized by exposure to photosensitive surfaces, including photographic printing processes. According to artist Eric William Carroll, Cyanotypes are

"photographic versions of finger painting: They are tactile, kid-friendly, and provide instant gratification."(Ross, 2021). Artist and writer Christopher James (2015, p.162) defines Cyanotype in the following words:

> "Cyanotype is the proverbial "first kiss" that sinks the hook and makes us fall in love with all of the possibilities to come with alternative process image making . . . in much the same way that the wet lab darkroom experience did to all of the image makers who had the pleasure of that experience."

In 1942, three years after the invention of photography, Sir John Herschel in England coined the word 'cyanotype' to make copies of his astronomical calculations. His friend, the artist Anna Atkins, learned this process from him, and in 1843, she used this method to produce a volume of photograms of British mosses, considered the first photographic book in history. Cyanotype, first seen as a simple reproduction technique, was later valued for its blue tones, vividness, and permanence (Kauren, 2009, p. 9). Atkins created cyanotypes using plant specimens he had collected from British shorelines. She understood that the cyanotype process could capture even the most minor details if exposed for the appropriate length of time. This focus on the little things ushered in a new era of scientific visualization. Before it, scientists depended on rough sketches. Her work inspired many, if not all, cyanotype artists despite being less well-known than the method's inventor (Turner, 2022).

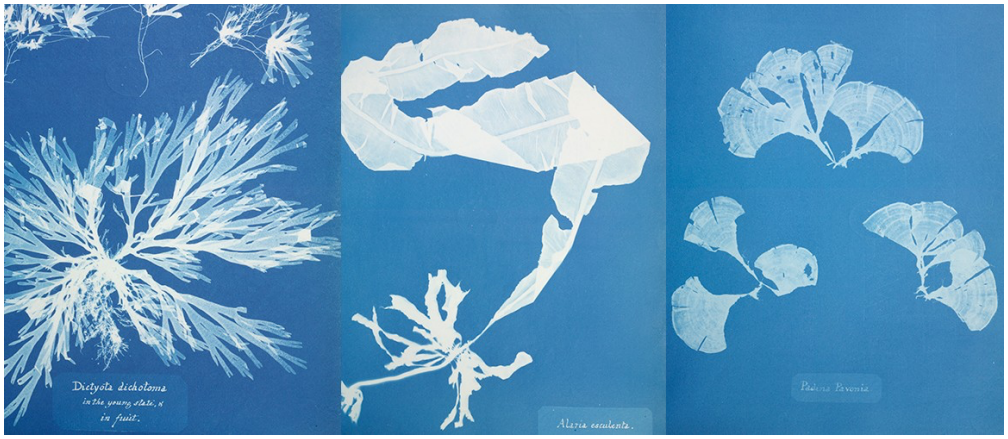

Figure 1. Cyanotypes of British algae by Anna Atkins, courtesy of the Natural History Museum of Britain (https://www.amphilsoc.org/blog/osterhout-and-his-algae-or-whats-going-picture-0)

The Cyanotype process was rarely used until the 1880 as an inexpensive proofing method before final printing using the more expensive silver or platinum-based photographic processes. From the 1970s to the 1950s, Cyanotype printing was replaced by other photographic processes and was used by architects and engineers to make copies of plans. Revitalized by contemporary photographers in the 1960s, the Cyanotype was seen as an alternative to the commercial photographic process of silver gelatin. Today, when digital photography has replaced chemical photographic practices, the silver gelatin process can also be considered an alternative photographic printing practice (Stunic and Kaplan, 2013, p. 5). Today, we see that Cyanotype can be applied to more unusual surfaces such as wood, bone, glass, or stone, just like in the early days. It has the advantage that it can be applied on many surfaces at low cost, with low toxicity, and without being restricted by any commercial confidentiality (Ware, 2020, p. 19).

The primary purpose of the research is to reflect the students' experiences with the Cyanotype photo printing technique, which was preferred in the research because it can be applied in an environment

without a photo studio and offers endless creative alternatives. In line with this primary purpose, answers to the following sub-questions were sought:

1. What are the students' thoughts about the cyanotype printing technique?
2. During the application process;
    a) What are the aspects they enjoy?
    b) What are the situations they experience difficulties?
3. What are the students' opinions about the artistic works they produced at the end of the application?

In the Cyanotype application, which took place over a semester, students produced many experimental studies, but two studies from each student were included.

How Cyanotype Works

Cyanotype, which has a simple construction process, is based on the principle of two different chemicals interacting to create a photosensitive effect on the surface on which it is applied and transfer the image onto it. The chemical solution can be applied to paper, fabric, or other materials. According to James (2013:168), Cyanotype is an ultraviolet-photosensitive contact printing method that, like other alternative photographic processes, requires a negative image of the same size as the final print. As Anna Atkins did, this method can also make photograms with transparent objects. The blue color of this printing technique is the result of ferrous ions from the photoreduction of ferric ammonium citrate with potassium ferricyanide. Stulik and Kaplan (2013, p. 6) describe the Cyanotype process in the following order:

1. The resulting yellow-greenish layer of sensitized material is dried in the dark.
2. The dried, sensitized material is exposed under a negative or other partially or fully opaque material (when creating photograms) to strong light (sun or an artificial UV light source), usually in a printing frame that assures good contact between the negative and the sensitized material.

3. Light exposure is aided by simultaneous exposure of a sensitometric wedge or timed based on exposure and development of a series of test samples.

4. The exposed material is transferred to a water bath to complete the formation of Prussian blue in areas exposed to light and to dissolve any unexposed mixture of sensitizing compounds. Full development of the blue image can be aided by the addition of a hydrogen peroxide solution to the bath. Otherwise, the blue image can be assessed only after the material is fully dried and oxidized by exposure to air.

During the application process, Cyanotype can vary depending on the surface and texture the user will be working with. An artist applying on paper may prefer a more textured surface to achieve a pictorial effect. In addition to the structure of the paper, the way the chemical is applied to the paper also differentiates the effect. Artists with an experimental approach can apply the solution on the surface with sponges, spray materials, and brushes. At this stage, adding pigment to the solution or applying two or three layers can create different shades of blue. Each Cyanotype is unique due to the differences in the application process and the endless alternatives it offers (Böcekler, 2020, p. 61). In addition to applying the chemical to the surface, surface selection, exposure time, and similar variables, the creativity of the practicing artist also makes the Cyanotype work unique. In this sense, it is a creative application that offers endless alternatives to many practitioners.

MATERIALS AND METHODS

This research is structured according to qualitative research design. The research data were obtained from semi-structured interviews with the students who took the Photography course in the fall semester of the 2022-2023 academic year through a Google form and student works that emerged throughout the semester. The data obtained from the interview forms were analyzed by thematic analysis method with NVivo, a qualitative analysis program. Students' artistic works were evaluated through rubric forms prepared by the researcher.

FINDINGS OF THE RESEARCH

Findings Related to Students' Opinions on Cyanotype Printing Technique

When the students were asked how they evaluated the Cyanotype technique, feedback was received that they generally enjoyed the process and produced different works. According to the responses, two themes emerged. The themes identified accordingly are shown in Table 1:

Table 1. Opinions about Cyanotype Technique

Opinions about Cyanotype Technique
Enjoyable Technique
Different Technique

Accordingly, while S1 stated that the technique was delightful, S2 expressed his views on this issue: "It was a different and beautiful method, we enjoyed doing it, and we did good work." S3 responded in the same direction as the other students, emphasizing that it was enjoyable and that the results at the end of the process were satisfactory. S5 drew attention to the difference in the technique and stated that creating photographs positively affected her perspective on photography.

Findings Regarding Students' Likes in the Cyanotype Application Process

When the students were asked, "What are the aspects of the Cyanotype printing technique that you enjoy?" it was seen that the appreciation was generally concentrated on the process of creating the photograph. Accordingly, two prominent opinions emerged:

Table 2. Aspects that are liked in the application of the Cyanotype Technique

Aspects that are liked in the application of the Cyanotype Technique
The process of photography
New transfer of old photos

S1 expressed her appreciation of the application process of the cyanotype technique with the words, "The results that emerged with the correct use of light were gratifying." S2, on the other hand, stated that she enjoyed the result part the most in this process and that this process excited her. She also stated that the process was open to surprises, and sometimes the result was better than expected. S3 stated that she enjoyed the image's formation process under sunlight and this situation. S5, on the other hand, stated that he enjoyed the process in which the photograph became evident on paper and liked to create different shades on the photograph by using materials such as oxygen water or vinegar water while washing the image obtained under the sun. Student S6 stated that she enjoyed unearthing old and worn-out photographs and recreating them with the Cyanotype technique and expressed her satisfaction with the result.

Findings Regarding the Difficulties Experienced by Students While Applying the Cyanotype Technique

When the answers to the question "What are the problems you experience when applying the Cyanotype printing technique?" were analyzed, it was observed that the students generally had difficulties in adjusting how long to expose the photographs to sunlight. Accordingly, three main themes emerged:

Table 3. Problems in Practice

Problems in Practice
Adjusting sunlight duration
Apply the solution to the surface
Keeping the surface stable

One of the students, S1, stated that he had difficulties using the light correctly and applying the prepared chemical mixture homogeneously on the surface. S2 stated that he had difficulty adjusting the duration of the sunlight correctly, but he solved this problem as he experienced this process over time. S3 stated that when there was a gap between the negative print of the photograph in his hand and the surface to be applied, the image obtained was blurred. S4 stated that he had difficulty applying the chemical mixture to the application surface and adjusting the timing of the required sunlight.

Findings Regarding Students' Work During the Course

When the answers to the question "How do you evaluate the photo prints you realized with Cyanotype printing?" are analyzed, the general opinion is that successful works have been produced. Accordingly, the themes that emerged are as follows:

Table 4. Opinions on the Works Realized with Cyanotype Printing

Opinions on the Works Realized with Cyanotype Printing
Producing quality work
Achieving successful results
Openness to experimentation

Findings Regarding Students' Photography Lesson with Cyanotype Technique

When the responses received from the students to the question "What are your thoughts about the photography course in which you applied alternative printing method?" were evaluated, the opinions that learning a different technique offered them different perspectives gained weight. Accordingly, three main themes emerged:

Table 4. Opinions on Photography Course

Opinions on Photography Course
Gaining a different perspective
Enjoying the lesson process
Enjoying the result

S1 expressed her thoughts on this subject: "It gave me a different perspective in the artistic sense. Personalizing the resulting work made me feel free in design". At the same time, S2 stated that she enjoyed this process and that taking such a course had many gains for her. S3, on the other hand, expressed the process of the photography lesson as follows: "The process and the result of the lesson were gratifying. The fact that there are more such courses indicates that we can discover new things and try our hand at every branch of art, develop our talents more, and improve our perspective". Student S5 mentioned that it was positive for her not to look at photography from a single perspective but to re-evaluate it with different techniques.

ARTISTIC WORKS

Student I

When S1's Cyanotype works are analyzed, it is seen that he realized his first work by utilizing plants. It is understood that the formation of the sharp white tones and the blurred middle tones we see is because she did not place material such as glass or plexiglass on the object during printing.

The second work is a collage consisting of a drawing and a Cyanotype print. When the Cyanotype print is examined, it is seen that the student used a double negative image because of the textures it contains. He connected the floral motifs he used in the drawing and the floral texture in the print area.

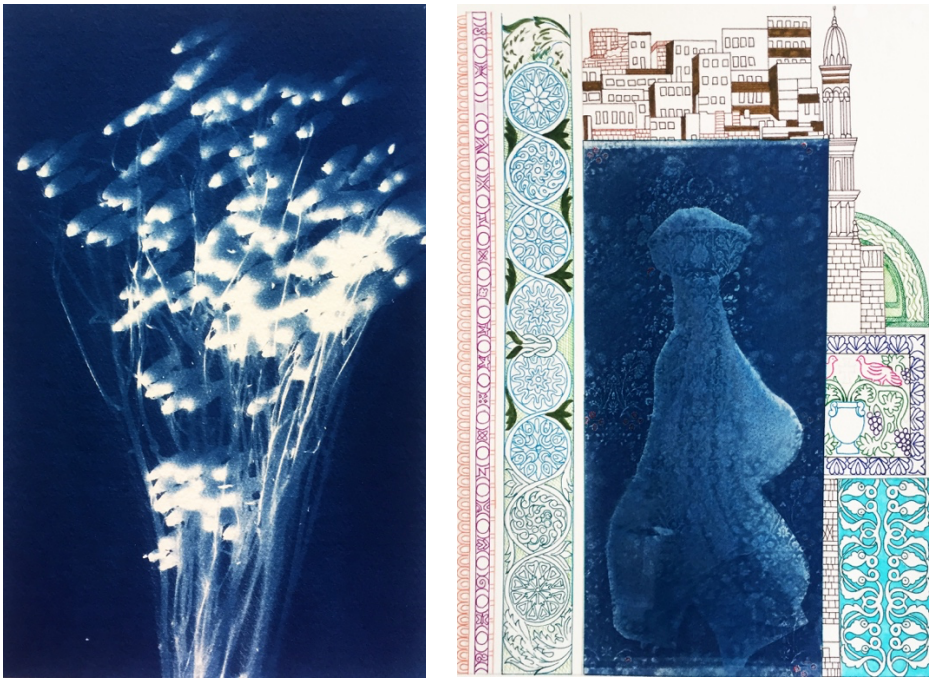

Figure 2. Artwork of Student I

Student II

S2's first work is a Cyanotype print of a photograph of Ortaköy, Istanbul. It is understood from the resulting tones that the exposure time was set correctly. The image is darker than Prussian blue because the student used black tea in the photo bath.

In the second study, the student tried the wet Cyanotype method by making herbal arrangements on fabric. In this process, the student used turmeric and vinegar water.

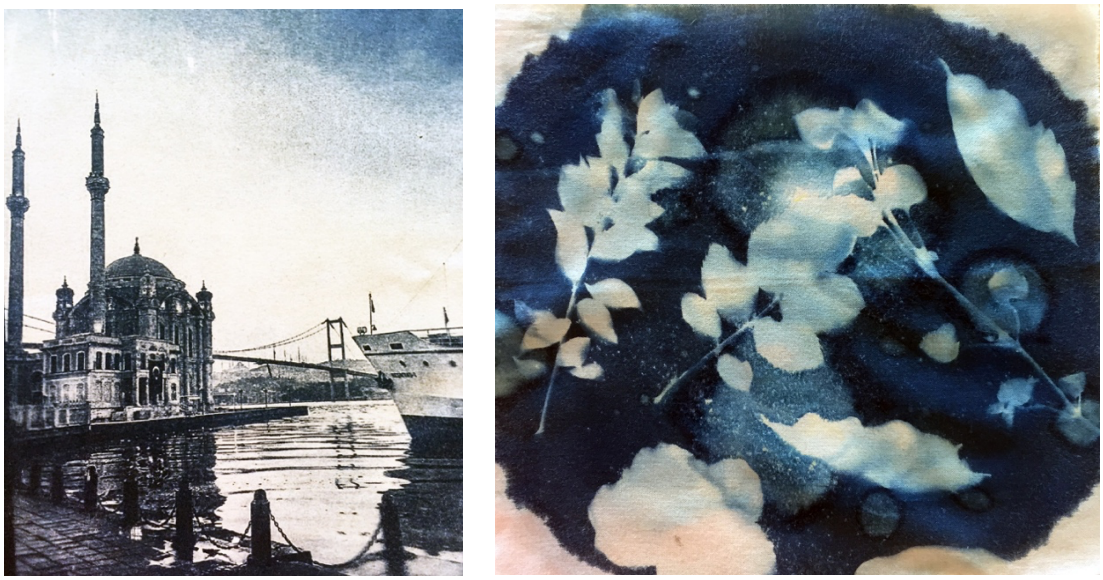

Figure 3. Artwork of Student II

Student III

In his first work, S3 obtained Cyanotype prints in dark tones. In order to capture these tones, he used auxiliary materials such as tea, coffee, and oxygenated water in the photo bath. Some parts of the image are blurred because there are gaps between the paper surface and the negative of the photograph, and the negative is not in complete contact with the surface.

In the second work, the student made a floral arrangement on fabric. In the wet Cyanotype study, paler tones were obtained due to the structure of the fabric used. In the wet Cyanotype study, the student used turmeric and vinegar water.

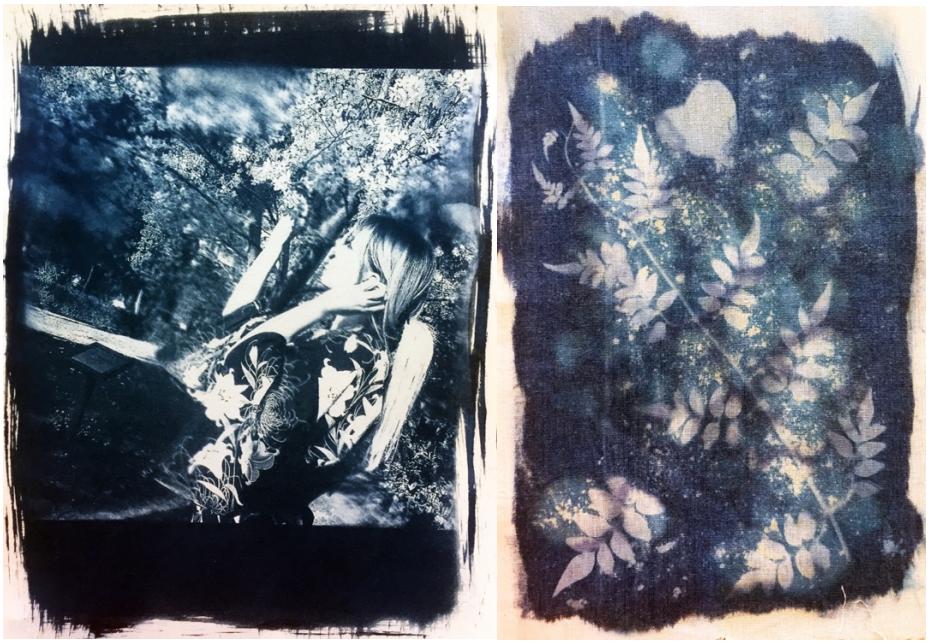

Figure 4. Artwork of Student III

Student IV

In her first work, the student transferred the photograph of the street image to paper with the Cyanotype technique. When looking at the photograph in general, medium color tones are seen, so it is understood that the sunlight was not adjusted correctly.

In the second photo print, there is an image from Italy, but as in the first work, only medium color tones are perceived in the image. More successful works can be achieved with the proper daylight and photo bath.



Figure 5. Artwork of Student IV

Student V

In the first study, the student photographed an old house and transferred it to paper using the Cyanotype method. The student obtained the tones in the image by putting oxygenated water in the photo bath. Some parts of the photograph were blurred due to the lack of complete contact between the negative image and the paper surface.

The student used the wet Cyanotype method in the second study with plants. The use of turmeric caused the yellow tones in some parts of the image. From the resulting work, it is understood that the student used a large amount of sparkling water before printing.

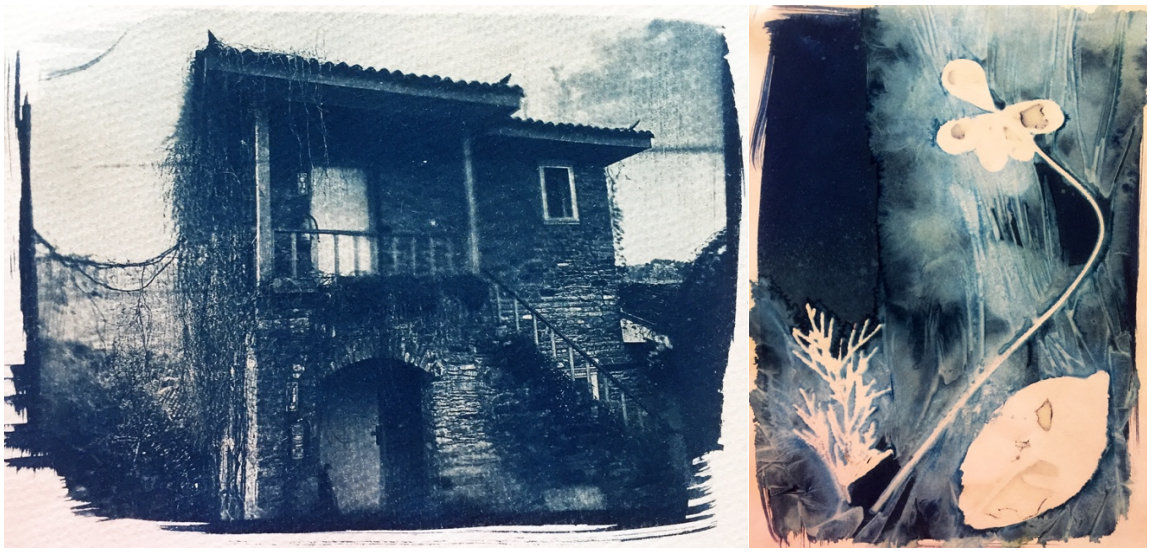

Figure 6. Artwork of Student V

Student VI

The student, who transferred a street photograph from Izmir Urla to Cyanotype printing, created an old look due to the historic houses in the image and the textured paper surface. Oxygenated water was used in the bath of the photograph.

The student realized the second work with the wet Cyanotype method on fabric. Due to the structure of the fabric, a blurred appearance appeared in the whole image.



Figure 7. Artwork of Student VI

CONCLUSION

Cyanotype, one of the alternative photo printing methods, is a highly preferred technique by today's artists in terms of ease of application and satisfactory aesthetic results. In applying this technique with 3rd-year undergraduate students, it was observed that although they felt uneasy at the first stage due to the chemical processes involved, they behaved more comfortably afterward. The Photography course, which was held for a semester, progressed theoretically and practically, and students learned about this technique's theoretical background. The students were excited when they saw the results of the first application, followed the lessons enthusiastically, and fulfilled their responsibilities towards the course. After their first attempts, they made material differences in the application and did not hesitate to use experimental materials to obtain different tones in the image they created. The students, who produced many creative works throughout the semester, wanted to apply this technique outside the class. At the same time, they created rich products by combining this technique with elements of Traditional Turkish Arts, which are their departments.

When student opinions about the technique were analyzed, there were statements that it was fun. In general, almost all of the students think that learning this technique is a gain for them. They stated that the process of the formation of the photograph and regaining old photographs with this technique are their favorite features of this technique. Problems such as not applying the solution homogeneously, obtaining blurred photographs due to the lack of a transparent material to print on the printing surface, and not being able to set enough daylight time on the Cyanotype printing surface are common problems experienced by the students in this process. Looking at the whole lesson and application process, the students expressed that they enjoyed this process, expanded their limits with this new technique they learned, and could make new experimental designs by combining Cyanotype with many different surfaces. In this sense, student experiences were positive, and this alternative photo printing technique they learned provided them with multifaceted gains.

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HERO'S JOURNEY IN ANIME MOVIE: CASE OF BRAVE STORY

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Abstract

The renowned mythographer Joseph Campbell asserted in his work "The Hero with a Thousand Faces" that although there may be variations in the details, hero myths across the world have always followed the same steps in different places and times. This template, reduced by Campbell to 8 steps and 17 elements, can be observed not only in myths and folk tales but also in the narrative structures of modern works such as literature, cinema, animation, and computer games. This theory is valuable in terms of telling the story of each ordinary individual who completes the cycle by following three fundamental stages: departure, initiation, and return. This is because the crises, problems, and questions faced by modern individuals are essentially the same as those experienced by archaic humans. Thus, the mythic "hero" guides modern humanity through these epic stories.

As Ursula K. Le Guin expressed, fantasy is the best medium to depict the journey of growth, its perils, and rewards. In this context, this study analyzes the animated film "Brave Story," adapted from the novel of the same name by Miyuki Miyabe, within the framework of Campbell's monomyth theory. The analysis reveals that the protagonist of the Brave Story animated film follows the typical steps of a mythic hero, including the Call to Adventure, First Threshold, Road of Trials, Nadir/Abyss, Transformation, Apotheosis, Return Threshold, and Return. Initially, Wataru, who leaves his ordinary life behind to enter a magical world, only aims to reclaim his former life. However, during his adventure, he undergoes a transformation. He evolves from a self-centered child into an adult who can make sacrifices for others and consider society and his surroundings. When he returns to his ordinary life, he is no longer the same little child as before. He has become an individual who has acquired "freedom in life" as a "master of two worlds." The narrative of a modern animated film that followed this cycle can be considered important from this perspective, especially for children who are in phase of initiation because they can witness the hero's journey of maturation.

Keywords: Monomyth, The Hero With A Thousand Faces, Anime, Brave Story, Archetypical Symbolism

“Quid rides? Mutato nomine, de te fabula narratur.” - Horatius Sermones

INTRODUCTION

Human beings have been creating myths since the time of Neanderthals. Nowadays, although the word "myth" is often used to describe something that is not true, myths are not merely stories told for the sake of it or attempts by primitive humans to explain certain natural phenomena they couldn't comprehend, as many people think. Myths were constructed to help individuals cope with the problematic situations they lived in; they helped people find their place in the world and provided them with guidance (Armstrong, 2005). These stories resided in the minds of individuals in the past and when a story is in your mind, you can see its relevance to something happening in your own life. However today the world has been demythologized. Rituals have lost their power. What was once the transmission of inner truth through ritual is now merely a form. Modern society does not provide us with enough mythic directives, and as a result, young people find it very difficult to organize their lives, thoughts, and emotions (Campbell & Moyers, 2017).

Modern humans have developed modern narrative techniques as a partial response to this demythologization and lack of guidance. Among these are short stories, novels, theater, television series, movies, computer games, comics, and animated films. Particularly, the belief that animated films carrying the common narrative of mythology can serve a similar function to myths in guiding individuals during the transition from childhood to adulthood and the process of maturing into a member of society has been the starting point of this study. It will be examined how closely the core story of hero myths can be followed in a modern animated film in this context.

MATERIALS AND METHODS

This study is designed as a qualitative research method known as a case study. This method focuses on the in-depth description and analysis of a limited system, which can be an individual, a program, a group, an institution, a community, or a specific policy, that serves as an example of a phenomenon (Merriam, 2013). The most significant difference between case studies and other qualitative research methods is that the researcher is primarily focused on identifying and examining the unit of analysis, i.e., the case itself. The unit of analysis selected is to search for Campbell's monomyth theory in modern animated films. Therefore, this study can be categorized as an "instrumental case study," as instrumental case studies are conducted to provide insights into a particular subject or to revisit a generalization (Stake, 2005).

The unit of analysis in this study is the animated film "Brave Story," which was directed by Kôichi Chigira in 2006 and produced by Dentsu, Fuji Television Network, Gonzo, Sky Perfect Well Think, Warner Bros, and Warner Entertainment Japan. The animation is an adaptation of a novel of the same name written by Miyuki Miyabe, which belongs to the fantasy literature genre and received the Notable Children's Books award from the American Library Association in 2008. The book later inspired a manga adaptation with the same name by Yoichiro Ono and a video game titled "Brave Story: New Traveler," released by Sony PSP in 2007.

As for the analysis method employed in the selected case, a psychoanalytic analysis, which is one of the methods of literary analysis based on Freud's discoveries about the unconscious, has been used. This method can be used to decipher the artist's psychology and the world of the unconscious and is also employed to analyze the work itself and the behaviors of the characters in it (Moran, 2007). Carl Gustav Jung, who agreed with Freud that myths could be analyzed like dreams, went a step further

in his studies and claimed that myths were the shared dreams of cultures, and the visible archetypal motifs pointed to the collective unconscious of humanity.

Researchers such as Freud, Carl G. Jung, Wilhelm Stekel, Otto Rank, Karl Abraham, and Geza Roheim have largely documented the contemporary relationship between dreams and myths and have converged on the view that "fairy tales and myths correspond to the logic and order of the archaic person's long-standing unreliable dreams and nightmares." Mythographer, researcher, and writer Campbell, building on these studies, compared hero myths from all over the world and throughout history, tracing the hero's journey and transformation. The mythographer developed the Monomyth theory as a result of his work, in the book "The Hero With A Thousand Faces," which posits the existence of a single archetypal hero. In world mythologies, folktales, and religious stories, he identified three main stages of the core unit of the monomyth: departure, initiation, and return (Campbell, 2000). The following sections of the study will analyze the case by dividing it into the three main structures of Campbell's developed Monomyth theory, examining to what extent the story's main character fulfills the stages of becoming a hero.

FINDINGS AND DISCUSSION

Departure: The first stage of the three stages, "departure," as Campbell defines it, is examined under the headings of "The Call to Adventure," "The Refusal of the Call," "Supernatural Aid," "Crossing the First Threshold," and "Belly of the Whale." This stage, identified by Campbell as "the call to adventure," is the first stage of the mythological journey and is a crisis. It draws attention when a figure or phenomenon, unknown to our hero who is about to depart from his ordinary world but is not yet aware of it, presents itself in a highly impressive manner and atmosphere, whether frightening, surprising, or inspiring, making something familiar to the subconscious (Campbell, 2000). Wataru Mitani and his friend are frightened by a cat while searching for ghosts in an abandoned building with his friend to see if the new kid at school is really a ghost as he claimed. Wataru, who thought the cat was a ghost, runs away from it and gets separated from his friend. He finds a luminous sphere on the ground that looks supernatural. Suddenly, a boy in a wizard's cloak appears, mistaking Wataru for someone else at first, then takes the sphere from Wataru's hands and moves away. When Wataru chases after the boy, he sees stairs rising towards the sky and a door with wings at the end of the stairs, floating in emptiness. The boy disappears by passing through this door. This is the first call. Wataru turns around to show the boy he thought was a ghost to his friend, telling him about the stairs going up to the sky and the door. However, when they look, everything has disappeared.

Describing the hero's ordinary world before receiving the call to adventure is also very important for the narrative because it provides a reference point for us to see how much the journey has changed them when the circle is completed and the hero returns to their ordinary world. Similarly, we witness Wataru Mitani's life in the early scenes of the Brave Story animated film: Wataru barely wakes up in the morning, rushes downstairs while his mother prepares breakfast, and his father drinks coffee and reads the newspaper. Wataru grabs a piece of toasted bread without touching his breakfast, and his mother softens his expression indicating disapproval of his father's behavior. Wataru rushes out of the house to catch up with his friend waiting at the door, using shortcuts and hurrying to get to school. This short scene provides reference points about Wataru's character and the roles of family members.



When Wataru arrives at school, he learns that the new kid in school who disappeared behind the door is Ashikawa. Ashikawa is quite mysterious, cool, and introverted. He remains incredibly calm even in the face of bullies who taunt him. In a way, he has a character that is the opposite of Wataru. Wataru begins to admire this new kid. When Wataru returns home from school, he meets his father at the door. His father tells him that he and his mother are separating, and he will be living with someone else now. Wataru thinks his father is joking, but his father leaves, saying, "You've grown enough to understand what I'm saying, haven't you?" This is the second crisis moment for Wataru. His safe life as an ordinary child is falling apart.

Wataru tries to chase after his father to stop him but cannot find him. Later, as he wanders the city streets in despair, his feet lead him to the haunted building. In the building, he witnesses the bullies from school torturing Ashikawa. Ashikawa is tied up on the floor, mouth, hands, and feet bound. Despite being very scared, Wataru rushes to help and manages to remove the tape from Ashikawa's mouth. Ashikawa performs a spell, a rather dark incantation, and as a result, a creature appears and swallows all three of the boys. That evening, Wataru and Ashikawa have a conversation. Ashikawa expresses that Wataru saved his life there. When Wataru mentions his parents' separation, Ashikawa belittles the situation, saying he can still see them. Then, he suddenly disappears. Later, we hear Ashikawa's voice in the wind: "I can change my fate; behind this door, all my wishes come true. If I fail, I may not return, but still, I'm going. Right here, you and I part ways, Mitani."

This is Wataru's second call, but the hero's response to this unknown can often be reluctance or hesitation. The hero who does not want to leave his comfort zone and confront dangers can be quite unwilling to step into the unknown. Campbell relates this situation to childhood, saying that the hero who does not respond to the call represents someone trapped within the walls of childhood. In such cases where the call is refused, the hero receives other calls to start the adventure. Indeed, when Wataru returns home, he finds his mother collapsed on the floor. His threshold guardians (his parents), whether willingly or unwillingly, have moved away from his life. At this point, the hero cannot ignore the call any longer. Behind the threshold guardians, there is a dark, unknown danger, just as a child left outside the protection of the family and facing dangers in the tribe. Only by passing through this threshold can the hero earn the right to step into the special world where he will experience his adventure. Wataru remembers Ashikawa's words, "I can change my fate; behind this door, all my wishes come true." He goes to the building where he first saw the stairs rising to the sky and climbs the stairs.

The staircase, whether primitive or civilized, is a symbol present in the mythological and religious beliefs of almost every society. Its common feature in all cultures is that it serves as a means of ascent. The staircase represents the pursuit of the good and the beautiful, functioning as a vehicle that elevates

humans towards the sacred. Consequently, the staircase is an important symbol in terms of facilitating the connection between the earthly and the divine, or between humans and the sacred (Sümer, 2018). In this regard, it is also important for symbolizing the hero's journey towards a higher existence. After a moment of hesitation in front of the door, Wataru says, "I will change the events, I promise!" and passes through the door.

The door serves as a symbol of crossing a boundary, a place where significant changes occur. It has two contrasting functions as an object with a dual nature: it unites and separates (Riaubienė, 2007). The door also acts as a buffer between the hero's ordinary world and the unknown world. When closed, it creates a safe space where one is protected from dangers. However, just as in our daily lives, the hero potentially needs to pass through the door, which opens to the unknown, dangers, and beauties, in order to experience the journey of life. Wataru has crossed this threshold and stepped into an unknown world.

At this stage, the hero may encounter a wise woman or man guide who will accompany him throughout his adventure or provide guidance and advice to him during a part of the adventure. After passing through the door, Wataru finds himself in a green void and suddenly begins to fall. At this point, he hears the voice of a young woman, "Stay calm, Wataru, you're not really falling, do you see?" Wataru calms down and realizes that he is not actually falling, and then the voice speaks again: "Listen to me carefully, Wataru. You should go to the Cave of Trials. It's a rite of passage for all travelers. But don't worry, I know you will succeed. Good luck!"

Suddenly, thousands of birds begin to carry Wataru through a narrow cave passage, all the while uttering enigmatic things that seem to have no apparent meaning. Later, Wataru rolls into the pitch-black darkness through a gap between two rocks.

The importance of initiation (acceptance) ceremonies in the belief systems of the ancient world was significant, and the same importance continues in today's traditional societies. In tribal communities, adolescent children would undergo ordeals designed to prepare them for manhood by taking them away from their mothers and separating them from society, with the aim of leaving behind their childhood and stepping into the world of adult responsibilities. These ordeals often subjected them to intense physical pain and darkness. The experiences were so intense and transformative that the adolescent youth would change irreversibly. In the Neolithic era as well, the myths and rituals of this transition process helped people accept their mortality, move on to the next stage, and demonstrate the courage to change and grow (Armstrong, 2006).



When the pitch-black darkness suddenly illuminates, it becomes evident that this is a temple guarded by four colossal statues. The statues individually begin to question Wataru, "Are you searching for wisdom?", "Health?", "Happiness?", "Courage?", "Which of these are you looking for?" The statues repeat the question again and again, and finally, Wataru shouts, "Yes, all of them!" In response, the statues start to attack Wataru, saying, "Then run from us and take refuge in the forest!" Wataru must find an escape. He tries to protect himself from the statues while also attempting to open the doors. However, there seems to be no visible way out. Behind each door, there are stone figures of different animals. Just when Wataru thinks he's going to die, he remembers what the birds said on the way and solves the riddle, running towards the frog statue at the last moment. The frog swallows him. This stage is the final stage of the transition from the ordinary world to a dangerous world, known as the "Belly of the Whale." The belly of the whale, or fish, is a reference to the journey of the prophet Jonah inside a whale in the Bible. In all three monotheistic religions, Jonah is primarily regarded as the prophet of rebirth, a symbol of salvation through resurrection and an inner journey. At the end of Jonah's journey, he is born again with renewed faith and obedience (Gurevitch, 2014). This journey is also a journey of individuation and growth.

This journey of individuation, from Jung's perspective, is a process of creating a bridge between the conscious and the unconscious. To make this union possible, the individual must first find their lost pieces within the enchanting atmosphere of the unconscious and mend the rifts. For this to happen, the person must embark on an inner journey, leaving behind the bright upper world and returning to their depths, to the original source where they first entered the body, which is symbolically represented as the navel (Kasımoğlu, 2017).

This point symbolizes the mother, and mythologically, frogs, which have always been associated with the origin of life, are linked to the primitive waters where life is born. Therefore, in world mythologies, concepts such as fertility, abundance, female sexual organs, plenty, rebirth, life renewal, pregnancy, eroticism, wetness, and life clearly carry feminine symbolism (Pallua, 2019).

After being swallowed by the frog, Wataru completes this symbolic journey by passing through tunnels resembling birth canals and arriving in a new world. The hero has left his childhood behind

and completed the initiation ceremony. The person he used to be and his previous life are no longer valid. The child, seemingly devoured by the monster and appearing almost dead, is reborn as a hero.



However, Wataru's test results are a bit low, and based on these results, he is deemed worthy of the title of hero apprentice by Ustu Guru. The goddess of luck grants a wish to those who journey from the material world to here, and when Wataru fills the five holes in his hero sword with magical crystals, he will be able to climb to the Luck Tower where the goddess resides and fulfill his wish.

Now, the stage of separation has been completed, and the hero is ready to embark on the journey of adulthood.

Initiation: The second part, called the "initiation" stage, has been examined under the headings of " The Trials of the Road, Meeting with the Goddess, The Temptress, Atonement with the Father, Apotheosis and the Ultimate Boon."

After crossing the threshold, the hero strangely progresses through a dream world of fluid and uncertain forms to undergo a series of tests. At this stage, the hero learns the rules of the special world and has fully entered the "mysterious, exciting, perhaps even frightening special world." The most important function of this stage is to accelerate the hero's transformation process. The hero acquires new knowledge, gradually identifies who their friends and enemies are, and matures on the path to mastery (Campbell, 2000).

Wataru is magically thrown into the air by the Master Guru and sent to the world of dreams. Landing in the middle of a desert, Wataru is saved from the attack of "drill wolves" by Kee Keema from the Water Tribe. Kee Keema will accompany Wataru on his journey. In many of these stories, the hero's initial weakness is balanced by powerful "guardian" figures or protectors who assist him in solving his supernatural tasks (Henderson, 2018). The presence of support and belief that supports the hero allows him to progress and shape his story. In this respect, Kee Keema's connection to a water realm indicates his relationship with the subconscious. According to Jung (2020), the subconscious is often expressed through forests or water.

During this process, Wataru will receive other forms of assistance; initially, the woman's voice he heard continues to help or warn him at critical points. Initially, he is wrongly accused but is later

found to be innocent, and he is honored with the Mountain Bracelet for his courage. Katsu, the leader of the Mountain People, will assist Wataru in the final stage of the story.

As Wataru collects the magical stones, he will acquire two more companions who will accompany him on his adventures: Meena and the baby dragon Jozo. Wataru's experiences with these characters and the conversations they have will gradually change his perception of the Dream World. Because these trials have an important function on the path. The hero perceives what may be important and what may be unimportant to him at this stage.



The next stage of Wataru's journey is the " Atonement with the Father " step. The process of breaking free from parental authority is one of the most necessary but also painful achievements in the growth of an individual. It is crucial for this break from authority to occur. Myth constantly portrays the child's struggle to break free from the parents, and the same desire emerges in the child's fantasies while attempting to establish personal independence (Rank, 2016). Parallel to the fear of going against the authority of the family, at this stage, the hero's encounter with a "father-like character representing patriarchal authority" is depicted, and the hero directly integrates with his father or the father image (Sinsoysal & Arslan, 2022). In this regard, it is impossible for Wataru to complete his maturation without confronting his father, who left him to live with someone else.

The governor of a city that Wataru visits in the Dream World, a powerful magician named Ashikawa, asks for Wataru's help. Ashikawa collects magical stones in the Dream World and tells Wataru that he burned down a forest and killed all the humans and animals inside it, including himself, in the process of obtaining the stones. Despite the warning of the mysterious woman's voice, when Wataru enters the temple, he encounters his father, whom he thinks is inside. Wataru runs to his father, hugs him, and starts crying. He tells his father that his mother is sick and asks him to come home. When his father says he can't come back, Wataru asks if he and his mother did something to make him hate them. His father responds by saying, "You'll understand when you grow up," and Wataru, in anger, shouts, "If growing up means leaving your family and going away, then I don't want to be a grown-up. I'd rather stay a child!" His father gets angry at these words, grabs Wataru by the collar, and lifts him, shouting that he has worked only for them, received no appreciation, and from now on, he will live only for himself, and there will be no more sacrifices. When he throws Wataru to the ground, his own glasses fall off. As Wataru takes a step towards his father and turns his head, he sees his reflection with his own shadow. His shadow is holding a sword, and he bursts into tears. Just then, Ashikawa arrives and says, "That's enough!" The dead leaves that make up the image of the father scatter around.

Ashikawa, referring to the moment he saved Wataru from bullies in the real world, says that they are now even.



An adult who has not completed the process of initiation, in other words, a man who has remained a child, has an underdeveloped ego. Controlled by the id, he selfishly pursues his own desires, wishes, and needs without caring about responsibilities or other people. After talking to his father, Wataru doesn't want to believe that Ashikawa intentionally killed innocent people and animals, but Ashikawa assures him that he will do whatever it takes to fulfill his wish and goes to the Ilda Empire to obtain the last stone.

In the Ilda Empire, the Dark Stone, protected there, once plagued the lands of the Dream World with demons. If this stone is stolen, the demons that would destroy the Dream World will be unleashed. The stone is protected by a mirror that confronts anyone who touches it with their greatest fear. Ashikawa faces his fear, takes the black stone, and the demons begin to spread throughout the world, attacking people.

Ashikawa has obtained all the stones and begins to climb the tower of the goddess to make his wish. While his friends deal with the demons, the princess gives the last missing stone to Wataru, and Wataru starts climbing the tower behind Ashikawa. Here, Wataru suddenly encounters his own shadow, and his shadow begins to attack him. The shadow urges him to kill Ashikawa and says that their wishes should be the first ones to be fulfilled, that Wataru actually doesn't care about the Dream World, and that he should think about his mother instead.

According to Jungian psychology, the development of the shadow is parallel to the development of the ego; qualities that the ego does not need or cannot benefit from are set aside or suppressed, thus playing a very limited or no role in an individual's conscious experience. Everyone has a shadow, and the less it is integrated into an individual's conscious life, the darker and denser it becomes. In other words, the less attention you pay to your shadow, the stronger it becomes, eventually turning into a threat, an insurmountable burden, and a danger within your soul. (Le Guin, 2006a). Therefore, for most people, the dark or negative aspect of their personality remains in the unconscious. However, the hero must understand that the shadow exists and can provide strength. If the hero needs to be skilled enough to defeat the dragon, they must come to terms with the destructive powers of the shadow. In other words, before the ego can achieve victory, it must overcome the shadow and integrate it into itself (Henderson, 2018). Wataru, too, stops fighting with his shadow, kneels to the ground, and eventually his shadow also throws down its sword and falls to its knees, crying. Wataru embraces his shadow and realizes, "My sadness, my anger, my pain, my foolishness, they're all a part

of me. Right, you are me. Together, we can succeed. Welcome." With these words, he integrates with his shadow. This is an important step in becoming a whole and complete human being.



During this time, Ashikawa is also fighting his own shadow. Wataru warns him to avoid harming himself, but when Ashikawa stabs his shadow with his staff, he ends up stabbing himself as well. In analytical psychology, if a person avoids confronting their shadow, suppresses it completely, or worse, tries to destroy it, the result is that the individual ends up self-destructing.;

> "Without a shadow, what is a body? Nothing, a shapelessness, a two-dimensional comic book character. If I deny my deep relationship with evil, I would be denying my own reality. I can't do anything, achieve anything; I can only disrupt what's done and achieved." (Le Guin, 2006a)."

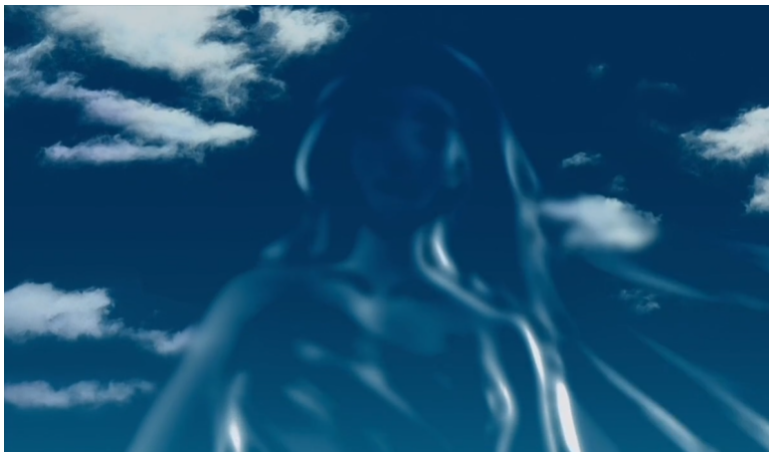
Ashikawa dies in Wataru's arms. During this moment, Wataru hears the woman's voice that has been helping, warning, and guiding him from the beginning. She says, "The Goddess of Luck is cruel enough to separate two friends." Later, Wataru asks her why she helped him, and the girl reveals that she has a crush on him. This stage is described by Campbell as the "Temptress" stage. In this stage, the girl tries to persuade Wataru to wish for the death of the Goddess of Luck so that she can fulfill all her wishes.



However, Wataru tells her that he cannot sacrifice everyone for his own happiness. In response, the girl becomes very angry and says, "I was supposed to be the Goddess of Luck!" She suddenly begins to transform and turns into a gigantic black frog, swallowing Wataru whole.

The Goddess is reincarnated in every woman, and meeting her is the hero's final test to win the "reward of love, celebrated as the veil of eternity, which is life itself." The hero, who is seeking the life beyond life, must be able to transcend the woman and resist temptations before reaching his ideal

(Sinsoysal & Arslan, 2022). After being swallowed, Wataru's sword grows to a colossal size from within the frog, destroying the frog and making Wataru ready to meet/unite with the true Goddess/Mother.



The hero, having overcome great and challenging obstacles, faces his most difficult test by encountering the Cosmic Mother figure. "Often, when all obstacles and giants have been overcome, the final adventure that follows is presented as the successful hero's mystical marriage with the Queen Goddess of the World. The Goddess figure, representing the highest love and perfect beauty, is not only the answer to all the hero's desires but also his ultimate goal. The desired 'good mother' assures the hero that he can once again experience the happiness he once tasted." (Özmen, 2018). The motif of the dual mother points to the concept of dual birth. One of the mothers is real, the human mother, while the other is symbolic. This mother is divine, supernatural, or described as extraordinary (Jung, 2020b).

The Goddess asks Wataru to hold her hands and make his wish, and Wataru wishes for the removal of the demons from the Dream World. The Goddess reminds him that if she makes this wish, nothing will change in the real world. Wataru responds, "At first, I only thought about bringing my family back, but since coming here and making friends, I've learned some things. Life contains both happy moments and sad moments; it's inevitable. I must accept my life and carve my own destiny. This world and my new friends have taught me that." This stage is the "apotheosis" stage, where the hero reaches the point after all the steps of his journey. At this point, the hero finally understands the true message of his journey: he realizes that what he came to find is himself.

The final stage of the initiation section is the "ultimate boon." This reward can be physical like a magical item, or it can be mental-emotional like knowledge, love, or immortality. In this case, when Wataru started his adventure, he was only pursuing getting his old life back, but the journey has changed him, and the salvation of the Dream World has become his ultimate reward. The Goddess grants Wataru's wish, and all the demons turn into sakura petals and disappear; his friends and all living creatures in the Dream World are saved.

Return: When the hero's adventure, or penetration to the source, with the help of various personifications of male or female, human or animal, comes to an end, the hero must return with the life-changing reward (Campbell, 2000). The refusal of the hero's return is not uncommon, and it can occur in the form of a magical escape or external assistance. Alternatively, as in the case of Wataru, if the hero has obtained the approval of the gods, the return to the external world can be done gracefully. This is where the "crossing of the return threshold" step is reached. As Wataru falls from

the sky, his surroundings are enveloped in a pink swirl, and later, they turn into sakura petals and scatter in the sky.



The final stage of the journey is the "freedom to live." With the hero's ability to move beyond the stages of the journey and interpret symbols as tools, this resolution allows the hero to complete the cycle, eliminating the myth's function for individual interests. It even reaches its ultimate point where individual interests are no longer relevant (Campbell, 2000). To clearly perceive Wataru's transformation, we see him once again in his ordinary world. At the beginning of the story, he leaves home without even eating the breakfast prepared by his mother. Now, he has grown and is up early, preparing breakfast while his mother takes care of other household chores. He has matured and no longer behaves selfishly or spoiled, taking on responsibilities like a responsible individual.



CONCLUSION

To conclude, we can observe that the main character Wataru from the animated film "Brave Story" follows the same steps and crosses the same thresholds as ancient heroes, returning home by completing the cycle as an ordinary child living in the modern world. While it may seem interesting that modern individuals go through similar inquiries and seek answers to similar questions as humans have from the very beginning, narratives from different times and cultures confirm this universal aspect.

Hero myths are among the most widespread and well-known myths in the world. While hero myths may vary greatly in their details, a closer examination reveals that they are structurally similar; they

share a universal model developed by groups or individuals without direct cultural contact, such as Africans, North American natives, Greeks, or Peruvian Incas (Henderson, 2018). Campbell, through his comparative mythology studies, structured this model, which was simplified by Christopher Vogler in 1992 into 12 steps and turned into a book titled "The Writer's Journey: Mythic Structure for Writers." This screenplay writing method has formed the fundamental structure of many modern works with fictional content, including literature, film, computer games, and animated scripts.

It is not necessary to follow this screenplay writing technique to reach this common pattern. The path to the collective, to the living and meaningful image that exists within all of us, passes through the personal as Le Guin has expressed. The more deeply an artist delves into their own being, drawing from their own thoughts and inner entities, the closer they come to the collective. In the artist's personal narrative, the audience actually encounters their own dreams and nightmares (Le Guin, 2006b). Indeed, if it were not close to their emotional experiences, children would not be curious to watch hundreds of variations of the same subject in animated films; the small creature threatened by a powerful, ruthless enemy in the animated film a child watches is actually the child themselves (Güler, 2013).

While it may be thought that this is frightening for children and that the role of adults is to protect children from these threats, children also need exposure to reality as much as protection.

> "The way to speak to children about goodness and evil, completely honestly and based on reality, is to speak from the self, from the innermost self. This is something children can handle, something they are already handling; in fact, it is our only job while growing up: to be ourselves. If we feel it is a hopeless task or, conversely, that it requires no effort at all, we cannot succeed" (Le Guin, 2006a)”

Great fantasies serve very important functions in the journey of children's growth just as myths and fairy tales convey the "experience of being alive" to us. This is because real fantasy narratives are generated from the depths of collective consciousness and self. A child confronts the realities of life in a protected space, benefiting from the experiences of the Hero who has walked the same path, faced their fears, grown, changed, and returned as a human being who has done this a million times before them. They are not the first person to do all of this, and they won't be the last. Knowing this prevents a person from feeling alone on this journey and empowers them. In this regard, fantasy stories produced especially as animated films are highly valuable.

Animated films have served various functions such as education, propaganda, cultural transmission, and entertainment throughout history. Animated films are also significant storytelling tools, given the amount of time children spend on daily consumption. The fundamental potential of animation as a visual communication tool is to clarify complexity, provide quick and concise teaching by visualizing the invisible (Güler, 2013). The presentation format of the subject is suitable for conveying the dream-like world of mythical stories and symbolically conveying things that cannot be fully explained verbally. It is possible to say that animated films have the potential to serve a myth-making function in addition to all their other functions from this perspective. The case examined in this study may also be considered to possess this characteristic. The work has been able to establish a communication with its readers/viewers at the level of collective consciousness due to its use of common symbols and the monomyth story structure. Brave Story has been reproduced multiple times in different forms of storytelling such as novels, animated films, manga, and computer games for this reason.

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THE REBIRTH OF VINYL RECORDS IN A DIGITALIZED MUSIC INDUSTRY: PREDICTIONS ON THE FUTURE OF VINYL RECORDS IN THE MUSIC INDUSTRY

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Abstract

Although the emergence of music dates back centuries, the recording of music is not that old. Edison's invention of the phonograph in 1877 and Berliner's invention of the gramophone in 1887 paved the way for the recording of music. The first recordings were made on materials called records. Stone Records, which became widespread as the twentieth century began, were later replaced by 78, 33 and 45 rpm records. While 78 rpm records could be recorded for an average of four minutes, the American Columbia company invented the so-called long play records, which were called 33 rpm records with an actual speed of 33 1/3 per minute. Playing an important role in the popularization of music, 33 rpm records were the only music listening tool in the world until the invention of cassettes by Philips in 1963. In 1982, with the invention of CDs by Sony and Philips, records became the most popular music listening tool in the music industry along with cassettes and CDs in the late twentieth century. The music industry entered the twenty-first century with CDs dominating the market. With the widespread use of CDs, records were discontinued in the nineties. Although records were not completely out of circulation, newly released albums were not released on vinyl during this period and the vinyls appealed only to nostalgia lovers. In the twenty-first century, the vinyl record movement that resumed in the US made vinyl records popular again in the 2010s, when music was listened to on digital platforms. In this study, a descriptive research was conducted on the re-popularization of vinyl records, which started in the USA and spread all over the world and Turkey over time. In the first part of the study, a literature review was conducted on the history of music recording and the place of records in the history of the music industry. In the second part, the factors causing the increasing popularity of records, which are also in demand in Turkey, were investigated. In this context, in-depth interviews were conducted with a total of 81 people studying music at conservatories. In the research, opinions and predictions about the reasons for the increasing demand for vinyl records in Turkey and the future place of vinyl records in the music industry were compiled. According to the results of the research, there is an opinion that record sales will surpass CD sales in the future.

Keywords: Music, Music Industry, Phonograph, Vinyl, LP, Record Industry.

DİJİTALLEŞEN MÜZİK ENDÜSTRİSİNDE PLAKLARIN YENİDEN DOĞUŞU: VİNİL PLAKLARIN MÜZİK ENDÜSTRİSİNDEKİ GELECEĞİ HAKKINDA ÖNGÖRÜLER

Özet

Müziğin ortaya çıkışı yüzyıllar öncesine dayansa da müziğin kayıt altına alınması o kadar eski değildir. Edison'un 1877 yılında fonografı, Berliner'in 1887'de gramofonu icat etmesiyle beraber müziğin kayıt altına alınmasının da yolu açılmıştır. İlk kayıtlar taş plak olarak adlandırılan materyallere yapılmıştır. Yirminci yüzyıla girerken yaygınlaşmaya başlayan taş plaklar daha sonra yerini 78, 33 ve 45 devirli plaklara bırakmıştır. 78 devirlik plaklara ortalama dört dakikalık kayıt yapılabilirken Amerikan Columbia şirketi 33 devirlik plak olarak adlandırılan gerçek devirleri dakikada 33 1/3 olan ve long play (uzun çalar) olarak adlandırılan plakları icat etmiştir. Müziğin yaygınlaşmasında önemli bir ol oynayan 33 devirli plaklar 1963 yılında Philips'in icat ettiği kasetlerin ortaya çıkmasına kadar dünyadaki tek müzik dinleme aracıydı. 1982 yılında Sony ve Philips ortaklığında icat edilen CD'lerin ortaya çıkması ile yirminci yüzyılın sonlarında plaklar kaset ve CD'ler ile birlikte müzik endüstrisinin en popüler müzik dinleme araçları oldu. Müzik endüstrisi yirmi birinci yüzyıla CD'lerin piyasayı domine etmesi ile girmiştir. CD'lerin yaygınlaşması ile beraber plaklar doksanlı yıllarda üretilmemeye başladı. Plaklar tamamen tedavülden kalkmasa da yeni yayınlanan albümler bu süreçte plak olarak basılmamaya başlanmış ve plaklar sadece nostalji tutkunlarına hitap etmiştir. Yirmi birinci yüzyılda ABD'de yeniden başlayan plak akımı müziğin dijital platformlardan dinlendiği 2010'lu yıllarda plakları yeniden popüler hale getirmiştir. Bu çalışmada ABD'de başlayan ve zamanla tüm dünyaya ve Türkiye'ye de yayılan plakların yeniden popüler olması ile ilgili bir betimsel araştırma yapılmıştır. Çalışmanın birinci bölümünde müzik kayıt tarihi ve plakların müzik endüstrisi tarihindeki yeri hakkında bir literatür araştırması yapılmıştır. İkinci bölümde Türkiye'de de talep gören plakların popülerliğinin artmasına neden olan faktörler araştırılmıştır. Bu kapsamda konservatuvarda müzik eğitimi alan toplam 81 kişi ile derinlemesine mülakatlar yapılmıştır. Araştırmada Türkiye'de satışları artan plakların gördüğü bu talebin nedenleri ve plakların geleceğinin müzik endüstrisindeki yeri hakkında görüşler ve öngörüler derlenmiştir. Araştırma sonuçlarında gelecekte plak satışlarının CD satışlarını geçeceği yönünde bir görüş öne çıkmıştır.

Anahtar Kelimeler: Müzik, Müzik Endüstrisi, Fonograf, Plak, LP, Plak Endüstrisi.

GİRİŞ: VİNİL PLAKLAR ÜZERİNE

Müziğin fiziksel dağıtımı için yaygın format olan vinil plakların uzun ve büyüleyici bir tarihi vardır. 19. yüzyılın sonlarındaki başlangıcından 20. yüzyılın ortalarındaki en parlak günlerine ve son zamanlarda yeniden canlanmalarına kadar, vinil plaklar dünyanın dört bir yanındaki müzik tutkunları için özel bir değeri bulunmaktadır.

Vinil plaklar genellikle 120 veya 140 gramlık ağırlıklarda üretilir, modern baskılar ağırlıklı olarak 180 gramdır bu daha hafif plakların kırılganlığını ve hasara karşı duyarlılığını azaltır. Japonya'da 200 gramlık plaklar da üretilmiştir. Genel olarak 200 gramlık plaklar, fiziksel hasara karşı dirençleri ve ses kalitesini olumlu yönde etkileyen daha derin oluklara sahip olmaları nedeniyle daha kaliteli kabul edilir (Bartmanski & Woodward, 2018:03)

Japon baskıları, öncelikle kullanılan malzemenin üstün kalitesinden dolayı hem müzik tutkunları hem de koleksiyoncular tarafından oldukça rağbet görmektedir. Japon baskıları için geri dönüştürülmemiş, saf ve ham vinil malzemeyi ifade eden "virgin vinyl" kullanır. Çağdaş kayıtların çoğunda ses aktarımını önemli ölçüde etkileyen düşük maliyetli geri dönüştürülmüş malzeme kullanır. Saf vinilden yapılmış bir albüm ile yaklaşık %90 saf vinilden yapılmış bir albüm karşılaştırıldığında, %10 geri dönüştürülmüş malzeme içeriğinin bile ses bozulmasına neden olabilmektedir (Osborne, 2018:46).

Plak genellikle dinleme deneyimleri için "klasik", "gerçek" ve "otantik" format olarak algılanmıştır. The Beatles, Bob Dylan, The Rolling Stones ve Miles Davis gibi ikonik sanatçılar, formatı göz önünde bulundurarak ünlü müziklerini plak olarak yayınlamışlardır. Hevesli ve müziğe ciddi bakan dinleyiciler, plağı müzikal türle bağ kurmanın özgün ve uygun yolu olarak görmektedir. Vinilin miras yönü, kutlanan ve değer verilen görsel bir bileşen sağlayan sanatsal kapaklar, özel kol ekleri ve katlanır kılıflar gibi malzeme bağlantıları ile güçlendirilmiştir. Plaklarda albüm, sanatçılar ve plak şirketiyle ilgili bilgiler, dinleme deneyimini geliştiren içerikler de bulunmaktadır. Plak, çeşitli yerel-küresel hikayeleri aktaran seri üretilen bir meta olarak giderek daha fazla tanınır hale geldikçe, vinil plakları ve kılıflarını sergileyen sanat galerilerinde ve sergilerde önemi arttırmaya devam etmektedir (Bartmanski & Woodward, 2018:11). Sadece müzik tüketimi açısından değil, ikonik bir nesne olarak varlığını sürdüren plaklar geçmişte sahip oldukları popülerliğe günümüzde yeniden kavuşmaya başlamıştır.

PLAKLARIN ORTAYA ÇIKIŞI VE YAYGINLAŞMASI

Vinil plakların hikayesi, 19. yüzyılın sonlarında, 1877'de Thomas Edison'un fonografı icat etmesiyle başlamıştır. Edison, icadında sesi depolamak ve yeniden üretmek için silindirik bir format kullanmıştır. Sadece bir yıl sonra, 1878'de Emile Berliner, gramofon kaydı için yassı diski piyasa sunmuştur. Bu ilk kayıtlar, gürültülü çalma sağlayan ve tek bir diskte depolanabilecek ses miktarını sınırlayan kırılgan bir malzemeden yapılmıştır (Osborne, 2016:55).

1930'larda polivinil klorürün (PVC) tanıtımı, kayıt endüstrisini dönüştürmüştür. PVC (veya vinil), kayıtlar için daha sessiz, daha dayanıklı bir malzeme sunarak daha uzun oynatma süreleri ve daha yüksek ses doğruluğu sağlamıştır (Akovali, 2012). 1948'de Columbia Records, bir yüzde 22 ilk dakikaya kadar ses depolayabilen, formatta devrim yaratan ve vinil plağın altın çağının yolunu açan 33 1/3 RPM uzun çalar (LP - Long Play) kaydını piyasaya sürmüştür (Hartsock, 2015:65).

Müzik alanında basit ama önemli bir buluş olan vinil plaklar, sesin polivinilkarbon veya PVC olarak bilinen esnek bir malzemeye işlenmesiyle yaratılmıştır. Ses, bir kaynaktan merkeze doğru dairesel bir hareketle özel bir iğne kullanılarak malzeme üzerine kazınarak vinil yüzeyinde oluklar oluşturarak iletilir. Her oluk, iğnenin titreşmesine neden olan belirli bir frekans değerine karşılık gelir ve ortaya çıkan manyetik akım, kartuştaki bobinler aracılığıyla ses dalgalarına dönüştürülür. Orijinal kayıt vinil üzerine yapıldıktan sonra, bir kalıp çıkarılır ve seri üretim için kopyalar oluşturmak üzere kullanılır (Winters, 2016:27).

Vinil kayıt kalitesinin önemli bir yönü, kayıt için kullanılan referans standardıdır. RIAA (Amerika Kayıt Endüstrisi Birliği) standartları, Rusya ve Japonya gibi bazı istisnalar dışında genel olarak dünya çapında kabul görmektedir. RIAA standartlarının ortaya çıkmasından önce, kayıtlar çok farklı ve

tutarsız kalite seviyelerinde üretilmiştir. Elektrikli gramofonlarla kullanılmak üzere tasarlanan 1938 öncesi kayıtlar, o kadar düşük frekanslı eğrilerle oluşturulmuştur ki, birçok ses kaydedilememiştir. Daha sonra genel kabul görmüş kayıt standardıyla 78 RPM kayıtları okumak için kullanılan frekans eğrisi olmuştur. Ancak bu da tüm kayıtlar için uygun olmadığından her şirket kendi frekans eğrisini oluşturmuştur. Hemen her şirketin kendi frekans aralığı ile kayıt yapması, ses kalitesinde tutarsızlıklara neden olmuştur. Bazı kayıtlarda keskin, rahatsız edici yüksek frekanslar bulunurken, diğerlerinde sürekli düşük frekanslı bir uğultu olmuştur. Bazı durumlarda ise müziğin baskın sesi nedeniyle vokaller neredeyse hiç duyulmuyordu. Bu tutarsızlıklar dinleyiciler arasında memnuniyetsizliğe ve kayıt sürecinde sorunlara yol açmıştır (Vogel & Vogel, 2011:21; Gravereaux, 1985).

RIAA frekans eğrisi veya RIAA Eşitleme, 1952'de RCA mühendislerinin bu tutarsızlıkları gidermek için standartlaştırılmış bir çözüm üzerinde çalışmaya başlamasıyla tanıtılmıştır. İdeale yakın bir frekans eğrisinin geliştirilmesi ile standardizasyona doğru ilk adımı atılmıştır. Tartışmalar devam ederken RIAA, RCA'nın önerdiği frekans eğrisini standart olarak kabul etme kararını açıklamıştır. Birçok teknik yön de standartlaştırılmış ve 1955 yılına kadar büyük şirketler RIAA standartlarını kabul etmiştir (Hoose, 2018:17).

1952'den itibaren, kayıt standartları için kabul edilen değerler Amerikan baskıları için aynı kalmış, ancak Avrupalı plak şirketleri 1960'lara kadar kendi standartlarını kullanarak plak üretmeye devam etmiştir. Ayrıca, birçok Asya ülkesi (Rusya ve Japonya hariç) bu standartları 1975 yılına kadar benimsememiştir.
Plaklar, 1950'li ve 1960'lı yıllarda kullanım açısından altın çağını yaşamıştır. Bu altın çağda standartların belirlenmiş olması ve 33'lük ve 45'lik plakların yaygınlaşması da etkili olmuştur. 45 RPM kayıtlar, 78 RPM kayıtlara rakip olarak 1949 yılında tanıtılmıştır. 1950'lerde RIAA (Amerika Kayıt Endüstrisi Birliği) standartlarının benimsenmesi, kayıt sürecini düzene sokarak endüstri genelinde daha tekdüze hale getirmiştir. Bu gelişme, 33 RPM kayıtları standart hale gelse de 45 RPM formatının devam etmesini sağlamıştır (Fleiner, 2014).



Şekil 1. İlk Üretilen Plak Formatları (33 1/3 – 78RPM – 45 RPM)

45 RPM kayıtlarının kalıcı öneminin bir nedeni, tarihsel değerleridir. 1950'lerde RCA, bazı Walt Disney film müziklerini 45 RPM kayıtlarına basmaya başlamış ve bu renkli, resimli kapaklar halkın dikkatini çekmiştir. Ayrıca 33 RPM albümleri çıkmadan önce sanatçılar ilk olarak 45 RPM plaklarında single çıkararak şarkının başarılı olup olmayacağını adeta kontrol etme imkanına

kavuşmuştur. Bu nedenle de birçok 45 RPM single yalnızca bir kez basılmış ve bunların ham, değiştirilmemiş versiyonları koleksiyoncu öğeleri haline gelmiştir (Granata, 2002:1329).



Şekil 2 . 45 RPM Plak

1960'lar, radyo ve müzik kutusunun ortaya çıkması nedeniyle 45 RPM kayıtlarının popülaritesinde bir canlanma görmüştür. Sanatçılar, radyoda yayın süresini güvence altına almak için şarkılarını hızlı bir şekilde yayınlamış ve bu da genellikle yılda birkaç 45 RPM single'ın yayınlanmasına yol açmıştır. Bu hızlı çıktı çok şarkıdan oluşan bir albüm derlemeyi zorlaştırmıştır. Ancak 45 RPM single'lar birçok müzisyen için piyasada tutunmak ve isimlerinin unutulmasının önüne geçmek için can simidi olmuştur. 33 RPM hıza sahip 7 inçlik plakları kullanan Müzik kutuları, sonunda 45 RPM'ye standardize edilmiş ve sanatçıların en popüler şarkılarının yıllarca özel müzik kutusu kayıtlarına kaydedilmesine yol açmıştır (Kaiser, 2017:62).



Şekil 3. Plak Kullanarak Çalışan Müzik Kutusu (Juke Box)

Vinil plakların yüksek kullanım ömrüne dikkat çekmek gerekir. Plaklar yüksek kullanım ömürlerini üretim sürecine ve dijital olarak veya manyetik bir taşıyıcı yerine fiziksel olarak kazınmış oluklarda veri depolamaya borçludur. Güneş ışığı, ısı ve toz, etkilenen bir kaydın dinleme deneyimini etkileyebilirken, vinil plaklar çoğu durumda, onlarca yıllık kullanımdan sonra bile oynatılabilir olmaktadır. CD'lerin beklenen maksimum ömrü 30 yıl, disketlerin 15 yıl, kasetlerin ise 10 yıl iken, vinil plaklar için bu süre 100 yıldır (Statista, 2022a).

Extended Play (EP) formatı özellikle alternatif müzik hareketleriyle bağlantılı olarak 1970'lerde ortaya çıkmıştır. EP'ler, 45 RPM single ile 33 RPM LP arasında bir ara format olarak hizmet etmiş ve tipik olarak dört ila beş şarkı içermiştir. Toplam süresi yarım saatin altındadır. EP'lerin ortaya çıkışı, bir albümü dolduracak kadar şarkıya sahip olmayan ve sınırlı materyallerini basmak için plak şirketleri bulmakta zorlanan alternatif müzik sanatçıları ve gruplarından büyük ölçüde etkilenmiştir. Bunun üzerine plak şirketleri EP'ler üretmeye başlamıştır. Bu EP'ler önce hızla popülarite kazanmış, ancak alternatif müzik akımlarının zayıflamasıyla düşüşe geçmiştir (Knowlton, 2020:2).

Gramofonun İstanbul'a gelişi 7-8 yılı (1896-97) bulmuştur. Osmanlı Devletine ilk önce Favorit ve Zonopgon gelirken sonrasında 1903 yılında Gramophon Concert Record gelmiştir. Bu müzik şirketleri tek yüzünde kayıtlı plaklar yayınlamıştır. Bu plaklarda Türkçe, Rumca, Ermenice, Arapça, Arnavutça eserler yer almaktaydı. Türkiye'de ilk plak kayıtları bir Alman ses teknisyeni olan Tantix İstanbul'da Yeni Cami önünde açtığı dükkanda gerçekleştirmiştir. 1905 yılında Beka adlı şirket Türkçe ve Yunanca, 1908 'de Odeon ve Lyrophon firmaları Türkçe, İspanyolca ve Yunanca plaklar kaydetmiştir. 1909 yılında ise Pathe , Türkçe plaklar üretmiştir (Bangir, 2021:13).

Muammer Karabey Türkiye'de 1950 yılına kadar taş plak ve gramofonun beklenin üzerinde bir talep gördüğünü söylemiştir. Karabey bu döneme kadar Türkiye'de plak ve gramofonların beklenenden daha fazla sattığını söyleyerek bunun nedeni ile ilgili olarak "*...bütün dünyada radyo verici istasyonları geliştiği ve yaygınlaştığı halde Türkiye'de gelişmemişti. Her yerde elektrik yoktu. Bazı belediyelerin küçük güçlü jeneratörleri akşamları ancak bir kaş saat için çalışmaktaydı. Önemli olan bu noktada radyo yayınlarının içeriği idi. Müzik olarak Batı müziği ağırlıklı yayın yapılıyordu. Halk bundan bir şey anlamıyordu. Müzik başladığında hemen radyosunu kapatıyordu. Gramofon ve plaklar kurtarıcı olmuştu*." Yorumunu yapmıştır. (Plaklık,2021:15).

PLAKLARA RAKİP FORMATLARIN ÇIKIŞI VE PLAKLARIN DÜŞÜŞ DÖNEMİ

20. yüzyılın ikinci yarısında müzik teknolojisinde hızlı gelişmeler yaşanmış bu da müzik tüketimi için baskın format olarak vinil plak kullanımının düşüşüne yol açmıştır.

Vinilin üstünlüğüne yönelik ilk büyük meydan okuma, 1960'larda kasetin piyasaya sürülmesiyle ortaya çıkmıştır. Philips tarafından geliştirilen kompakt kaset, vinil kayıtlara göre artan taşınabilirlik, satın alınabilirlik ve kullanım kolaylığı gibi çeşitli avantajlar sunmuştur. Kasetler, taşınabilir oynatıcılara kolayca takılabilme, bir kasetten diğerine kaydedebilme gibi özelliklere sahiptir.

Kaset formatı, formatın genç nesiller arasındaki popülaritesini daha da artıran şarkıların kişisel olarak küratörlüğünü yaptığı derlemeler olan mixtape'lerin kolayca oluşturulmasını ve paylaşılmasını sağlamıştır. Kasetlerin esnekliği ve rahatlığı, tüketicileri bu yeni formata yöneltmiştir. Eğilimle beraber plak satışlarında düşüş yaşanmıştır (Osborne, 2018:32).



Şekil 4. Plakların Popülerliğini Elinden Alan Kasetler (MC)

Vinil plaklara yönelik bir sonraki büyük tehdit, 1982'de Philips ve Sony'nin ortak girişimi olarak piyasaya sürülen kompakt disk (CD) olmuştur. CD'ler, daha yüksek ses doğruluğu, daha uzun çalma süreleri ve tekrarlanan kullanımla ilişkili aşınma ve yıpranmaya karşı dirençli ve daha dayanıklı bir format olduğundan hem vinil hem de kaset bantlara göre daha yüksek ses kalitesi sunan bir materyal

CD'ler ayrıca, dinleme deneyimini iyileştiren anında parça erişimi ve dijital hata düzeltme gibi özelliklerle daha uygun bir kullanıcı deneyimi sunmuştur. CD'lerin dijital doğası, hızla modernleşen bir toplum için formatın cazibesini daha da güçlendirerek, ortaya çıkan bilgisayar teknolojisiyle kolay entegrasyona izin vermiştir. 1980'lerin sonunda, CD satışları vinil plakları geçmiş ve büyük müzik şirketleri odak noktalarını CD'lerin üretimi ve dağıtımına kaydırmaya başlamıştır. Plak mağazaları, daha kazançlı CD formatı lehine plak envanterlerini kademeli olarak azaltmış ve pikap satışları da bir düşüş yaşamıştır (Straw, 2009:83).



Şekil 5. Philips & Sony İşbirliği İcat Edilen CD (Compact Disc)

1990'ların sonunda ve 2000'lerin başında dijital müzik dağıtımının ortaya çıkışı ve internetin yükselişi, vinil kayıtların düşüşünü daha da hızlandırmıştır. Türkiye özeline baktığımızda seksenlerin sonlarında vinil üretimi durmuştur. İki binli yıllarında başında kasetlerde yerini CDlere bırakmış ve 2010lu yıllarda kaset üretim tamamen durmuştur.

Dijital dönüşümün sonucunda ortaya çıkan MP3'ler dijital ses dosyalarının ve Napster gibi dosya paylaşım platformlarının piyasaya sürülmesiyle, müzik tüketicileri fiziksel formatlardan tamamen uzaklaşmaya başlamış ve dijital indirmelerin kolaylığını ve aracısızlığını benimsemiştir.

Spotify ve Apple Music gibi müzik akış hizmetlerinin geliştirilmesi, dijital müzik tüketiminin evrimleşmesine neden olmuş ve kullanıcılar fiziksel depolama veya mülkiyete ihtiyaç duymadan geniş müzik kitaplıklarına dijital ortamlardan erişmeye başlamıştır. Dijitalleşme ile beraber daha fazla insanın müzik ihtiyaçları için dijital ve akış platformlarına yönelmesiyle birlikte vinil kayıtlar ve diğer fiziksel formatlar da geçerliliğini yitirmiştir (Sarpong vd. 2016:112). CD üretimi Türkiye'de 2020 yılında tamamen durmuş ve CDlerde müzik tarihinde birer nostaljik imge olarak kalmıştır.

Dijital müziğin yükselişine rağmen, plaklar dünyada hiçbir zaman müzik piyasasından tamamen kaybolmamıştır. Plak meraklılarından oluşan özel bir topluluk, plağın dokunsal, analog doğasını ve sağladığı benzersiz dinleme deneyimini takdir ederek düşüşü boyunca formatı desteklemeye devam etmiştir.

21. yüzyılda kısmen nostalji ve formatın benzersiz niteliklerine yönelik artan takdirin körüklediği, vinil kayıtlara olan ilginin yeniden canlanması, teknolojik gelişmeler karşısında plağın dayanıklılığını bir kez daha gündeme getirmiştir. Plağa olan yenilenen ilgi, birçok yeni sanatçı ve plak şirketinin hayranlarla daha kişisel bir düzeyde bağ kurmak için formatı geri dönmüş ve albümlerini vinil olarak da yayınlamaya başlamıştır (Hendricks, 2016:485).

PLAKLARIN TOPLUMLARA OLAN KÜLTÜREL ETKİLERİ

20. yüzyılda plakların yükselişi, toplum ve kültür üzerinde derin bir etki yaratarak, yalnızca insanların müziği tüketme ve deneyimleme biçimini değil, aynı zamanda sanatı, modayı ve toplumsal hareketleri de etkilemiştir.

1948'de uzunçalar (LP) plakların piyasaya sürülmesi, müzisyenlerin yalnızca tek tek şarkılar yerine daha kapsamlı çalışma grupları oluşturmasını ve yayınlamasını sağlamıştır. Albüm odaklı müziğe doğru bu geçiş, sanatçıları daha derin tematik kavramları keşfetmeye ve bir albümün tüm uzunluğuna yayılan anlatılar geliştirmeye teşvik etmiştir. Vinil plaklar müzisyenlere sanatlarının sınırlarını zorlayarak yeni stiller ve yenilikçi üretim teknikleri denemeleri için bir platform sağlamıştır (Bartmanski & Woodward, 2018:5).

Albümlere yapılan vurgu, fiziksel kaydı sanatsal ifade için bir tuvale dönüştürerek, albüm çizimlerine ve tasarımına daha fazla odaklanılmasına da yol açmıştır. The Beatles'ın "Abbey Road", Pink Floyd'un "The Wall" ve Nirvana'nın "Nevermind" gibi klasikleşen albüm kapakları, yalnızca görsel olarak müziğin kendisiyle eşanlamlı hale gelmekle kalmamış, aynı zamanda popüler kültürü, modayı ve grafik tasarımını da etkilemiştir. Şarkı sözleri, sanat eserleri ve denemeler içeren astar notları ve ekleri, müzik ve sanatçının vizyonu hakkında ek bağlam ve içgörü sağlayarak dinleme deneyimini daha da zenginleştirmiştir (Moor, 2011).

Plakların ve pikapların erişilebilirliği ve satın alınabilirliği, çeşitli müzik alt kültürlerinin ortaya çıkmasında önemli bir rol oynamış ve gençlerin yeni sesleri ve tarzları keşfetmesi ve bunlarla özdeşleşmesi için bir araç yaratmıştır. Örneğin, 1950'lerde rock 'n' roll'un yükselişinde dönemin gençlerinin Elvis Presley, Chuck Berry ve Little Richard gibi sanatçıların en son yayınlarını hevesle

satın alıp paylaşmaları hem vinil plakların yaygınlaşmasına hem de sanatçıların tanınırlığına katkı sağlamıştır (Palmer, 2016:182).

1960'larda ve 1970'lerde karşı kültür hareketi, plağı toplumsal normlara meydan okuyan ve siyasi muhalefeti ifade eden müziği paylaşmak için bir araç olarak benimsemiştir. Bob Dylan, Joan Baez ve The Grateful Dead gibi sanatçılar bu formatı barış, sevgi ve protesto mesajlarını iletmek için kullanmış ve dönemin koşullarını tanımlamaya yardımcı olmuştur (Siegfried, 2006:58).

1970'lerin ve 1980'lerin başındaki punk rock hareketi de vinil plakların felsefesinin punk'ın asi ruhuyla uyumlu olması nedeniyle, büyük ölçüde vinil kayıtlara dayanmıştır. Bağımsız plak şirketleri ve sanatçılar, müziklerini yayınlamak için genellikle el yapımı ambalajlar ve sınırlı sayıda baskı ile vinil baskının görece uygun fiyatını kullanmıştır. Bu taban yaklaşımı, bu nadir ve özel yayınları hevesle arayan punk hayranları arasında bir topluluk ve kimlik duygusunun gelişmesine yardımcı olmuştur (Dale, 2018:29).

Vinil plaklar, DJ kültürünün gelişmesinde ve dans müziğinin evriminde çok önemli bir rol oynadı. 1970'lerde Kool Herc, Grandmaster Flash ve Larry Levan gibi öncü DJ'ler, hip-hop ve modern dans müziğinin temelini oluşturan yeni sesler ve teknikler yaratmak için vinil kayıtları kullanmıştır. Karıştırma, çizme ve vuruş eşleştirme, plağın dokunsal doğası sayesinde mümkün hale gelmiş ve DJ'lerin müziği diğer formatlarda mümkün olmayan şekillerde manipüle etmesine izin vermiştir (Kajikawa, 2015:354).

1980'lerde ve 1990'larda elektronik dans müziğinin (EDM) popüler olması da büyük ölçüde vinil kayıtlardan etkilenmiştir. Yapımcılar ve DJ'ler, müziklerini paylaşmak ve dağıtmak için, genellikle beyaz etiketli baskılar ve sınırlı sürümler aracılığıyla bu formatı kullanmışlardır. Vinil plaklar, kulüp kültürü deneyiminin çok önemli bir parçası haline gelmiştir (Shuker, 2017:19).

Plağın yeniden dirilişi, klasik albümlerin ve belirsiz kayıtların korunmasına ve yeniden yayınlanmasına olan ilginin artmasına neden olmuştur. Plak şirketleri ve arşivciler, önceki nesillerin müziğinin gelecekteki izleyiciler için erişilebilir olmasını sağlamıştır. Bu kapsamda müzik endüstrisi tarihi kayıtları geri yüklemek ve yeniden düzenlemek için vinil plakları aktif olarak kullanmaktadır. Plaklara olan ilginin yeniden artması, aynı zamanda çağdaş müzisyenlere formatı yeniden keşfetmeleri için ilham vermiş, çalışmalarını genellikle dijital platformlara ek olarak plak üzerinde yayınlamalarını sağlamıştır (Brzezinski, 2020:137).

Vinil plakların kültürel etkisinin bir başka önemli yönü de dinleme deneyiminin sosyal doğasıdır. Genellikle bireysel olarak kulaklıkla ve mobil ortamda tüketilen dijital müziğin aksine, vinil plaklar müziğin toplumsal dinlenmesini de teşvik etmektedir. Bir plak seçme, pikap üzerine yerleştirme ve iğneyi dikkatli bir şekilde yerleştirme süreci, arkadaşlar ve aile arasında konuşmayı ve bağlantıyı besleyen, paylaşılan, kasıtlı bir dinleme deneyimi yaratır (Bartmanski & Woodward, 2018).

Son yıllarda, barlarda ve kafelerde "dinleme partileri" ve "vinil geceleri" gibi plak odaklı sosyal toplantıların yükselişi, formatın toplumsal yönünü daha da güçlendirmiştir. Bu etkinlikler, müzik tutkunlarının bir araya gelip müzikle ve birbirleriyle bağlantı kurabileceği, genellikle çalınmakta olan kayıtlarla ilgili hikayeleri, anıları ve içgörüleri paylaşabilecekleri bir alan sağlamaktadır. Vinil plaklar eşliğinde yapılan etkinlikler aynı zamanda bir sosyalleşme aracı da olmaktadır.

PLAKLARIN YENİDEN POPÜLER OLMASINA ETKİ EDEN FAKTÖRLER

21. yüzyılın başlarında müzik dünyası formatın benzersiz niteliklerinin takdir edilmesi ve daha dokunsal ve ilgi çekici bir müzik deneyimi sunması nedeniyle vinil plaklara beklenmedik bir biçimde yeniden ilgi duymaya başlamıştır.

Vinil plakların adeta yeniden dirilişinin ardındaki ana faktörlerden biri, analog kayıtlarla ilişkilendirilen sıcak, zengin ses kalitesinin giderek daha fazla önemsenmeye başlamasıdır. Pek çok odyofil (ses cihazları meraklısı), CD'lerde ve dijital müzik dosyalarında kullanılan dijital sıkıştırmanın, vinil plakların derinliğinden ve sıcaklığından yoksun, steril, cansız bir sesle sonuçlandığını savunmaktadır. Bu da vinil plakların yeniden yükselişe geçmesinde etkili olan ilk faktör olmuştur (Mall, 2021:75).

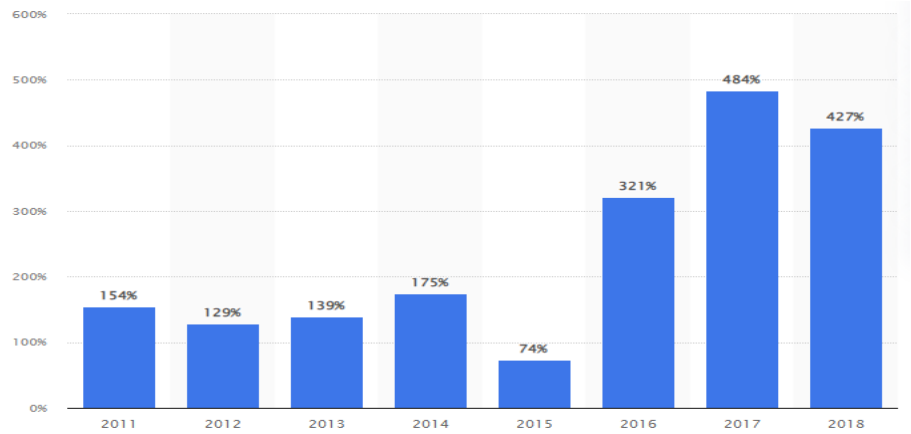
Vinil kayıtlara olan ilginin yeniden canlanması, birçok dinleyicinin analog kayıtların daha organik ve nüanslı olduğunu düşünmesi ve dijital müziğe tepki vermesinden olmuştur. Vinile olan bu dönüş hem yeni hem de eski baskılara yönelik talebin artmasına yardımcı olarak vinil satışlarında patlamaya ve formatın yeniden canlanmasına yol açmıştır (Guo, 2023).

Vinil satışlarının artmasına etki eden diğer önemli faktör, plak dinlemeyle ilgili ritüel ve deneyimlerin sonucunda ortaya çıkan nostalji duygusudur. Birçok eski müzik hayranı için, bir plağı seçme, onu bir pikap üzerine yerleştirme ve iğneyi dikkatlice plak üzerine yerleştirme eylemi, müzik tüketiminin daha basit, daha dokunsal bir çağınının anılarını çağrıştırmaktadır.

Genç nesil için plak deneyimi, dijital müzik platformlarının bağımsız, ekran tabanlı etkileşimlerine yeni ve ilgi çekici bir alternatifi temsil etmektedir. Vinil plakların dokunsal doğası ve bununla ilişkili dinleme ritüelleri, müzikle daha derin bir bağ kurmuş dinleyicilerin ortamın fizikselliğine eşlik eden sanat esere odaklanmasını sağlamıştır (Komara, 2015:337).

Plakların dirilişi, formatın özel müzik hayranlarıyla bağlantı kurma ve kendilerine ana akım müzik perakendecilerinden ayırma potansiyeli yaratan bağımsız plak mağazaları ve plak şirketlerinin desteğiyle de desteklenmiştir. Büyük zincirler ve büyük perakendeciler giderek artan bir şekilde dijital müzik ve CD'lere odaklandıkça, bağımsız mağazalar vinil plakları savunarak ve plak tutkunlarının ihtiyaçlarını karşılayarak kendilerine bir niş hedef kitle oluşturmuştur. Plağa yönelik bu destek, sınırlı sayıda baskı, renkli plak ve diğer özel yayınları hevesle arayan plak koleksiyoncuları ve müzik hayranları arasında bir topluluk duygusunun gelişmesine de yardımcı olmuştur (Hendricks, 2016:487)

2007'de Plak Mağazaları Günü (Record Store Day) hareketinin kurulması, bağımsız plak mağazaları ve plak formatını çevreleyen kültürü ve topluluğu teşvik ederek vinil plakların yeniden gündeme gelmesine katkıda bulunmuştur. Her yıl Nisan ayında düzenlenen Record Store Day ile bağımsız plak mağazaları, yerel müzik ortamını canlandırma ve sanatçıları hayranları ile buluşturma imkanına kavuşmuştur. Katılımcı plak mağazaları, her yıl özel etkinliklere, canlı performanslara ve özel plak yayınlarına ev sahipliği yaparak, dünyanın dört bir yanından plak koleksiyonerlerini ve müzik tutkunlarını kendine çekmektedir. Record Store Day'in başarısı, plağın yeniden dirilişi konusunda farkındalığın artmasına ve formatın müzik endüstrisinin hayati ve kalıcı bir parçası haline gelmesine de yardımcı olmuştur (Bates, 2020:692).



Şekil 6. ABD'de Record Store Day haftasında Bağımsız Plak Mağazalarında Plak Satışlarında Yaşanan Artış (2011-2018) (Statista, 2021a)

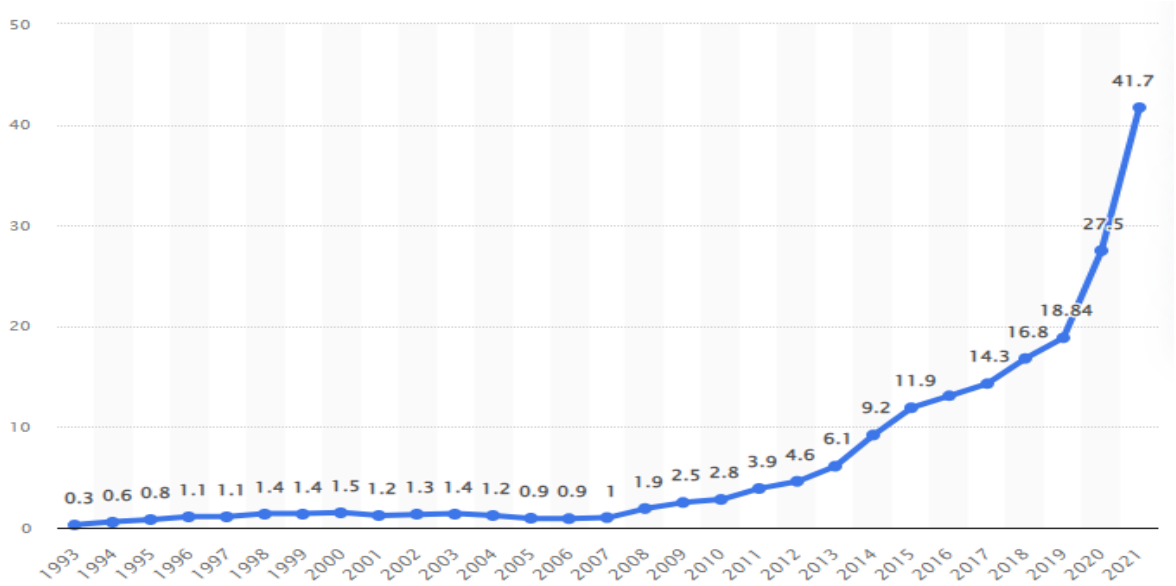
Plakların dirilişi, müzik endüstrisi üzerinde önemli bir etkiye sahip olmuş ve birçok kişinin yok olmanın eşiğinde olduğunu varsaydığı bir formata yeni bir soluk getirmiştir. Hem büyük plak şirketleri hem de bağımsız sanatçıların yeni sürümler ve yeniden basımlar için formatı giderek daha fazla benimsemesiyle plak satışları son yıllarda istikrarlı bir şekilde artmıştır.

Plakların yeniden popüler olması pikap teknolojisinde ve vinil baskı tekniklerinde de ilerlemelere yol açarak daha yüksek kaliteli kayıtlar ve daha rafine bir dinleme deneyimi sağlamıştır. İnovasyon ve kaliteye olan bu devam eden bağlılık dijital müzik ve akış hizmetleri çağında bile plak formatının müzik tutkunları için geçerli ve çekici kalmasını sağlamaya yardımcı olmuştur (Sarpong,vd, 2016:116). Vinil plağın canlanması plaklara artan ilginin bir sonucu olarak plak satışlarında yaşanan artış bağımsız plak mağazaları üzerinde de olumlu bir etki yaratmıştır. Bu mağazalar yerel müzik toplulukları için hayati merkezler haline gelmiş ve hayranların ve sanatçıların bağlantı kurması, yeni müzik keşfetmesi ve ortak plak tutkusunu kutlaması için bir alan sağlamıştır (Hendricks, 2016:483).

Plakların yeniden yükselişi ile ilgili olarak Whitehouse (2023:38), Birleşik Krallık Indie pop müzik sahnesinin üyeleri olan ve seçtikleri albüm resimlerini tartışmayı teşvik etmek için sahne malzemesi olarak kullanan 14 aktif plak tüketicisiyle derinlemesine, yarı yapılandırılmış görüşmeler gerçekleştirmiştir. Araştırmadan elde edilen bulgulara göre katılımcılar, belirli bir müzik için çıkış gününü heyecanla beklemeyi içeren bir plak satın alma eyleminin beklentisini sevmektedir. Plak tüketicileri, ortamın fizikselliği ve geçmişte müziği elde etmek için gereken çabayı vurgularken, plaklara bağlılığın plak kültürünün daha geniş sosyal ve kültürel yönlerini kapsayan belirli bir yayına giden yoldaki ritüellerden oluştuğunu dile getirmiştir. Araştırmaya katılanlar ayrıca onları aile üyeleriyle ilişkilendirdiği ilk plak satın aldıkları günlerin ve satın alma eylemini gerçekleştirirken karar verme süreçlerinde albüm kapağının önemini vurgulamıştır. Katılımcılar, plak tüketiminin tüketicilere yalnızca dinleme sürecinde aracılık etmediğini, aynı zamanda satın alma öncesi ritüelleri atlatma ve bir plak üzerinde şansını deneme seçeneği de sunduğunu belirmiştir. Bir plağı yalnızca kapağına göre satın almanın doğallığı plak tüketiminin önemli bir yönü olarak görülmüş ve dinleyici ile müziğin doğrudan bağlantılı olduğu dile getirilmiştir.

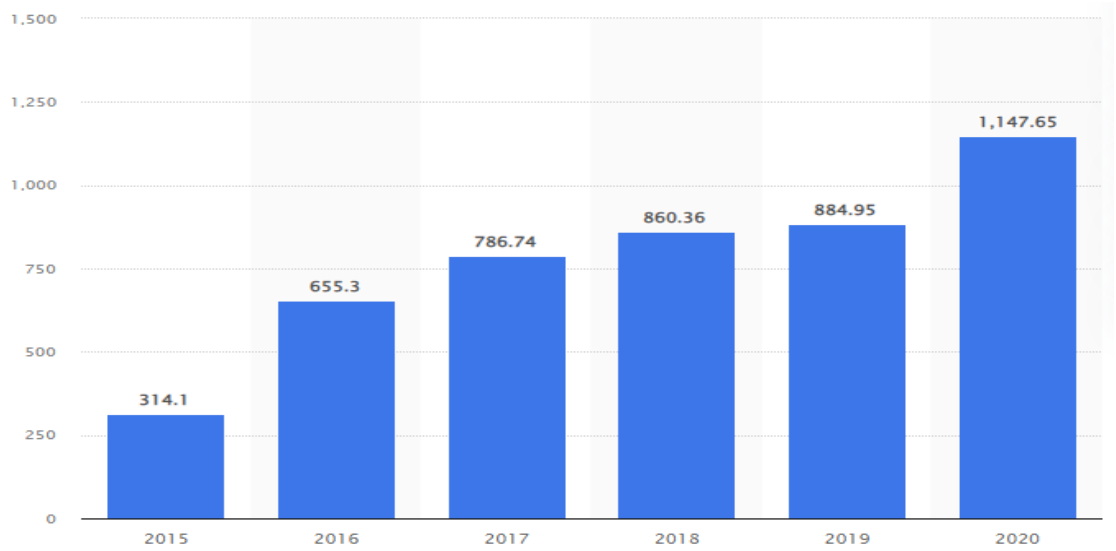
MÜZİK ENDÜSTRİSİNDE VİNİL PLAK SATIŞLARI

Plakların yeniden popüler hale gelmesi, satış rakamlarından da kolaylıkla görülmektedir. Şekil 7'de ABD'de LP / Albüm satışlarının 1993-2021 dönemi satış rakamları görülmektedir. Şekil 7'den görüldüğü üzere 1993 yılında ABD'de LP satışları 300 bin seviyesindeyken dalgalı bir seyirle artmaya başlamış, 2000 yılında 1,5 milyon adetle en yüksek sayıya ulaşmış sonrasında ise düşüşe geçmiş, Plak satışları 2007'de tekrar 1 milyon seviyesine çıktıktan sonra hızlı bir yükseliş dönemi yaşanmıştır. 2021 itibariyle ABD'de LP satışları 41,7 milyon adete kadar çıkmıştır. Bu sayı 2020 yılında 27,5 milyon adettir ki, sadece bir yılda %50'lik artış anlamına gelmektedir.



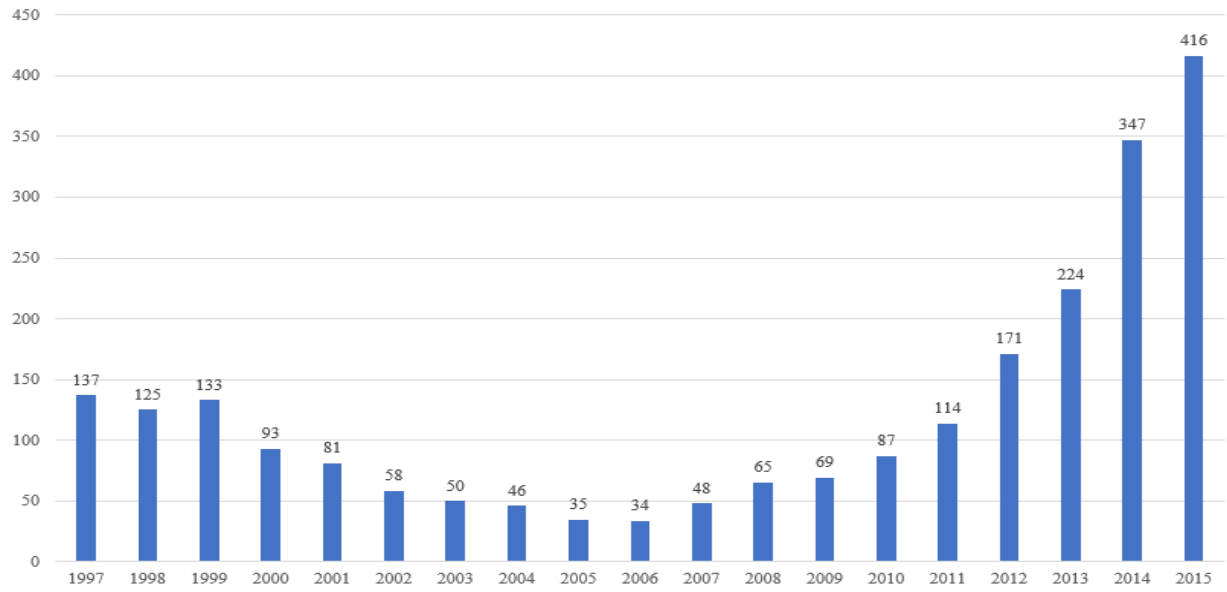
Şekil 7. ABD'de LP (Vinil Plak) Satışları (1993-2021) (Milyon Adet) (Statista, 2023b)

Avustralya'daki satış rakamları incelendiğinde ise 2015 yılında 314 bin adet olan LP satışlarının 2020 yılında 1 milyon 147 bin adete ulaştığı görülmektedir. Dolayısıyla Avustralya'daki LP satışları, sadece 5 yılda üç kattan fazla artış göstermiştir.



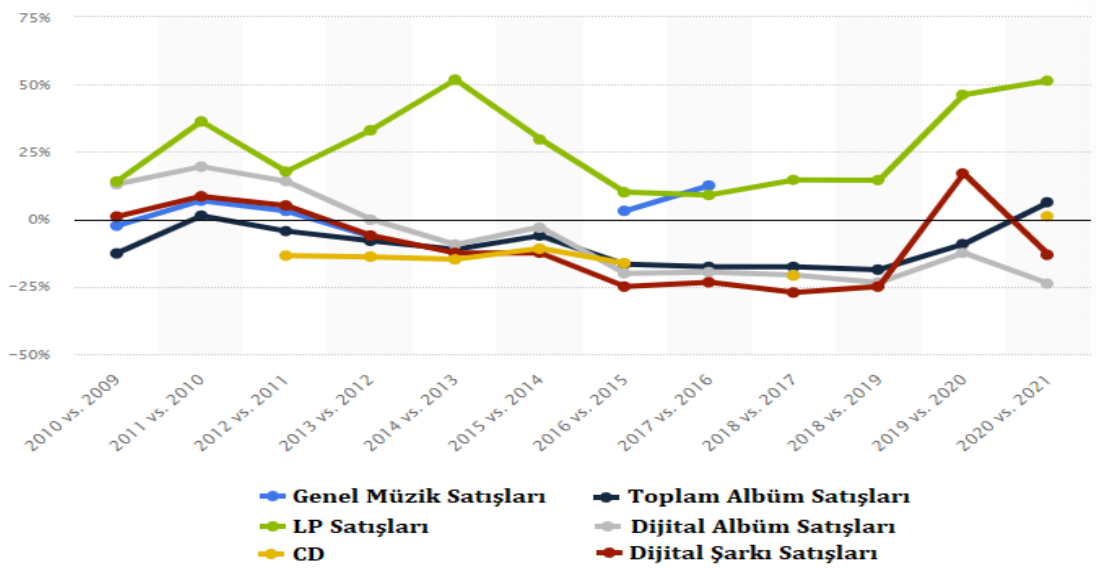
Şekil 8. Avustralya'da LP (Vinil Plak) Satışları (Bin Adet) (Statista, 2022b).

LP satışlarının dünyadaki seyrine bakıldığında 1997-2015 yılları arasında en düşük seviyeyi 35 milyon adet ile 2005 yılında gördüğü, 2005 yılı itibariyle yükseliş trendine girildiği ve 2015 yılında 416 milyon adete kadar ulaştığı görülmektedir.



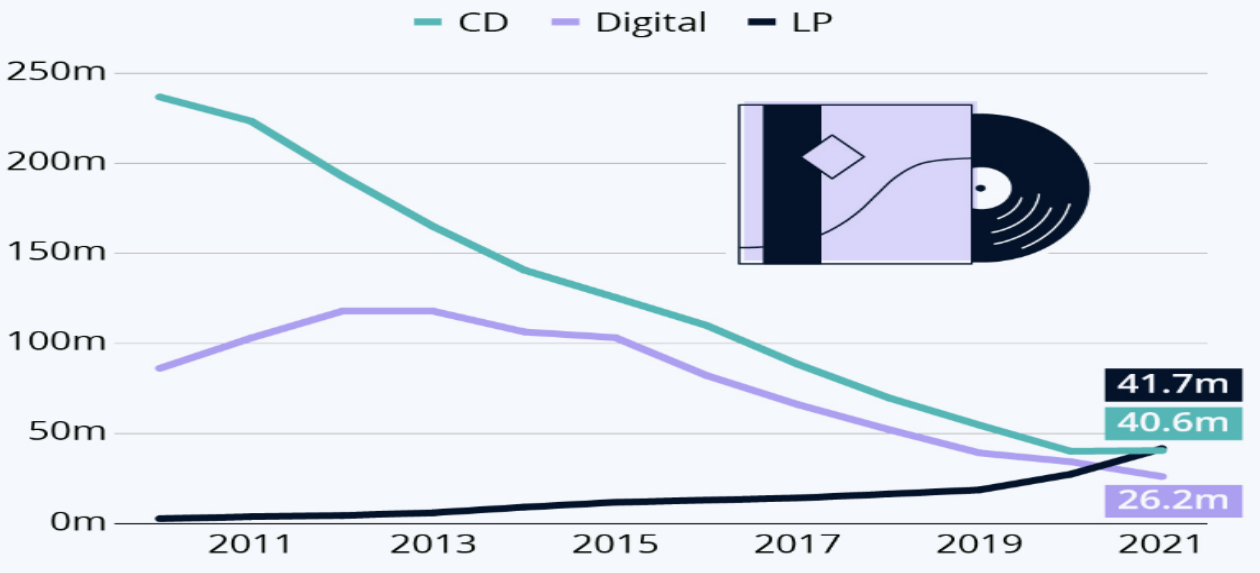
Şekil 9. Dünyada LP (Vinil Plak) Satışları 1997-2015 (Milyon Adet) (Statista, 2016).

ABD'de kategorilere göre müzik satışlarının yüzdelik değişimleri Şekil 10'da sunulmuştur. Buna göre 2021 yılında bir önceki yıla göre LP satışları %51,4'lük bir artış görmüş, en büyük satış kaybı ise %23,9'luk bir kayıpla dijital albüm satışlarında yaşanmıştır.



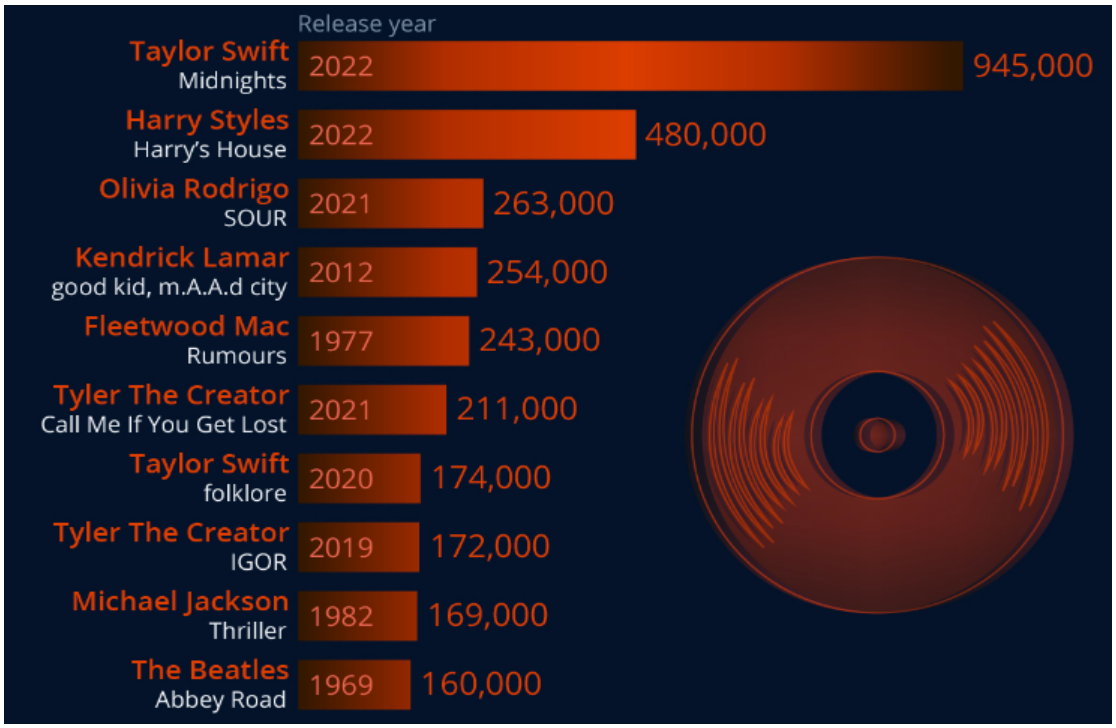
Şekil 10. ABD'de Kategorilere Göre Müzik Satışlarının Değişimi (%) (2009-2021) (Statista, 2023a).

Amerika Birleşik Devletleri'nde son on yılda, müzik akışı hizmetlerinin artması nedeniyle genel albüm satışlarında bir düşüş görülmüştür. Bununla birlikte, vinil LP'ler, özellikle dijital çağda müzik tüketiminin fiziksel bir düzenlemesi olarak popülerliğini arttırmıştır. Veriler, 2007 ile 2021 arasında albüm satışlarının 501 milyondan 109 milyona düştüğünü, LP satışlarının ise 2,5 milyondan 41,7 milyona yükseldiğini ve bu durumun, dinleme hizmetlerinin yükselişinde plağın en başarılı fiziksel format olduğunu göstermektedir (Statista, 2022b).



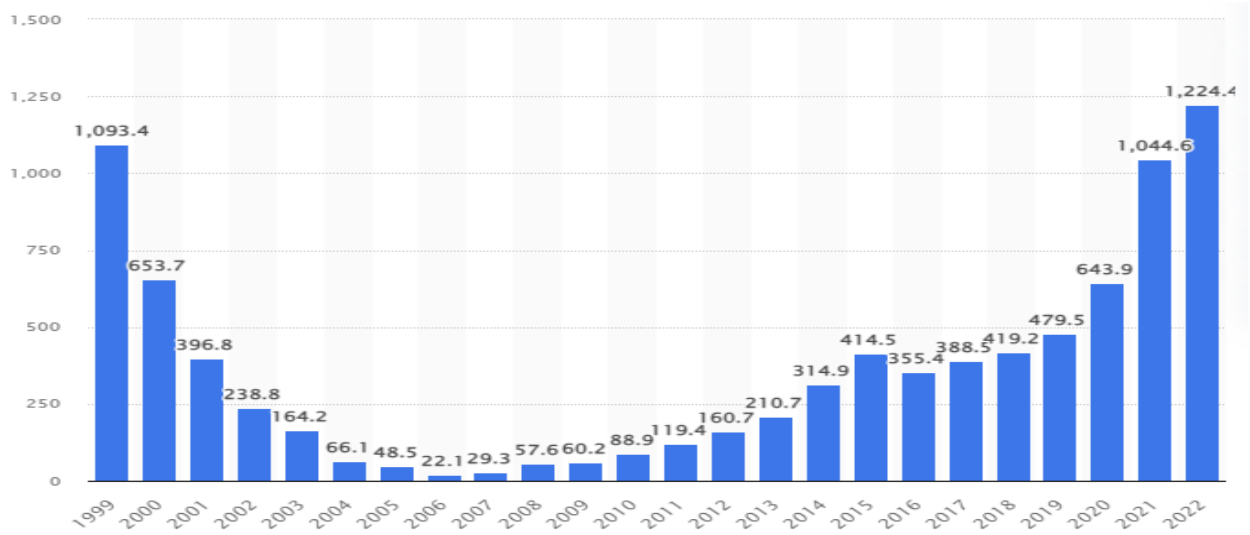
Şekil 11. CD ve LP Satışları (Statista, 2022b)

2022 yılında ABD'de en çok satılan plaklar, Taylor Swift'in "Midnights" adlı albümü (945 bin), Harry Styles'ın "Harry's House" adlı albümü (480 bin adet) ve Olivia Rodrigo'nun "SOUR" adlı albümü (263 bin adet) olmuştur. Kendrcik Lamar, Fleetwood Mac, Tyler The Creator, Michael Jackson ve Beatles'ın albümleri de en çok satan plaklar listesine giren diğer sanatçılardır.



Şekil 12. 2022'de ABD'de En Çok Satılan Plaklar ve Çıkış Yılları (Statista, 2023c).

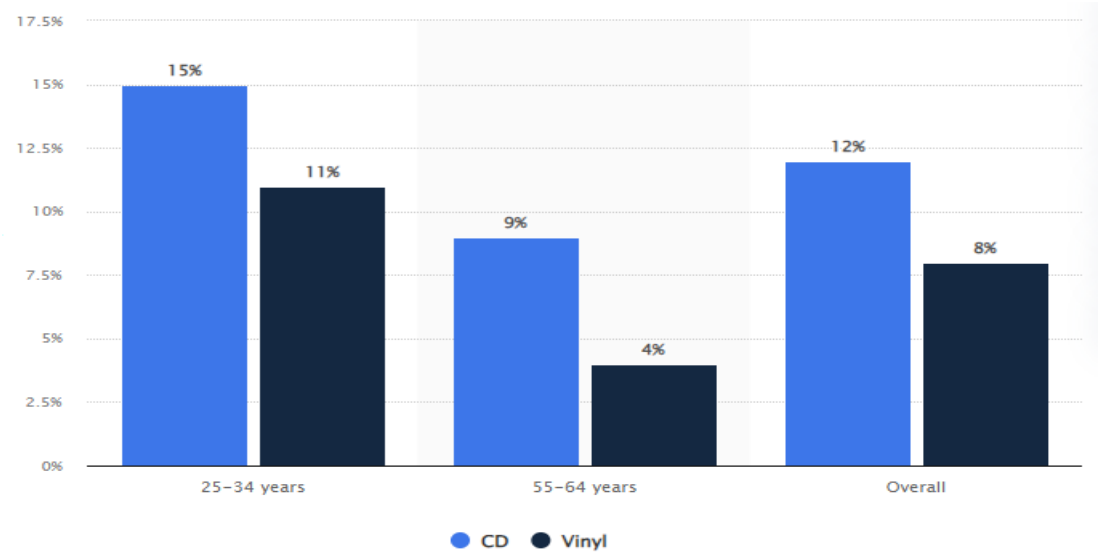
Şekil 12'de ABD'de LP satışlarından elde edilen cironun 1999 yılından günümüze gelişimi görülmektedir. Buna göre 2006 yılında yalnızca 22,1 milyon USD olan vinil plak cirosu, 2022 yılına gelindiğinde 1 milyar 224 milyon USD'ye ulaşmıştır.



Şekil 12.ABD'de LP Satışlarından Elde Edilen Ciro (1999-2022) (Milyon USD) (Statista, 2023c).

Statista tarafından Ekim 2021'de yapılan bir araştırmaya göre araştırmaya katılanların yüzde 12'si anketten önceki ay bir CD satın alırken, ankete katılanların yüzde sekizi geçen ay bir plak satın aldığını belirtmiştir. Geçen ay bir LP satın aldığını belirtenlerin %11'i 25-34 yaş aralığındayken, %4'ü

ise 55-64 yaş aralığındadır. Dolayısıyla LP (vinil plak) satışları gençler arasında yeniden popüler hale gelmeye başlamıştır.



Şekil 13. Dünya Çapında Bir Önceki Ay CD ya da LP Alanların Yaş Grubuna Göre Oranı (Statista, 2021b).

Türkiye'de de vinil plakların satışında ciddi bir artış görülmektedir. Tablo 1'de 2000 – 2022 yılları arasında Türkiye'de resmi olarak üretilen ve yurt dışından ithal edilen bandrollü vinil plak satışları görülmektedir. 2000'li yılların başında Türkiye'de yeni üretilen veya resmi yollarla ithal edilen bandrol alan ve satılan plak sayısı sıfırdır. Bu dönem sadece sahaflarda satılan ikinci el plaklar ve bavul ticari ile getirilen plaklar satılmıştır.

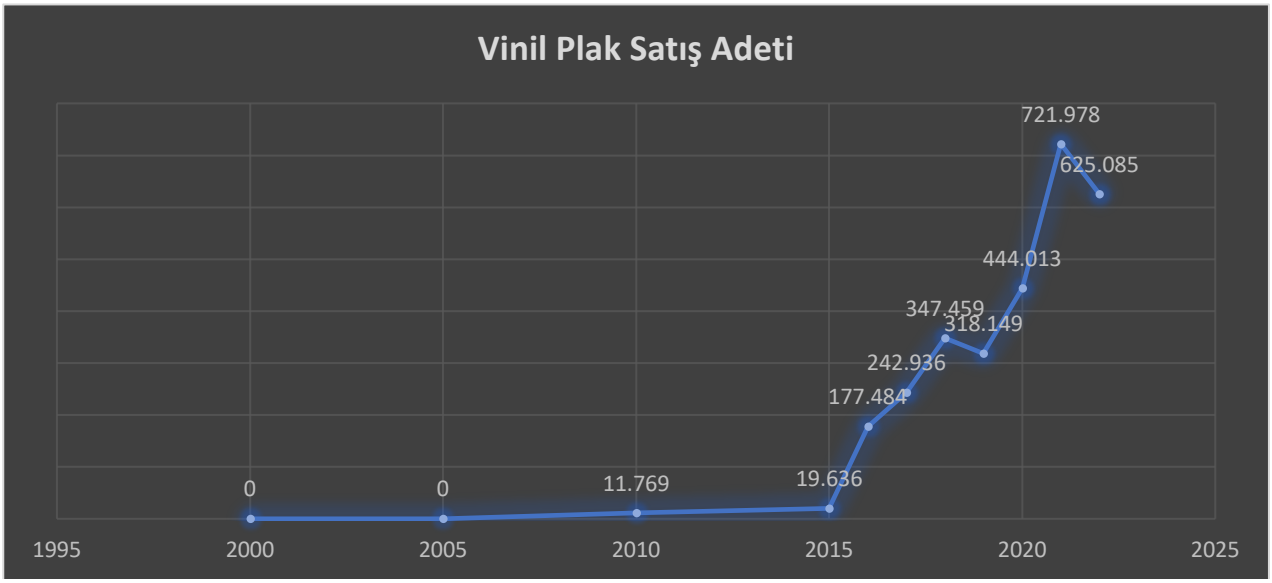
2010'lu yıllarda daha çok yurt dışından ithal edilen bandrollü vinil plaklardan kaynaklanan bir talep ortaya çıkmış ve 11 bin 769 adet plak satılmıştır.

Tablo 1. Türkiye'de Vinil Plak Satışları (2000-2022) (Müyap Raporlarından Derlenmiştir)

Yıl	Vinil Plak Satış Adeti
2000	0
2005	0
2010	11.769
2015	19.636
2016	177.484
2017	242.936
2018	347.459
2019	318.149
2020	444.013
2021	721.978
2022	625.085

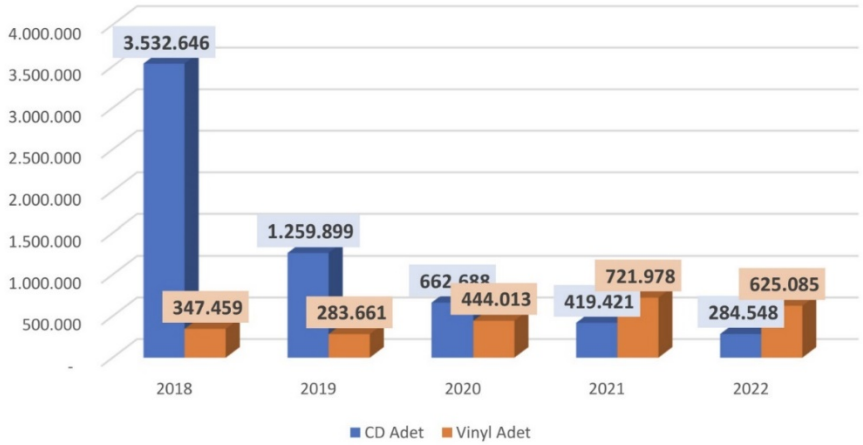
Müzik sektöründe plak satışlarında dünya çapında yaşanan yükseliş hem sektörün hem de akademinin dikkatini çekmiş ve bu alanda çeşitli araştırmalar yapılmıştır. Bunlardan bir tanesi MusicWatch isimli araştırma kuruluşu tarafından ABD yapımcılık sektörünü temsil eden RIAA ve ticaret kuruluşu olan Music Business Association desteğiyle yapılan araştırmadır (Müzikanaliz). 7-31 Mart 2022 tarihleri arasında 1.400 kişi arasında yapılan araştırmaya göre 2021 yılında 13 yaşından büyük 18 milyon kişi plak satın almıştır. Bu, bir önceki yıla göre %27 artış anlamına gelmektedir. Plak satın alan müşterilerin %71 oranındaki kesimi yeni üretilen plaklar alırken kullanılmış plak alanların oranı % 67 oldu. Plak satın alanların % 95'i plak satın almaya devam edeceğini belirtmiştir. Müşterilerin %38'lik bölümü on yıldan daha uzun süredir plak satın alırken, on ila üç yıl arası bir süredir plak satın alanlar % 30, daha kısa bir süredir satın alanlar ise % 32 oranında olmuştur. Plakları sahip olma dürtüsüyle satın aldığını söyleyenler % 16, koleksiyon ve dinlemek için aldığını söyleyenler ise % 21 oranındadır. Araştırmanın en ilginç yanlarından biri ise plak satın alanların yarısının 25 yaş altında olması. Bu veri genç kitlelerin de plak alıcısı olduğunu göstermektedir.

Türkiye'de 2015 yılında yerli plak talebinin artmasına paralel olarak üretimde de artış yaşanmıştır. Aynı yıl 19 bin 636 olan toplam plak satışı her yıl artmaya devam etmiştir. 2016 yılında 177 bin 484 adet olan plak satışı 2017 yılında 242 bin 936 , 2018 yılında 347 bin 459' kadar çıkmıştır. 2000 yılında Covid-19 pandemisinin perakende sektörünü olumsuz etkilemesine rağmen plak satışlarında önceki yıla göre artış yaşanmıştır. Türkiye'de plak satışlarında yaşanan asıl artış 2021 yılında yaşanmıştır. O yıl 721 bin 978 adet plak satılmıştır. Bu bir önceki yıla göre yüzde 62.6 oranında artış anlamına gelmektedir.



Şekil 14. Türkiye'de Vinil Plak Satışlarında Yaşanan Artış

Plaklara olan talep 2020'li yıllarda CD satışlarının da önüne geçmiştir. 2020 yılına kadar Türkiye'de plaklardan daha çok CD satılırken 2021 yılında ilk kez plakların satışı CD'yi geçmiştir. 2021 yılında 721 bin 978 adet plak satılırken 419 bin 421 adet CD satılmıştır. CD satışlarında görülen düşüş 2022 yılında da devam etmiştir. 2022 yılında CD satışları 284 bin 548 adete gerilerken plak satışları 625 bin 85 adete çıkmıştır.



Şekil 15. Türkiye'de Plak – CD Satışları (Adet) (2018-2022)

2015 yılı ile plaklara olan talebin artış göstermesi üzerine Afşin Akın ve Salih Karagöz adlı iki müzik tutkunu bir ortaklık kurarak sadece plak yayınlayan bir yapım şirketi kurdu. Rainbow&45Records adlı şirket ilk olarak Bülent Ortaçgiş ve Yavuz Çetin'in albümlerini plak formatında yayınladı. Yatırımı yapan Afşin Akın "Özellikle gençlerin ilgisi çok. Çabuk tüketiyoruz her şeyi. Bu, uzun vadede tatminsizlik getiriyor. İnsanlar kalıcı, kendileri ile ruhsal ve duygusal bir ilişki kurabilecek bir şeyler istiyor. Plak da bunun başında geliyor." (Sabah,2016:5) yorumunu yapmıştır.

Dünyaya paralel olarak Türkiye'de plak satışlarında yaşanan artış ile ilgili sektör temsilcilerinden Zihni Şahin (Zihni Müzik) "Son yıllarda plak satışlarında oldukça fazla satış var. Gerçeği söylemek gerekirse bunun sebebi CD satmamaya başlayınca müzik kalitesi pazarlandı ve plak ön plana çıktı. Plakların ses kalitesi gerçekten çok iyidir" yorumunu yaparken Hakan Atala (Lale Plak) "Plak satışlarında son on yıldır hızlı bir artış var. Koleksiyonerlerin yanında gençler de plaklara ilgi duymaya başladı. Ancak şunu da söylemeden geçemeyeceğim. Türkiye'de her şeyin bir modası var ve süresi dolunca unutuluyor. Umarım bu plaklar içinde geçerli olmaz ve gençler daimi birer plak tutkunu olur" (HaberTürk,2016:9) yorumunu yapmıştır.

Faruk Bangi (2021) bir plağı pikaba koyduğumuzda kulağa gelen ilk notanın inanılmaz bir netlikte duyulduğunu söylerken bunun nedeninin plak kayıtlarının dijital değil analog yapılması olduğuna vurgu yapmıştır. Analog kayıtların her notayı hakkı ile dinleyiciye ulaştırdığını söyleyen Bangi, " hiç bir ses diğerine karışmaz ve büyük bir ahenk içerisinde kulağınızdan beyninize işler. İşte bu yüzdendir ki müziğin saf sesini duymak istiyorsanız plak dinlemelisiniz" demiştir.

Her yıl sonbaharda İstanbul'da düzenlenen Plak Festivalini düzenleyen Şişli Belediye Başkanı Muammer Keskin 2021 yılında düzenledikleri ilk plak festivalinin Türkiye'de plaklara olan talebin artmasıyla beraber daha önemli bir hale geldiğini söylerken plakların müzik endüstrisinin en önemli formatlarından biri olduğunu belirmiştir. Keskin "Plak dünyasının çok özel bir kitlesi var. Bu kitle müziğe güçlü bağlarla bağlılar. Günümüz popüler kültürünün hızla tükettiği eserlerden ziyade müzik dünyasında iz bırakmış ve kilometre taşlarını oluşturan eserlerden büyük haz alan bir topluluk" (Söylemezoğlu, 2021:5) yorumunu yaparak plak dinleyicisinin müzik endüstrisindeki konumunu tanımlamıştır.

ARAŞTIRMANIN AMACI VE YÖNTEMİ

Bu çalışmada müzik endüstrisinde iki bin onlu yıllarda Türkiye'de yeniden gündeme gelen ve satışlarını arttıran vinil plakların yaşadığı bu talebin nedenleri araştırılmıştır. Araştırmada "Vinil plaklar neden tekrar popüler oldu?" ve "Vinil plak satışları gelecekte CD satışlarını geçecek mi?" sorularına yanıt arandı. Bu kapsamda 81 kişiyle derinlemesine mülakatlar yapıldı. Yapılan mülakatlarda demografik sorular dışında araştırmanın konusunu kapsayan beş tane soru sorularak katılımcıların fikirleri derlendi. Araştırmanın örneklemi İstanbul'da Haliç Üniversitesi Konservatuarı'nda eğitim gören yaşları 19 ila 30 arasında müzik eğitimi alan gençlerden oluşmaktadır. Araştırmanın bir diğer amacı da müzik eğitimi alan gençlerin gözünden müzik endüstrisinde müziğin dağıtımın geleceği ile ilgili bir öngörüler toplamaktır. Elde edilen bulgular derlenerek araştırmanın bulgular bölümünde betimlenmiştir.

Araştırmada Elde Edilen Bulgular

Çalışma için yapılan araştırmada elde edilen bulgulara baktığımıza katılımcılar Türkiye ve dünyada vinil plakların tekrar popüler olması ile ilgili olarak genel anlamda olumlu bir düşüncede oldukları görülmüştür. Bu yükselişin haklı bir yükseliş olduğuna değinen katılımcılar plakların tekrar popüler olmasının nedenleri arasında insanların içinde olan nostalji duygusunun plaklarla simgeleşmesi, plaktan dinlenen müziğin daha net ve kaliteli bir dinleti imkanı sunduğunu ve müziğe dokunma iç güdüsünün plaklar sayesinde gerçekleştirmesini öne çıkmaktadır. Araştırmada elde edilen bulgular ve mükalatlarda geçen diğer ifadeler ise tablo 2'de derlenmiştir.

Tablo 2. Plakların Yeniden Popüler Olması ve Satışlarının Artmasının Nedenleri

Bu bence bir moda ve bir akım oldu
Dünya genelinde belli aralıklarla geçmişe dönme, nostaljiyi anma gibi akımlara meyillidir bu nedenle plaklara rağbet oldu
Plak dinlenirken üzerine konan iğnenin vermiş olduğu cızırtı bile belki insanların dinlediği müzikten aldığı lezzeti kat kar arttırmaktadır.
Plaklar arşiv özelliği taşımaktadır.
Müzik tutkunlarının müziği 'kullan at' olarak görmeyip elle tutulur olarak gördükleri için plaklara yönelmişlerdir.
Arşiv oluşturmak, albümü eline alıp künyesini inceleyebilmek için plakları tercih etmişlerdir.
Cdlerin ömrü plaklara göre daha kısadır. Rahar çizilmesi ve bozulması , ses kalitesinin düşmesi nedeniyle insanlar plaklara yönelmiştir.
Plak satışları yeni nesil gramofon, pikaplara olan talebin artması ile beraber artmıştır.
Eski kayıtların ve albümlerin yeniden basılması plak satışlarına olan talebi arttırmıştır.
Plak sevenler genelde her türlü müziği dinlemezler. Sanatsal kalitesi olan kendi müziğini ve tarzını geliştiren grup ve solistleri dinlerler. Bu kitle arttığı için plak satışlarında artış yaşanmıştır.
Nostalji ve arşiv hissini daha iyi verdiği ve bu somut ihtiyacı dijital müziğin karşılayamaması nedeniyle tüm alternatifler içinde plaklar öne çıkmış ve bu da satışlarını arttırmıştır.
Pazarlama ve satış yapan şirketlerin kapitalizme hizmet için dönem dönem beliri formatları ön planla getirmektedir, plakların da satışlarını dönemsel olarak arttırmak için benzer bir eyleme girmişlerdir.
Dizi, Sinema Filmleri gençlerin plaklara yönelmesini sağlamıştır.
Popüler kültürün her alanında geriye dönüşün etkisini bariz bir biçimde gösterdiği şu günlerde tüketici müziğe ulaşmak için plağa ihtiyaç duymasa da bunu nostaljik bir aktivite olarak görme imkanı sunan plaklara rağbet olmuştur.
Müzik endüstrisini yönetenler 'artık cd satamıyoruz ama bir şey satıp para kazanmamız lazım. Ne yapalım? Yine insanların tüketebileceği ve hatta moda yaratabilecek plakları tekrardan satışa sunalım' dediler.
Türkiye özelinde baktığımızda günümüzde çokça değişse de duygusallık ve gelenekselcilik ön plana çıkmaktadır.Geçmişe duyulan bu özlem aslında günümüz teknolojisinden uzak olan plaklara ilgiyi arttırmıştır.
Plakların gün geçtikçe değeri artıyor, bazı kullanıcılar da onları bir yatırım olarak görüldüğü için plaklara rağbet artmıştır.
Plakların ses kalitesinin yüksek olması ve dinleyiciye şarkıyı söyleyen kişi sanki odadaymış gibi bir his vermesinden dolayı plaklara olan talep artmıştır.
Plak satın alanlarının büyük çoğunluğunun plağın ses kalitesi vs gibi özelliklerinden değil de entelektüel kısmı (entelektüel öz saygı değil tamamen halk dilinde 'hava olsun' diye) ile ilgileniyor. Yani plak satışları bir sosyal akım gibi patladı.
Plakların değiş-tokuş özelliği dinleyicide motivasyon oldu
CD ufak plak ise büyüktür. Plakların kutusuna daha fazla görsel materyal sığdırmak mümkündür. Plakların kutuları ve kapları daha daha orijinal ve daha başarılı oluyor. Plakların koleksiyon değeri daha fazla ve mistik bir tarafı var, kokusu bile başka. Pikapla ve donanımla uğraşmak daha zevkli , plak toplamak hobisel açıdan daha tatmin edici bu nedenle dünya genelinde plakların satışlarında gözle görülür bir satış artışı yaşanmaktadır.
Şehir insanları , metropol insanları son yıllarda doğal olan her şeye yöneldiği gibi müzikte de doğala yakın olanı tercih etmektedir. Plak doğal sesi en yakın biçimde müziğin kayıtlı halidir.
Uzun yıllardır dijitalleşmeden nasibini alan plaklar, dizi ve filmlerde kullanılan müziklerin de (Örnek: Netflix'te yayınlanan 'Bir Başkadır') etkisiyle yeniden hatırlandı ve insanlarıon gerçek müziği hissetmek istemeleri aynı kitaplarda olduğu gibi dokunup , hissedip gerçek müziğin keyfini çıkartmayı tercih ettiler ve plaklara yöneldiler.

Ülkedeki plak satışlarının artışa geçmesinin nedeni insanların her geçen gün eskiye özenmesidir. Buna örnek olarak eski komodinlere, eski koltuk takımlarına, eski yemek masalarına olan ilgisiyle görebiliriz.

Araştırmaya katılanlara plakların gelecekteki popülerliği ve satışlardaki artışın devam edip etmeyeceğine yönelik düşünceleri de sorulmuştur. Elde edilen bulgularda plakların satışının gelecekte de artacağına yönelik olumlu düşüncede olanlar yüzde 60'ın üzerindedir. Dünyada plak satışlarının artışının devam edeceğini savunanların sayısı daha fazladır. Türkiye'deki plak satışlarında son yıllarda yaşanan artışın devam etmesi için plak fiyatlarının düşmesi gerektiğini savunanların oranı yüzde doksanın üzerindedir.

Tablo 3. Plak Satışlarının Geleceği ile İlgili Görüşler

Plak fiyatlarının uygun olması gerekir
Türkiye'deki müzik dinleyicisinin müzik kulağı kaliteli müziği ayırd ettikçe CD ile plak arasındaki kayıt arasındaki farkı da anlayacak ve plaklara yönelecektir.
Günümüzde özellikle pandemiden sonra plak fiyatları çok arttı, ülkemizde yaşanan geçim sıkıntısı düşünülecek olursa plakların yaygınlaşması zor olacak.
Fiziksel materyallerin korunması zordur, herhangibir çizilme durumunda ürünler kullanılamaz hale geliyor. Bu nedenle plakların rağbet görmesi zor olacaktır.
Her ne kadar şu an plaklar tercih edilsede bu bir hobidir, gelecekte insanlar bu hobiden sıkılacak ve tamamen dijital müziğe yönelecektir.
Eskiye olan özlem giderek arttığı içib müziksever plaklara ilgi duymaya devam edecek ancak büyük müzik şirketleri müziğin dijitale evrilmesi için plak satışlarını durdurma noktasına gelecektir.
Plak satışlarının CD satışlarının üzerine çıkması bence dönemsel olarak mümkün olsa da sürekli seyri mümkün olmayacaktır.
Plak özellikle yeni neslin epey uzak olduğu bir tarz doğrudan bakınca böyle gözküyor ancak bu klişe değişmeye başlamıştır.
Gelişen teknoloji sayesinde CD ve plaklar satışları iyice düşecektir. Artık dijital albümler üretilecek ve dijital satışlar artacaktır.
CD satışlarınınn geleceğinin olmadığını düşünüyorum. Gelişen teknoloji sayesinde artık Cdlere ihtiyaç duyulmuyor. Plakların gelecekte hala hobi için ve kolleksiyoncular tarafından kullanılacağına inanıyorum.
Plak satışları artmaya devam edecektir fakat CD formatında yayınlanan albümlerin de uzun vadede koleksiyon değerinin artacağını göz önünde bulundurursak, plak satışlarının önümüzdeki süreçte CD satışlarının gerisinde kalacağını söyleyebiliriz.
Dijital teknolojilerin giderek gelişeceğini düşünürsek, günümüzde kullanılmakta olan plak ve cd formatında yayınlanan albümler önümüzdeki otuz yıllık süre içinde antika bir değer kazanacak ve giderek daha az tercih edilir hale gelecektir.
İnsan doğası nedeniyle geçmişi her zaman daha samimi bulur. Eski anılarını hatırlar. Bu nedenleher dönem plak ve CD satışları artmaya devam edecektir.
Eğer plak fiyatları ucuzlarsa bu moda yani bu furya tüm Türkiye genelinde yaygınlaşır ve plak satışları artabilir.

SONUÇ

Technavio (2023) tarafından vinil plak pazarının geleceğine yönelik bir tahmin çalışması yürütülmüştür (Technavio, 2023) 2022 ile 2027 arasında vinil plak pazarının tahmini olarak %8,41'lik

bir büyüme oranı yakalayacağı öngörmüştür. Bu büyümenin, Y kuşağından artan vinil plak talebi ve vinil plakların estetik çekiciliği gibi çeşitli faktörlerden kaynaklanması beklenmektedir. LP/EP vinil plak segmentinin, vinil plak pazarında en hızlı büyüyen segment olması yine beklentiler arasındadır. Bununla birlikte, plak piyasası, büyümesini engelleyebilecek dijital müzik formatlarının getirdiği zorluklarla da karşı karşıyadır. Vinil plak pazarı, diğer bölgelerdeki büyüme potansiyelini sınırlandırabilecek şekilde, Avrupa ve Kuzey Amerika'da oldukça yoğunlaşmıştır. Kuzey Amerika'nın vinil plak pazarının büyümesine önemli ölçüde katkıda bulunacağı ve ABD'nin bölgedeki en büyük gelir katkısını sağlayacağı öngörülmektedir. Genel olarak, gelişmiş ülkelerde artan tanıtım etkinlikleri, Y kuşağından artan talep ve vinil plakların estetik çekiciliği gibi çeşitli faktörlerin etkisiyle, vinil pazarının tahmin dönemi boyunca büyüme eğilimini sürdürmesi beklenmektedir.

Verified Market Research Company tarafından yapılan tahminlerde de 2028 yılına gelindiğinde vinil plakların pazar büyüklüğünün 2,6 milyar USD'ye ulaşacağı iddia edilmiştir (VMRC, 2023).

Plakların 2000li yıllarda dünyada ve Türkiye'de yeniden gündeme gelmesi, talep almaya başlaması ve adeta ikinci baharını yaşamasının pek çok sosyolojik ve psikolojik sebebi vardır. Bunlar arasında ilk sırada yer alan sebep geçmişe, nostaljiye olan özlemin artmasıdır. Dijital dönüşüm yaşandıkça tüm dünyada insanların yaşam biçimlerinde de köklü değişimler yaşanmaktadır. Bu köklü değişikliklere hemen adapte olan tüketici bir yandan da geçmişe özlem duymaya başlamıştır. Bu özlem her geçen gün artmakta ve dünyada tüm sektörlerde bir retro modasının doğmasına neden olmaktadır. Bu retro modasından müzik endüstrisi de payına düşeni almaktadır. Spotify, Apple Music gibi küresel dijital müzik platformlarının yaygınlaşması müziğin fiziksel ortamdan dinlenmesinin de önünü kesmiştir. 2020 yılında yaşanan pandeminin de etkisi tüm dünyada olduğu gibi Türkiye'de de dijital dönüşümde ciddi bir hızlanma yaşanmıştır. CDlerden dinlenen müzik ciddi bir düşüş yaşarken fiziki müzik satışları yerini plaklara bırakmıştır.

Türkiye'de özellikle 2010lu yıllarda artışa geçen plak satışları 2015'ten sonra ciddi bir ivme kazanmıştır. Tam bu sırada Türkiye'nin en büyük parakende satış mağaza zinciri olan D&R'ın mağazalarındaki müzik reyonlarını küçülteceğini açıklaması ve CD reyonunu kaldırması CD satışlarına vurulan büyük bir darbe olmuştur. D&R müzik reyonlarında sadece plaklara yer vererek bir nevi de plak satışlarında yaşanan artışa destek olmuştur.

Yapılan bu araştırmada vinil plakların satışında dünya ve Türkiye genelinde yaşanan artışın nedenleri araştırılmıştır. Araştırmaya katılanlar plak satışlarının toplumda yaşanan nostalji arayışında ki artışın etken olduğu konusunda hem fikir olmuşlardır. Buna ek olarak kaliteli müzik dinleme aracı olan plakların bu yönü ile ön plana gelmesi, plakların arşiv değeri taşıması gibi faktörlerin de plak satışlarının artmasında etkili olduğu kanısı ortaya çıkmıştır.

Plakların geleceği ile ilgili özellikle gençlerin olumlu düşüncesi vardır. Dünyada ki plak satışlarında görülen artışın devam edeceğini savunan katılımcılar Türkiye ile ilgili bazı tereddütler yaşamaktadır. Bunun en önemli nedeni ise plak fiyatlarında yaşanan artış gösterilmiştir. Türkiye'de 2022 ve 2023 yılında yaşanan yüksek enflasyon ve döviz krizi her üründe olduğu gibi plakların fiyatlarında da kendisini göstermiştir. 2023 yılının son çeyreğinde yerli plaklar 280 TL'den başlayan fiyatlarla satılırken yabancı plaklar 700 TL ile 2.000 TL arasında değişen bir fiyat aralığında satılmaktadır. Plak fiyatlarında yaşanan bu enflasyonist artış 2023 yılı ve sonrası için çok önemli bir tehdit oluşturmuştur. Bu tehdit dünyada önü açık olan plak satışlarının Türkiye için sıkıntılı günlere gebe olabileceğinin de sinyallerini vermektedir.

Plak satışlarının artışının atmasını etkileyen bir diğer önemli faktör tüm dünyada yaşanan dijital dönüşümdür. Müziksever artık müziği dijital müzik platformlardan dinleme fikrine tamamen adapte olmuştur. Bu durum müziğin fiziki araçlardan dinlenmesinin en büyük tehditi olmuştır, olmaya da devam etmektedir. Plaklar bu dijital dönüşüme rağmen dijitalleşmeden sıkılan müzik dinleyicisine bir alternatif araç olarak yaygınlaşmıştır. Dijitalleşmeden sıkılan ve alternatif arayışlara girenler plaklara talep göstermeye devam edecektir.

Plak satışlarını etkileyen bir diğer faktör ise toplumların sosyo-kültürel gelişimidir. Müzik dinleme kültürü ve müziğe bakış açısı da müzik dinleme biçimine etki etmektedir. Müziğe profesyonel bir gözle bakan ve geniş bir müzik kültürü olan toplumların müzik dinleme ihtiyaçlarına karşılık veren plaklar, bu kültüre aşina olan toplumlarda daha fazla talep görecektir. Bunda tabii ki o toplumların müzik endüstrilerinin de başrol oyuncularının geliştireceği satış stratejileri ve medyanın da rolü etkili olacaktır.

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THE ANALYSIS OF THE SHORT AND LONG-TERM EFFECTS OF ARTIFICIAL INTELLIGENCE TECHNOLOGY ON THE CINEMA FILM INDUSTRY

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Abstract

The aim of this study is to show that artificial intelligence technology, which has advanced its development process very rapidly in recent years, has been criticized in the cinema industry for the fact that it reveals the inferences and gains that human beings have achieved in the digital field in a very short time, without the need for labor. In addition to being conceptually discussed, the point that AI technology has reached today and the levels that it is planned to reach or foreseen to achieve in the future will also be discussed methodologically in the scope of this study. This rapid development and transformation is expected to reduce the workforce to minimize costs by eliminating the human factor in many different sectors, on the other hand, it remains unclear whether the original artistic productions and fiction that have emerged so far, especially in the cinema industry, will be transformed into productions that are expected to reach the desired level of success by institutions and platforms on the basis of AI. Within the framework of this study, it is predicted that due to the serious investments made today in AI technology, which will undoubtedly take place in all areas of life in the coming years, it will cause all subjects and values traditionally handled in the social sense, especially in the cinema sector, to change form. Particularly when evaluated on the basis of cinema, it is evaluated that the use of AI in the coming period will lead to job loss of employees serving in many fields in the cinema sector, concern that creative writing will disappear, change in the language and style of cinema, and elements that will drag individuals and institutions into troubled processes in the fields of ethics and copyrights.

Keywords: Artificial Intelligence, Cinema, Cinema Industry, Hollywood, OTT Platforms.

SHIFTING BETWEEN PHYSICAL AND VIRTUAL SPACE DESIGN PRACTICES: VIRTUAL BANK BRANCH OFFICE IN METAVERSE

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Abstract

The emergence of the metaverse, a multifaceted digital investment effortlessly merging physical and virtual spaces, challenges traditional notions of design and spatial architecture. In this context, financial and commercial urban spaces are at the forefront of reimagining their service delivery sustainability. This research paper aims to research the dynamic interaction between physical and virtual space design practices, focusing on the conceptualization and realization of Virtual Bank Branch Offices (VBBOs) within the metaverse environment. The literature frame of the study provides a comprehensive background, exploring the evolution of virtual environments, augmented reality, and their integration into financial and commercial urban spaces. It dichotomizes preceding research about VBBOs and identifies emerging trends in metaverse design, shedding light on the transformative potential of the evolution interior space design process. This paper engages a mixed-methods approach, combining qualitative analysis of design principles and user experience with quantitative assessments of user engagement and comfort in metaverse spaces. Through case studies and a proposed prototype design, this research indicates the complicated design decisions, innovative technologies, and spatial design qualities that reinforce VBBOs in the metaverse. These practical examples offer invaluable insights into the holistic design process, from architectural adoptions to multiple user interfaces. A case study was conducted into user feedback, behavioral patterns, and preferences, discerning the metaverse's capacity to redefine traditional banking interactions in a re-designed virtual bank branch office model. At this point, it can be said that the synthesis of real and virtual worlds presents ethical challenges. From this perspective our discussion includes these issues, emphasizing the imperative of spatial comfort and identification, user privacy, and sense of place spatial within the metaverse. The insights from this study inform both sustainable urban commerce and financial spaces to navigate the metaverse and designers working on progressing the boundaries of physical and virtual space. Accordingly, this paper provides an overview for further studies for exploration of the dynamic relationship between physical and virtual space design practices, with a specific focus on VBBOs in the metaverse.

Keywords: Metaverse design, virtual bank branch office, interior space design, virtual bank bots and user experience.

BASED ON ARTIFICIAL INTELLIGENCE AND EDUCATION RESEARCH: 2013 PRE-SCHOOL EDUCATION PROGRAM IN TURKIYE

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Abstract
Artificial intelligence plays an important role in the education of children and in the structuring of the educational process. Artificial intelligence studies, which are progressing rapidly, are also integrated into the education process at the same speed. In this respect, it is important for children to meet and study with artificial intelligence in the first step of education, from pre-school education. In the Artificial Intelligence studies carried out in the field of pre-school education, applications added to the learning process, program suggestions and reviews stand out. Subjects such as artificial intelligence applications for concept education and examining the possibilities and risks that can be experienced in these applications, and the design of preschool education curriculum based on artificial intelligence technology are also included in the research. However, it has not been found that any preschool education program has been examined in the context of artificial intelligence with a detailed and critical view. The aim of this study is to analyze 2013 Pre-School Education Program in Turkey on the basis of artificial intelligence technologies in detail and critically. In the study, 2013 Pre-School Education Program was examined under the headings of objectives, principles, achievements and indicators, educational activities, and evaluation.

Keywords: Pre-school education, artificial intelligence, education program.

INTRODUCTION

Preschool education is an educational step that has the most important and profound effects in human life. Every country, every researcher or expert in the world defines a definition for this education step in their own way. Preschool education in Portugal is defined as ensuring the social, cognitive, affective and kinetic development of children, supporting their adaptation to the social environment, ensuring their socialization, revealing their talents, developing creative thinking, communication and sharing skills, and giving importance to health and cleanliness (Eurydice, 2013). In Iran, it is an educational step where children acquire the concepts and knowledge they need for primary education (Arslan, 2018). The primary goal of preschool education in the United States is to instill feelings of trust, empathy, tolerance and prepare them for primary education. Pre-school education in Turkey aims to make a meaningful improvement in motor development, sensory and social development, cognitive development and language development levels of children and to ensure that they are ready for primary education through enriched educational materials. The program supports all kinds of developmental stages of children, besides, it has a supportive and proactive teaching quality that strengthens the weaknesses in other developmental areas (MEB, 2013). Based on the definition and aims of pre-school education, we can talk about the importance of pre-school education for every country, no matter what part of the world it is.
The importance of pre-school education should be seen as a reason why this education program should be given importance. It can be seen that basic characteristics such as the social structure,

history and educational goals of each country are involved in the design and elaboration of the pre-school education program. However, another element that is as important as countries' commitment to these basic qualities is technological developments. An educational design that is conscious of technological developments and international differences will provide an important basis for children to think globally, regardless of country.

It is thought that it is necessary to focus on the closest educational content in order to achieve distant goals such as ensuring that every child, regardless of where they are in the world, has similar educational conditions and benefits from technological developments. Therefore, in this study, the pre-school education program in Turkey was evaluated in detail and critically on the basis of artificial intelligence technologies. The examination of the program will continue under these headings:

- Objectives and principles,
- Achievements and indicators,
- Educational activities,
- Evaluation.

1. Objectives and Priciples of the 2013 Preschool Education Program in Turkiye on the Basis of Artificial Intelligence Technologies

In the general principles of pre-school education determined by the Directorate of Basic Education of the Ministry of National Education of the Republic of Turkey there are four objectives for turkish citizens (MEB, 2013):

a. Individuals will be committed to the Ataturk Revolution and its principles and Ataturk nationalism, and will adopt, protect and develop their spiritual and cultural values; will know their duties and responsibilities towards human rights and the Republic of Turkey, and will put their knowledge into action.

b. Individuals will have a balanced and healthy personality and character in terms of body, mind, morality, spirit and emotion, and have the power of free and scientific thinking and a broad worldview; respect human rights and be responsible towards society; grow up to be constructive, creative and productive people.

c. By improving the abilities of individuals, program will prepare them for a life that provides them with the necessary knowledge, skills, behaviors and the habit of working together, and will enable them to have a profession that make them happy and contribute to the happiness of society.

d. Thus, it is aimed to increase the welfare and happiness of Turkish citizens and Turkish society, and to support and accelerate economic, social and cultural development within national unity and integrity. As a result, it is to make the Turkish nation a constructive, creative and distinguished partner of contemporary civilization.

The general principles of each country for the education of its citizens may differ from each other. However, literature agree on the nature, function, and orientation of preschool education (Ehrlin & Gustavsson, 2015; Hu & Li, 2012; Aljabreen & Lash, 2016; Zhao & Wang, 2022). In specific context, aims of the pre-school education in Turkiye are (1) ensuring children's physical, mental and emotional development and acquisition of good habits, (2) preparing them for primary school, (3) creating a common raising environment for children coming from disadvantajed environments and families, ensuring that children speak Turkish correctly and beautifully (MEB, 2013).

The education process has continued until today within the framework of the above-mentioned purposes and principles. During the Covid-19 period, training continued online. Online education targets were tried to be integrated into pre-school education in this process. Therefore, there have been difficulties in achieving educational objectives and principles in Turkiye as in many countries

around the world (Drane, Vernon & O'Shea, 2020; UNESCO, 2020; Chang, & Yano, 2020; Inan, 2020; Balcı, 2020; Aral, Fındık, Öz, Karataş, Güneş & Kadan, 2021). Although technological changes, developments and artificial intelligence studies have accelerated in the world, no regulation or renewal has been made in the pre-school education program in Turkiye.

Studies on the impact of artificial intelligence for the future and the skills that humans are expected to acquire in this context show that the focus of education needs to change. In this regard, it is stated that the focus of education should be on special platforms that support children's lifelong learning. In other words, it is foreseen in the near future that children's learning and skills will be supported thanks to educational programs and environments organized with artificial intelligence (Bostrom, 2014; EPSC, 2018; Ng, 2016; Redecker, 2017; Tuomi, 2019).

2. Achievements and Indicators of the 2013 Preschool Education Program in Turkiye on the Basis of Artificial Intelligence Technologies

In the 2013 pre-school education program, with a holistic approach, the child's social and emotional, motor, cognitive and language development areas and self-care skills are included as achievements and indicators. The goal of the program is to create different educational processes based on achievements and indicators and to maximize the development of children in all developmental areas (MEB, 2013).

It is suggested that the achievements of children through education can be fun and more effective with artificial intelligence-based applications (Roblyer & Doering, 2009; Brusilovsky & Peylo, 2003). It is known that almost all countries prepare pre-school education programs on the basis of supporting development in early childhood. Knowledge-Based Systems is a common form of use of artificial intelligence, and lead children to both acquire and use information. At the same time, through this system, children can observe how robots acquire information and how they use the information they acquire in the future (Williams, Park, Oh, & Breazeal, 2019).

However,

Do we agree on whether the developmental areas of today's children and the knowledge and skills they need to acquire, have changed?

3. Educational Activities of the 2013 Preschool Education Program in Turkiye on the Basis of Artificial Intelligence Technologies

The design of the preschool education environment is important. It is organized according to the educational needs of children. Learning centers are located in classrooms as free play areas for children. Besides, structured / semi-structured / unstructured activities can be done by the teacher or children in the classroom or outdoors. Activities can be planned and implemented individually, or integrated activities can be prepared by bringing together more than one activity type. Activities can be planned and implemented individually, in small groups or large groups.

Educational technology can be used for a variety of reasons. There are systems that use artificial intelligence to carry out children's learning activities. Activities are offered according to children's developmental goals and performance (Douali, Selmaoui, & Bouab, 2022). Using the right tools, classroom activities, celebrations, and outings can be recorded and processed. Educational content can be created, and educational applications may be written. Teachers can do all of these things with these technologies (Aroyo, Graesser, & Johnson, 2007).

4. Evaluation of the 2013 Preschool Education Program in Turkiye on the Basis of Artificial Intelligence Technologies

In pre-school education in Turkey, the process must be planned and programmed, and evaluation in pre-school education is one of the basic elements of the educational process. Training activities must be prepared based on the achievements in the program. Therefore, the goals achieved by children

during and at the end of the education process are evaluated. In 2013 Preschool Education Program in Turkiye, evaluation is handled from different aspects such as:

- observing the child's development both in detail and holistically in all developmental areas,
- reporting the observation results,
- evaluating the prepared and implemented plans in all their dimensions,
- and self-evaluation of the teacher. (MEB, 2013).

Artificial intelligence systems perform teaching tasks such as analyzing children's performance and selecting and presenting appropriate activities to develop this potential. Artificial intelligence, in other words, they learn about the child's activities on the system to draw conclusions about how to increase the child's potential. It helps create personalized programs without human intervention (Douali, Selmaoui, & Bouab, 2022).

In the evaluation dimension, it can be seen that the 2013 Preschool Education Program and artificial intelligence system evaluations are similar in that they are versatile and comprehensive. At the same time, it is important to observe the points that disrupt the program or the reasons for the disruptions in children's learning in the 2013 pre-school education program. Just like the evaluation steps of artificial intelligence. However, while the 2013 education program assigns this task to the teacher, artificial intelligence performs this task without a human being. This means that man and machine come face to face again in the training program.

CONCLUSION

The arrival of the age of artificial intelligence will have significant impacts on society and pose higher requirements for people's innovative abilities. It is thought that one of these requirements is on education. For this reason, it is necessary to talk about the educational requirements of the artificial intelligence age, starting from pre-school education.

For the existing typical problems in early childhood education, artificial intelligence is expected to provide scientific guidance and improvement in many aspects of early childhood education, including education objectives, achievements and indicators, educational activities, and evaluation.

In a world that is globalizing with technology, it is thought that early childhood education programs should be created in accordance with the developmental characteristics of globalized children. Similarly, it is wanted to emphasize that changes and transformations appropriate to the age of artificial intelligence should be made in pre-school education in Turkiye.

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LAMENTS AS A MOURNING THERAPY: ANALYSIS OF THE AVSAR LAMENT 'MELİHA' AND DETERMINATIONS ON THE CULTURAL NORMS OF THE PERIOD

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Abstarct

In Turkish folk culture, an elegy is a lyrical and musical genre used to express grief after the death of a loved one. Since death is heartbreaking for those left behind, laments are not sung, but burned. The most distinctive feature of elegies is that they are oral and not written. In oral tradition, works live through transmission. In this genre, which is in poetry form, certain patterns of syllabic metre are used. The most important detail here is that the people who sing laments are generally illiterate. Besides being a literary genre, elegies also have psychological and sociological features. From a lament that was burnt a hundred years ago, the cultural codes of the period can be accessed, and the past and present state of human beings in the face of death can also be reached. Elegies are both a sharing of pain and a transmission of pain. By sharing the pain of death with those around him/her at that moment, the person both expresses his/her love for the deceased and also expresses his/her feeling of absence. For this reason, laments also have a mourning therapy feature. Even before the birth of psychological science and before it reached its current level, Turks used laments as a mourning therapy against the pain of death. In addition, since the lament tells about the deceased person, it represents an existence against the idea of absence. In this study, Meliha's Lament, an Avşar lament, is analysed within the framework of psychoanalytic literary theory, and the cultural norms of the period are examined through the effect of the lament genre on the mourning period. In the first part of the study consisting of two parts, the analysis of the lament, in the second part, the analysis of the period and the importance of the genre in the mourning process through this lament are examined.

Keywords: Lament, suicide, woman, honour, mourning.

A SEMIOTICS ANALYSIS OF THE FILM "THE MAGICAL ROBE" AS A FUTURE-FOCUSED APPROACH TO CHILDREN'S MOVIES IN AZERBAIJAN CINEMA

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Abstract

Children's Films are made in which children actively act or are just mentioned in the narrative for more than a century in the film industry. Children's movies have a significant impact on their intellectual and emotional growth. The value given to children by each culture and how children evaluate the world have created different processes in different countries in different narrative forms. As the first fantasy children's film produced in Azerbaijan during the Soviet era, "The Magical Robe" was analyzed for this study. Regarding Genette's point of view, three different timelines were mentioned in the movie. The film involves clusters from the past tense, moves to the present time of 1965 in which the film was made, and it also refers to the Future tense. The movie's use of the future tense fits within the concept of how contemporary technologies are developing in today. It seems that within the framework of this film, the children of Azerbaijan dreamed and experienced today's digital communication tools even half a century before they appeared. Within the framework of the study, starting with this topic, the relationship between today's man and technology that took place in the setting half a century ago, and how people use electronic technology at the present time, and especially their approach to the means of technological communication, are discussed through their comparisons. Comparative analysis is carried out in the context of the study's use of the film "Sehirli Xalat – The Magical Robe" by director Alisettar Atakishiyev, as well as similarities and differences between the human and technological interactions in the film and the present day are explored using the descriptive approach and discourse analysis.

Keywords: Azerbaijan Cinema, The Magical Robe, Children's movies, Modern man, Technology, Communication tools, Digital games, Futurism, Transhumanism

INTRODUCTION

When cinema history is considered, it is seen that children have been the subject of the greatest debate and are the ones who have been most impacted by it, beginning with the invention of the medium and even with the very first frames of the earliest films. Even if the child image, who was among the very first, only started to receive the necessary attention much later or just now. The initial films definitely had a child audience in mind, however, this is not emphasized or given much attention. We are drawn in with an intense child image in the first movies and the first documentaries on heroes. The Nanook of the North (Marcus, 2006) and The Man with the Movie Camera (Jacobowitz & Lippe, 2015) are two of the most important ones. When it comes to Lumière film Watering the Gardener (L'Arroseur arrosé, 1895) the case is somewhat different. In addition to his many innovations in cinema, Lumière, who is credited with the development of both cinema and documentary film, is believed to have

directed over 60 films and made about 2000 documentaries. Although Lumière later produced movies like “The Watering the Gardener” (1895), which was based on a short act, he was unable to avoid a child image in it and like many aspiring filmmakers today, he portrayed his own family in the majority of his films. The following is a collection of famous Lumière films that contain images of children. The other important films with the child image are as follows: In 1895, L'Arroueur arrosè – Le jardinier (Watering The Gardener), Querelle enfantine (Children's Quarrel), Enfants aux jouets (Children with Toys). In 1896-1897, Concours de Boules (Ball Race), Premiers pas de Bébé (Baby's First Steps), Enfant et chien (Child and Dog), Petit fré et petite soeur (Brother and Sister), Ronde enfantine (Children's Rondo), Enfants au bord de la mer (Children by the Sea), Scènes d'enfants (Children's Scenes), Repas en Famille (Family Dinner), Bal d'enfant (Children's Ball), Leçon de bicyclette (Cycling Lesson), Le Goûter de Bébé (Baby's Breakfast).

The presence of kids in movies is not something new. M. Clerck was the first actor assigned the role of comedy in a motion picture. The Lumiere Brothers' film L'Arroseur Arrose provided a role of comedy to M. Clerc, who served as Mrs. Lumiere's gardener while he lived in Lyon. On December 28, 1895, this movie was screened at the Grand Cafe in Paris. In the movie, Clerc uses a hose to water the flowers. Duval, a young guy who was 14 years old at the time, portrayed the part of a mischievous youngster. The kid walks up behind the gardener and steps on the hose, turning off the water.

The youngster lifts his foot and dances away with glee as water squirts into Clerc's face while the gardener holds the end of the hose up to his eye to check if it is clogged. As a result, "child" shows up as a crucial component starting from the very beginning of the movie. The child element in this film can be summed up by phrases like "doing childish mischief," "making a mess in the adults' world," "up to date, non-fictional, spontaneous thinking," and "intelligent, careful, practical, mischievous." When we consider it from this perspective, we can say that the child joined the cinema business on the very first day and in the very first frame, yet for a very long time, s/he went unnoticed. Sometimes child images were even disregarded or even used to make more money. In Lumière's films, the child is a component of everyday life, a member of the family, and the focal point of the image, drawing attention with their movements, deeds, and mischief. Lumière prioritized capturing reality in a straightforward and unobtrusive manner, hence children frequently appear in his documentaries. To Pembecioğlu, (2006) the child element in these movies is viewed as an individual of an institution like the family, which is the fundamental pillar of society, rather than just as an object, a fascinating and moving element, or a source of humor. Whether he eats his food or not, his misbehavior and his fights are all noteworthy occurrences that draw adults' attention. This was a feature that would draw grownups to the movies—even during the silent and monochrome era—and even get them to pay. However, the "child" is typically on the screen in these movies; it is what is projected, exhibited, and designed to be viewed. We do not come across a "child" as the audience or the audience that the message is intended for in this instance.

The History of Azerbaijani Cinema consists of three basic stages. The first stage covers the years 1898-1920, starting from the period when the first films were shot, the second stage covers the Soviet period Azerbaijani cinema, starting from 1920 and continuing until 1990, and the third stage covers the Independent Azerbaijani Cinema Period. After Azerbaijan declared its independence on October 18, 1991, a new era began in the art of cinema, as in all areas of the Republic of Azerbaijan.

The first phase of Azerbaijani cinema began on August 2, 1898, with the short documentary film "Bibiheybətdə Neft Fontanı Yanğı" (Oil Fire in Bibiheybet), made by photographer Alexander Mishon. The film is about the oil fire that broke out in one of the oil mines in the town of Bibiheybet in Baku (Kazımzadə, 2018: 13-14). The documentary film “Bibiheybətdə Neft Fontanı Yanğı” (Oil

Fire in Bibiheybet) is currently in the Paris Cinema Museum (Dadaşov, 2017: 22). With the occupation of Baku by the Red Army on April 28, 1920, the existence of the Azerbaijan Democratic Republic, which was established on May 28, 1918, ended and Azerbaijan joined the Union of Soviet Socialist Republics. Social and political events taking place in all areas directly affected art, and the second period of the history of Azerbaijani cinema began in 1920 (Ismailov, 2001: 32). Starting from the first days of the new management system consisting of 18 unions, an important place was given to political, cultural, educational, scientific and news film production. "11th. Newsworthy documentary films such as "The Arrival of the Red Army in Baku", "The 1st Congress of the Eastern Peoples in Baku", "The Burial of 26 Baku Commissioners" were among the first works of Azerbaijani cinema made in the Soviet period (Kazımzadə, 2004: 17).

Following the first documentary works, “The Life of Military Sailors” (1923), “The 3rd Anniversary of Soviet Azerbaijan” (1923), “Caspian Shipping” (1923), which focused on the political and cultural life of the country, the life of the people, oil mines and the productive work of various institutions. Various documentary films were produced for informational purposes, such as “Travel to Azerbaijan” (1924), “War for Life” (1926), “The Tenth Year” (1927), “Our Fundamental Way” (1928) (Dadaşov, 2009: 132). The studies carried out became an effective tool for spreading the socialism of the period and the values of the Soviet Union (Kazımzadə, 2015: 200-201).

The years of 1920-1930, rich with social-political events, constituted a new stage in the political and literary history of Azerbaijan, and the serious changes experienced led to rapid and radical changes in almost every aspect of society, significantly affecting the cultural and artistic life. This process is accepted as the beginning of the development of cinema, which is progressing by spreading to large masses, and is accepted as a new art form. (Rəhimli, 2004: 176).

With the development of the film industry during the Soviet period, the number of film genres increased. Children's films also had an important place among these film genres. According to Azerbaijani film critic Aydın Dadaşov, the concept of children's cinema, based on the analogy of children's literature, is a screen art that theoretically reflects the participation of child and adolescent characters, their problems and the interest of their audiences (Dadaşov, 2001: 75). Children's cinema is a complex of feature-length, animated, popular science and educational films made specifically for children. One of the main tasks in children's cinema is the aesthetic education of the child. Therefore, educational and cognitive functions are dominant in children's cinema. It is known that the basis of this type of education is the spiritual culture of the family and educational institution, which is the environment where the child lives and develops (https://bit.ly/3rbdTOu, retrieval date September, 20, 2023).

AIMS AND METHODOLOGY

"The Magical Robe" was evaluated for this study due to it was considered to be the first fantasy children's movie made in Azerbaijan during the Soviet era. The film includes reference of three different timelines. The present time of 1965, when the movie was made, as well as references to the future tense are all included in the film. The usage of the future tense in the film is consistent with the idea of how modern technology is evolving right now. The children of Azerbaijan appear to have dreamed of and used modern digital communication tools within the context of this movie even 50 years before they actually did. In the context of the study, the relationship between modern man and technology that existed in the context fifty years ago is compared to how people use electronic technology today, particularly their approach to the means of technological communication. The director Alisettar Atakishiyev's film "Sehirli Xalat - The Magical Robe" serves as the basis for comparative analysis, and the descriptive approach and discourse analysis are used to examine the

similarities and differences between the human and technological interactions in the film and those of the present. The film is analyzed through the Genette's point of view, dividing three different timelines in the narratives.

FINDINGS

It may not be immediately obvious how significant the art, skill, narrative, and foresight contained in classic films that are no longer in circulation when using current generation digital tools. The director Elisettar Atakisiyev's film "Sehirli Xalat - The Magical Robe" is just one of them. However, the film history of Azerbaijan appears to be rich enough regarding children's image. The variety of film genres rose along with the growth of the film industry throughout the Soviet era. A significant position was also held among these cinema genres for children's movies. The 1930 film "Latif" was the first piece of Azerbaijani cinema to have a child as the primary character. The film, which was directed by Mikayil Mikayilov, portrays the narrative of an extremely trying time in Azerbaijan's history between 1920 and 1930. The movie, which is about the time when collective agriculture, collectivization, and private ownership intersected, centers on a seven-year-old child named Latif (https://bit.ly/3r02GSu, retrieval date September, 20, 2023).

The renowned theater critic Aydın Talıbzade referred to the movie with his following evaluation on one of the newspapers: "The camera in the movie is the little kid Latif's eye. His mentality, imagination, and inner world reflect the period's "collectivization" process. The camera records events and functions as a narrator, an agent, an observer, and an orphan when appropriate. On the other side, this movie is a collection of iconic representations of reality from the time period. "Latif" is a creative historical portrayal of individuals caught between conflicting realities like tragedy and carnival. Latif as an actor, Little Latif Seferov, is a miracle (Talıbzadə, 21 June 2001).

Later, movies aimed at children's audiences have been produced, such as "Şəriki Çörək", "Skripkanın Sərgüzəşti", "Gilas Ağacı", "Asif, Vasif, Ağasif", "Qaraca Qız", "Ögey Ana", "Şir Evdən Getdi", "Qərib Cinlər Diyarında", "Bir Qalanın Sirri", "Əzablı Yollarla", "Mən Nəğmə Qoşuram", "Ağ Atlı Yollarla", "Pəncərə", "Qırxıncı Qapı", "Avqust Gələndə", "Adanı Özünlə Apara Bilməzsən", "Qalada Tapılan Mücrü". Meherremova claimed that these movies had a significant influence on young people of the time since kids constantly aspire to look like the movie characters they enjoy. Their thoughts and outlook on life are impacted by this (Məhərrəmova, 2015: 9).

Throughout his artistic career, Əlisəttar Atakişiyev (1906-1990), who studied at the Moscow State Cinema Institute from 1931 to 1937, produced numerous documentaries and served as the cameraman and art director of numerous movies. He wrote "The Secret of a Castle" in 1959 and "Sehirli Xalat - The Magical Robe" in 1965 and "In the Land of Strange Jinns", which tells the story of an adventurous journey of a child who desires to be rich in 1977 (Kazımzadə, 2014: 81-115).

Directed by Alisattar Atakişiyev (Əlisəttar Atakişiyev), is a children's movie as well as comedy, adventure and fantasy movie. Although " Sehirli Xalat - The Magical Robe" was produced in 1965, it is regarded as the first of its kind in Azerbaijani film and features extremely sophisticated visual effects. Names such as Azer Gurbanov, Solmaz Hetemova, Kolya Loginov, Yusif Şeyhov, Aliağa Ağayev, Anatoli Falkovic, Möhsün Senani, Ağahüseyin Cavadov, İsmail Osmanlı, Hüseyinağa Sadıkov, Lütfi Memmedbeyov, Telet Rehmanov, Efrasiyab Memmedov, Arif Medetov, Memmed Sadıkov took part in the film.

The Plot

The Sehirli Xalat - The Magical Robe movie is an interesting one mixing the past, present and future all in the same narrative. The films name could be reflected in different ways. Its original form is

Sehrli Xalat, but translated to other languages, the word Robe could mean a form of a jacket, robe, or top clothing. The film is about the adventures of two students who wear the magical robe given as a gift by the famous magician Iyo Kiyo, who came to meet with the pioneer students. Anyone who wears this robe can travel to the past or the future. The first student to wear the Robe - Rashid, first goes to the past and suddenly finds himself in a big palace. He first quietly hides in a corner to observe what is happening. In the meantime, the sultan was presented by the palace guards with a captured elderly man and two children, ages eight and ten. The guards respond that the man entered the palace garden without permission when the Sultan inquiries about the nature of the man's offense. The elderly guy informs the sultan that he has been employing this strategy for years and that this is a deception. The sultan, however, is so vicious and cruel that he orders the man's imprisonment without even making an effort to comprehend what is going on. Rashid abruptly jumped in front of the sultan because he could no longer ignore this situation. The citizens of the palace flee all in different ways, in fear as they compare him to the devil due to his clothes. The Sultan queries his vizier about the situation out of anxiety. It may be a Devil, according to the vizier as well. Rashid grabs the sultan's collar and demands to know how he is permitted to treat these people in this manner before releasing the old man and the kids from their restraints. In order to save the nation from this evil tyrant, he then takes the Sultan with him to 1965 (the actual year depicted in the film). Yet, due to his clothes, this time the Sultan was considered as a clown by Rashid's pioneer pals (pioneer pupils), who were glad to see Rashid return with the Sultan. The location is the same despite the change in time. The Sultan is familiar with every door, window, and passageway in his own palace. The Sultan takes advantage of this chaos by abruptly vanishing.

Then, the pioneer pupils desire to travel into the future and come back with fresh knowledge. Iyo Kiyo, a magician, warns that this is dangerous, but Rashid steps forward and says he still intends to attend. At this point, Zarife requests to accompany him, and the two companions use a mystical robe to travel into the future. Rashid and Zarife are once more together in the future. The palace now appears to be a museum. The kids are watching various performers when suddenly they witness an odd airplane landing on the lawn of the museum. These visitors to the museum represent the future generation of students. These classmates soon meet Rashid and Zarife and even invite them to an upcoming school ceremony. Rashid, though, makes an effort to defuse the situation by claiming that it won't be possible and that his pals are too far away. How far are they, a pupil inquired in the background. He enquires and replies that Rashid can call them on a televideophone. Zarife, in the meantime, asks Rashid to take his picture so he may get out of this confusing situation. One of the students notices Rashid's camera and remarks that it is really ancient. He then uses his own camera's projector to work and shows everyone the photographs he captured. Later, Rashid wants to examine the books he sees in their hands. When he opens the volumes, he notices that the pages are blank and thus he assumes that it is a notebook. The students claim it is a book, but all you have to do is touch the pages with your hand, as someone demonstrates. Later, Rashid and Zarife take a cosmic ship to the moon with other pupils. The ship's pilot notices the magical robe after they get back to the ship and asks Rashid for it. Rashid explains the situation to the man, but the man does not accept it and believes that the caftan was stolen from the museum without authorization. Rashid is then made to wear the caftan, and after uttering the magic words, he returns to 1965 and expresses his regret at having left Zarife there. However, they are now able to see the sultan. But in the meantime, the well-known illusionist Iyo Kiyo's father appears and claims that everything is fake and that he genuinely wants to test the Pioneers' bravery despite the dangers of traveling into the future. He then pulls open a black box and uses his magic wand to touch it, bringing Zarife back. When the pupils inquire about the sultan and the past tense, he presents them to them in the royal garden and informs them that they are all theater performers. The film ends with this scene.

Modern Life – Digital Games

Examining the movie and contrasting the students' usage of technology in later scenes with how teenagers nowadays utilize digital technology tools, we can see that they mostly use these technologies for fun and games. Digital games have become a significant part of teenagers' daily lives, particularly with the introduction of the computer.

It may be claimed that as digital technology has advanced, children's and teenagers' typical play areas have altered, and online games have taken the role of games played on the streets. The growing importance of computers and the internet, the availability of computers in every home, and the advent of online gaming into the digital gaming sector are the key causes of this situation. In digital games, players choose what kind of character they are going to portray, where they will be virtually, and in what kind of a conflict they will engage. In these digital games, changing one's appearance, one's identity, and one's time is incredibly simple. The user appreciates feeling content while engaging in the activities he enjoys. Consequently, the gaming world's primary characteristic is that it grants people freedom. Games are essential due to this independence. People can experience a reality (fiction) in digital games that is distinct from actual life. Violent messages particularly catch people's attention in these made-up universes. The components of digitality, interactivity, virtuality, and variability are brought about by the new idea of the information society, and they also modify the idea of violence. Images of violence becoming normal and ordinary is one of the most significant effects of the usage of communication tools (Yengin, 2012: 105-120).

Special Film Effects

In movies, special effects are a design strategy. In this sense, designing for the screen entails altering the captured visuals rather than simply showing them as they are. The term "special effects" refers to techniques based on visual and aural effects that are widely employed in the world of film (Yurdigül & Zinderen, 2013:11). One of the first films in Azerbaijani cinema to incorporate special effects was "Sehirli Xalat - The Magical Robe," which is still broadcast there and in YouTube today. Children were drawn in by the film's dynamic and effective transitions in time and place as well as its visual effects due to its wonderful structure. With its exciting excursions, the movie encourages kids to always be informed, stand up for justice, and do what they can. The movie takes place in three different eras. The time the movie was produced by 1964, the past and the future tense. The movie's use of the future tense is consistent with how today's modern technology has evolved.

When we consider the overall lifestyles and pursuits of the child heroes in these two time periods, it seems that the kids have effectively matured as self-confident individuals. The concept of time and space is delicately handled in the sequences portraying the 1960s and the future presented in the film. Future-looking imagery depicts students arriving at the museum in single-person aircraft akin to drones. They talk about video calling in another scene.

When we compare and contrast how the movie's protagonists utilize technology with their peers in those days and how they were depicted in the film it is surprising to notice that they now act similar to the ones in the movie. It appears to be included into every element of technology, we can observe that children and adolescents nowadays typically use digital technology for games and enjoyment.

The Time Travel

While Genette (1983) offers recommendations for narratology studies, he also considers concepts like order and frequency. The compelling and enjoyable tale, the presence of kids, and the unpredictable nature of the plot are the key reasons why we still talk about this movie today. A particularly important audience can nevertheless be satisfied with a narrative style that uses a spiral

tale design rather than a conventional and linear story that moves from the past to the future. Also problematic and intended to draw attention to the youth and children of the time is the involvement of kids in every narrative detail. But what matters is that a hope is expressed here—a hope that, for instance, children will speak up about injustices they witness (especially regarding the things that happened in the past), that they will be able to hold those who are responsible accountable, and that they will be able to view and assess events, situations, and facts objectively. Within the context of transhumanism movements, the issue of being hyper humans is seen as being of utmost importance and has only grown today. It is also important to recognize that our appearance, including our clothing, can influence how others perceive us and influence their opinions.

Rashid, for instance, is immediately referred to as "Satan" due to his clothing. It should not be forgotten, though, that virtually everything and everyone in that era was given a "negative" label. Because he trod on the grass, the man walking by the garden is portrayed as having entered it or even as having committed murder. It is feasible to operate solely within the confines of a fear-based culture. The harshest penalties must be applied to these offenses in order to discourage and prevent future offenders. They therefore choose to murder the accused man as well as his two children. The fact that the only people who were unable to bear this unfair position and who see no harm in raising their voices are children.

The film includes space scenes and children appearing in astronaut suits. However, Apollo 11 is the first manned space flight to the Moon's surface. In this space flight of the United States, astronauts Neil Armstrong and Buzz Aldrin became the first people to land on the Moon surface on July 20, 1969 at 20.18 (EEZ). Therefore, it is truly a great success that these future designs were made at a time when the moon had not yet been launched.

Depending upon the Genette’s point of view, the story, which could even be told in aural form, was put into a visual film to include other things rather than the words only. So, in its narrative form, it also includes other semiotic elements such as sound, decor, clothes, mannerisms, make-up, cinema effects.

At 12:55, the movie's present-tense introduction comes to an end, and from that point on, it is composed in the past tense. At 28:21, the past and the present switch places. The transition from present to future occurs at 52:30 and getting back to the real time takes part in 1:10. That seems to be quite reasonable to tell us about the time travel and about the occurrences there in the past or in future.

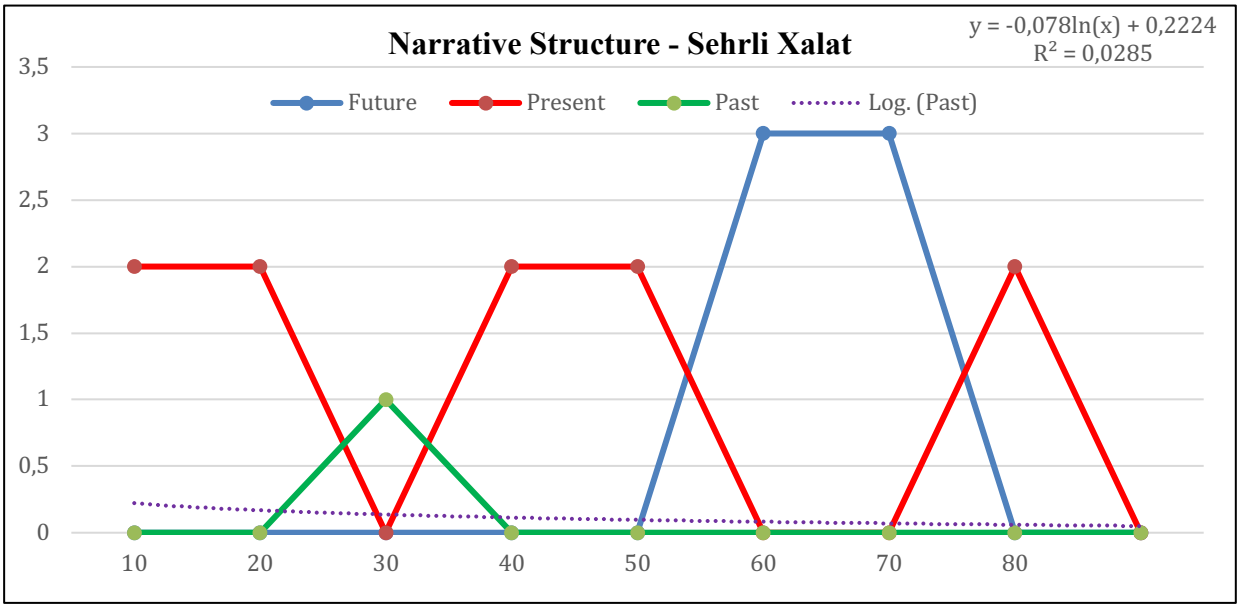

Figure 1: Narrative Structure – Sehrli Xalat

Rashid's return from the past with the Sultan is unfathomable to the youngsters of that day. The Sultan's surprise, though, is the big event here. He is continually clapping his hands to signal men and plead for the children to be apprehended, but he is also trying to identify things he has never seen before, such ice cream or a camera. The children's claims that the traditional leaders' time has passed and that they won't return, however, are crucial in this situation. Additionally, they underline that the leadership style is different now. The old Sultan's awful wretchedness in the eyes of today's youth underlines how human rights and children's rights have come to be understood, as well as how government and administration have evolved. It is no coincidence that in the future, all that remains of the Sultan at the museum will be a mummified and comic figure.

The film highlights how the old and new worlds are different from one another, how technological possibilities have evolved, the microphones, electricity, cars, buses, and airplanes, were involved into our lives. And through the eyes of the old time people, they were all viewed and considered to be the devil's invention. Even though it was 1964, we can still see how closely connected and cooperative the children are to one another, how they contribute to actions, events, and situations as a whole group, how there is never any argument among the kids, and how they work together to overcome any challenges.

In addition, we need to emphasize that people of ancient times could, for example, take off their turban and use it as a rope to escape from a minaret, or use their ancient sword as a tool of fear against children. The increase in technology does not mean that technology is used well, of course. It is well emphasized in the movie that it was a great opportunity, at least in that period of time.

CONCLUSION

In this study, director Alisattar Atakişiyev's movie "Sehirli Xalat - The Magic Robe" gives the message to children to always be knowledgeable, to question the facts, to fight against injustice, to do the good they can. In one scene the students use high-tech aerial vehicles similar to drones in the museum, and in another scene, they talk about video conferencing. It has been found that these scenes in the movie, which reflect the future, are compatible with the process in which today's modern

technology has developed. This was something desired, through the film, a future generation that could make it possible is created.

The audience is presented a story that criticizes everything about the past, from wear clothing to the concepts of respect and justice. But this is through the children's perspective that makes is simple, sound, and convincing. For instance, the Sultan's attempt to flee from an army of children while wearing heavy clothing, sandals with upturned toes on his feet, and the fact that he is moving in attire and sneakers that children can move in more easily, presents a lovely scene of the type of modern youth that is developing. It is a sign of the achievement and ingenuity of these young people, as well as of their potential for future success. Thus, the film is an outstanding one due to its future oriented perspective and making up children heroes in those years.

The relationship between modern humans and technology in a production from fifty-five years ago, as well as the current human use of electronic technology and particularly their approach towards technological communication tools, were discussed and discussed in the study in the context of the Azerbaijani children's film "Sehirli Xalat - The Magical Robe." Although it is well known that teenagers use digital technology mostly for gaming and pleasure, it has been discovered that their counterparts in the movies are included into every area of technology. Based on this finding, it is inferred that the younger generation will develop into people who utilize technology to serve them rather than the other way around, as they use it for enjoyment rather than taking advantage of its true potential.

The concept of time travel, which is still prevalent now and was articulated in the movie in 1964, as well as the parallelism it establishes between identity change and clothing, both of which are crucial, give the analyzed movie a very essential role. It is creating a role equaling to being Superman, Batman, or Spider-Man. Attribution of this role to the kids is again another magical touch to the creativity of children. It is crucial that a such a heroic tale centered on clothing is conveyed, especially to young people. In addition to the fact that children are able to appear in front of the camera with great intensity, modernity, and success. children are considered as the source of creativity, the foundation of beautiful new ideas, and the future. It is crucial for films to be able to convey messages.

The crucial aspect of this comparison is that it is not didactically presented or even brought up. It may be argued that this humorous technique, in which the historical trip is portrayed through the eyes of children, has increased the number of people who have seen the movie and broadened its audience. On the YouTube channel where it is currently being seen, the movie has 63.7B subscribers, as can be noted.

There is a misconception that historical films are insufficient or unreliable. There is a misconception that old movies are useless or invalid, but this idea is disproved because, at least with this example from Azerbaijani cinema, we can see that at the time. Only those technological advancements that are just now becoming commonplace might be envisioned. And it is clear that a movie might be made to introduce this to the public. These are all distinct successes we still admire even today.

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EVALUATION OF THE UNDERSTANDING OF DIRECTION AND SPACE IN ENVIRONMENTAL THEATER THROUGH THE LIVING THEATRE

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Abstract

XX. A very important breakthrough took place in the name of theater in the second half of the century. The happening called "18 Happenings in 6 Parts", performed by Allan Kaprow, a painter, performer and art historian, at the Reuben Gallery in New York, will be the first happening and will lead Richard Schechner to expand his horizons and reveal the genre of environmental theater. Based on this first happening show, Richard Schechner opened a new door in theater by introducing the environmental theater genre. Again, this was the period when names such as Robert Morris, Robert Smithson, Michael Heizer, Walter de Maria discovered environmental art and made avant-garde initiatives in America.

The first time theater left the venue and went to the streets was not with environmental theatre. When the history of the theater is examined, Commedia Dell Arte in Italy in the Middle Ages, Auto plays in Spain in the same period, or Ortaoyunu, which was a public theater during the Ottoman Empire, were performed in open areas on the streets. Environmental theater brought an avant-garde stance to the artistic understanding of the period by taking the perception of space from these genres that were previously performed as an alternative to space in the theater.

What makes environmental theater special is that both the aesthetics of the direction and the understanding of space are different from the established theater form. When the example of The Living Theater is examined, the differences in environmental theater's direction and understanding of space clearly emerge. It seems that environmental theater is a genre that can be performed under all conditions, causing a rapid reaction in the audience and mobilizing the audience quickly, without the need for a fixed place.

Keywords: Environmental Theatre, Avant-Garde Theatre, The Living Theatre.

ÇEVRESEL TİYATRODA REJİ VE MEKAN ANLAYIŞININ THE LİVİNG THEATRE ÜZERİNDEN DEĞERLENDİRİLMESİ

Özet

XX. yüzyılın ikinci yarısında tiyatro adına çok önemli bir atılım gerçekleşmiştir. Ressam, performans sanatçısı ve sanat tarihçisi olan Allan Kaprow'un New York Reuben Galerisi'nde gerçekleştirdiği "18 Happenings in 6 Parts" adlı happening hem ilk happening olacak hem de Richard Schechner'in ufkunu açarak çevresel tiyatro türünü ortaya çıkartmasına öncülük edecektir. Richard Schechner bu gerçekleştirilen ilk happening gösterisinden yola çıkarak tiyatroda çevresel tiyatro türünü ortaya çıkararak tiyatroda yeni bir kapıyı aralamıştır. Yine bu dönem Amerika'da Robert Morris, Robert Smithson, Michael Heizer, Walter de Maria gibi isimlerin çevresel sanatı keşfederek avangart girişimlerde bulunduğu dönemdir.

Tiyatronun mekandan çıkıp sokağa inmesi ilk olarak çevresel tiyatro ile olmamıştır. Tiyatronun geçmişi incelendiğinde orta çağda İtalya'da Commedia Dell Arte, İspanya'da yine aynı dönemde Auto oyunları ya da Osmanlı Devleti döneminde halk tiyatrosu olan ortaoyunu da sokaklarda açık alanlarda gerçekleştirilmektedir. Çevresel tiyatro daha önce tiyatroda mekana alternatif olarak yapılan bu türlerden mekan algısını alarak dönemin sanat anlayışına avangart bir duruş getirmiştir.

Çevresel tiyatroda hem reji estetiğinin hem de mekan anlayışının yerleşik tiyatro biçiminden farklı olması onu özel kılmaktadır. The Living Theatre örneği incelendiğinde çevresel tiyatronun reji ve mekan anlayışındaki farklar net bir biçimde ortaya çıkmaktadır. Çevresel tiyatronun sabit bir mekana ihtiyaç duymaksızın seyircide hızlı bir reaksiyona sebep olan, seyirciyi hızlıca harekete geçiren her şartta icra edilebilir bir tür olduğu görülmektedir.

Anahtar Kelimeler: Çevresel Tiyatro, Avangart Tiyatro, The Living Theatre.

Introduction

The art of theater has found different forms of expression and discourse over time. Economic, cultural and political processes in every period have an impact on the changing forms of expression of art. In this sense, in different periods of history, the art of theater has made space for itself in different venues from market squares to closed halls. In the second half of the XX century, there was a great revolution in the field of theater. This was a period when alternatives were sought to express art and develop different discourses. At the same time, this period enabled artists working in many different fields to produce new plays within the discipline of theater for the development of art in an interdisciplinary dimension.

The 20th century is a new era for the art of theater. New forms of discourse were developed instead of the traditional forms of artistic expression. The transformations in the use of space, especially during the staging of the play, are important. Space is being reconstructed as a performance space. Theater space is constructed on a perceptual level rather than its physical framework and limitations. Empty space as a performance space has an important function in this sense. Empty spaces always offer a wide range of possibilities for artists.

All the places we exist in our daily lives are stages. Erving Goffman states that we are all positioned as actors (Goffman, 1959). *'Scenarios can come to life even in the hands of inexperienced actors because life itself is something that is dramatically enacted. The whole world is not, of course, a stage, but it is not easy to explain the important aspects in which it is not a stage.'* (Goffman, 1959:72) At the same time, from a sociological point of view, it is not easy to identify the differences between the routine of our daily lives and the actions that take place on stage, in the sense that the similarity of the actions makes individuals ready to participate in the activity at the moment of performance. From Goffman's perspective, people are willing to enjoy interactive entertainment when given the opportunity in a non-traditional theater setting.

One of the challenges faced by the director and the actors during environmental performances is to approach the unfamiliar audience in a non-threatening way, while it is important to draw them into the live space of the play. In order to overcome this challenge, authenticity and sincerity are important social skills. Sincerity and intimacy in the performance space must be real because there is a serious problem with 'false intimacy' (Boles & Garbin, 1974).

There are differences in the use of space in environmental theater plays and in art forms such as happenings or formations, which are instantaneous flows of action based on audience interaction. In theater, the idea of a space in which the 'fourth wall' is broken and, at a certain level, the walls disappear completely appears. The period that started in the second half of the 20th century with painter, performance artist and art historian Allan Kaprow's '18 Happening in 6 Parts' at the Reuben Gallery in New York, culminated with the environmental theater movement pioneered by Richard Schechner. In fact, Allan Kaprow's idea of happening or occurrence was the idea of transforming the audience into a part of the event. In the transition from performance art to environmental theater, the specific aesthetics of the space is constructed. At this point, the tools necessary for the construction of the audience's focalization skills change. At the point where the 'Empty Space' turns into a performance space, aesthetic framing needs to be established in a healthy way for the audience to focus on the performance. At this point, the director needs to display an original approach in the staging mise-en-scene and conditional framing in the space in line with the possibilities of the space.

I. Alan Kaprow and '18 Happenings in 6 Parts'

The art of Happening is based on a flow of action that is developed on impulse and improvised without a specific scenario. This art form can be expressed through visual forms of discourse (dance, music, slides) as well as through sensory or spiritual experiences such as smell and taste. The most important feature of this art form is to create audience participation and reaction to the performance. Important representatives of this instantaneously developing art form are artists such as Allan Kaprow, Jane Cage, Jim Dine, Claes Oldenburg, Robert Sauschenber, Robert Whiiteman, Carolee Scheenmann and Red Grooms. The artist considered to be the pioneer of the art of Happening is the American artist Kaprow, who received his education in painting, and is also known today as the practitioner of the art of happening (Yılmaz, 2006, 258).

Allan Kaprow's first performance was '18 Happenings in 6 Parts' at the Reuben Gallery in New York. In this work, Kaprow first sent printed invitations to his friends and then sent some of them packages containing pieces of paper, wood, photographs, cut-out figures, painted pieces and a sketch of the venue. Kaprow divided the second floor of the Reuben Gallery into three rooms with plastic walls. The chairs in the rooms, equipped with colored lights, were arranged in circular and rectangular patterns so that the participants would not be facing in the same direction. In the first and second rooms of the Reuben Gallery, full-length mirrors were placed, while in the third room a secret control center was set up. Each visitor to the installation was given a program and three cards announcing

that all six episodes would take place simultaneously, with a voice announcing the beginning of each episode. The participants followed the sequence of actions in stages, following the movements outlined in the program: first they walked with military steps, remained still for a while, then closed the window blinds, read the posters and played their musical instruments. In a period of 90 minutes, they transferred 18 actions, one after the other, onto the primed canvas (Atakan, 1998: 68). Kaprow's happening or formation is a situation that occurs as a result of the instantaneous reactions of the participants in a certain space.

II. Richard Schechner and Environmental Theater

It did not take long for theater to exist as a closed art form. Social transformations and socio-political transformations have led theater artists to search for new spaces. It was very important to go outside the theater building as a performance space, to make art alive, to position it at a level where it should have an impact on the daily lives of each individual member of society. In this sense, the approach of Richard Schechner, who built a new art discipline with his work in the field of performance in the 1960s, is very important. Schechner's approach to the theater space, using the space itself, was based on the alternative theater's concern to improve society rather than the commercial concerns of traditional theater. By engaging people in the process of theatrical action, it will contribute to improving their quality of life. Schechner's perspective can be found in his theatrical experience in The New Orleans Group (1964-1967) and The Performance Group (1967-1980). Schechner's main hypothesis in his work Environmental Theatre is that audience participation is central to the theater. Generally, Schechner looked for ways of how the audience can be involved in the discussion taking place on stage in the space transformed by the theater group. He underlines that space is decisive in this interaction between the audience and the theater group, in the formation of a common unity. Schechner, in particular, focuses more on the use of space and mentions six basic principles that define environmental theater (Dalyanoğlu, 2009)

1. Theatrical activity is a combination of a number of interrelated actions.

Any theatrical event includes: audience, actors, dramatic text, performance text, architectural design, spatial arrangement, production materials, technical crew. Such events range from a spontaneous, unpredetermined happening to rehearsed productions. We can list these types of events as follows: public events, demonstrations and actions, happening, environmental theater, traditional theater.

2. Use of Space in the Performance Phase

Since rituals are one of the common performances of communities, we see a systematic use of space by spectators and performers. As is well known, the participants in the ritual performances of such communities are the entire population. In terms of performance time, these performances are not restricted to a specific period of time, but can last for days, sometimes months. However, the space for environmental theater is the street, which is a part of everyday life, rather than the space used by a particular community for ritual. The actions and protests of certain segments of society on the street become a theatrical aspect of street life.

3. The theatrical event can also take place in a transformed space or exist in an already existing space.

We understand the definition of 'environment' in theatrical terms in two ways. First, to define what is to be done with the existing space. At this stage we transform the space for our own purposes. In the second sense, it is the acceptance of a given space as given and we act in accordance with it.

4. Emphasis points should show flexibility and variability during the performance.

As it is known, the single emphasis on the stage is one of the most prominent features of traditional theater. Even if several events take place on the stage at the same time, the audience focuses on a single point. Environmental theater, on the other hand, instead of rejecting this single emphasis phenomenon completely, considers it useful for performances in open spaces. However, unlike traditional theater, the emphasis in environmental theater venues is distributed to multiple points instead of focusing on a single point. In such venues, the audience is not allowed to see everything at the point where they are, they can choose one of the many different points of emphasis in the performance space and continue watching.

5. All the structures of the production speak in their own language.

Schechner states that the actor is not more important than the other elements in the production. All of the structures that make up the performance have coexistence and are whole. In environmental theater, no one element of the production is superior to another.

6. The written text does not limit the beginning and end of the production.

Peripheral theater does not consider the written text as an important part. It is known that in traditional theater the playwright is in an authoritative position and the whole team is directed according to what he writes. In this sense, environmental theater does not care about the text. In environmental theater, the text is just a map that shows certain paths and can be changed again and again. The group decides where the play is going, the process of the performance. It may not go where the playwright wants it to go (Schechner, 1994).

Schechner argues that unlike traditional theater, there is no ideological order in the architectural structure and construction of space in environmental theater. It is seen that it is not enough to disrupt the architectural structure so that this ideological order in traditional theater does not continue in environmental theater. Schechner made certain additions to the play to disrupt the hierarchy between the actor and the audience. In traditional theater, the events that take place on stage are known only to the actors. In order to disrupt this hierarchy, sections that are directed by the audience have been added to the plays. One of such experiments is practiced in the play Commune. In the My Lai scene of this play, the audience is invited to play the villagers in an interview about how the Vietnamese were killed by American soldiers in the village of My Lai. Schechner thinks that there should be a certain distance between the characters and the actors. At this point we see that he is closer to B. Brecht's concept of alienation (Schechner, 1994).

III. The Living Theater and Space

The transfer of theatrical narrative from traditional venues to alternative venues dates back to ancient times. Such square plays, middle plays or ritual ceremonies have been performed by societies for a long time. In some aspects, the search for alternative spaces in theater in the XXth century is seen as

hybrid structures that combine ritual plays and traditional theater technique. In this respect, the Living Theater has also had a significant impact on the development of the alternative space concept. Namely, it was founded in 1947 by Jurith Malina and Julian Beck as an Off-Broadway company. It is an ensemble that has been influential in America and Europe for a long time. One of their most important features has been to eliminate the textual phenomenon in traditional theater or to reduce its influence. Living theatre has sometimes developed a new idea by reinterpreting texts and deconstructing them. They have changed the function and structure of texts in order to create a political debate, a debating space. Undoubtedly, the most important hypothesis of Living Theatre is to eliminate the differences between the way of life and the way of theater, to completely destroy the boundaries between them. In this sense, plays produced by Living Theater such as Now Paradise, Cain, Frankenstein are very important. Trying to break the vicious circle of theater art within its own rules, Living theatre explained their aims in this way in a document they published (James, 1971).

> *'Abandon the theaters... Create other situations for the people in the street. Create the most sublime theatrical situations we know that lead to action. Find new forms of discourse, break down the barriers of art. Free art from the prison of the mentality dictated by the established order. In other words, the making of art is functionalized to serve the needs of the upper class. If art is not to be used to serve the needs of the people, escape from it, get rid of it.' (Tyan, 1974:10)*

Opposed to the art of theater serving to caress the hedonistic feelings of the upper classes, Living Theatre states that it is important to change the spaces. The theater space needs to be in the life, in a back alley, in the corner of a bar, on the ground floor of a factory, on the uncanny sidewalk of the main street. Especially during the recent earthquake events in Turkey, we have seen that people's ties with theater and art have been completely severed. In times when there is an obligation to completely close theater halls in times of natural disasters around the world, alternative theater, environmental theater seems to be more advantageous in this sense.

Conclusion

Theatrical spaces have been important for the construction of political, cultural and religious discourses from the earliest periods of history. Changing structures, ideologies and ways of life over time have also shaped the location of these spaces. In places where rituals are performed, there is a structure where the focus is distributed at a common level during a common ritual. As it is known, the theaters that turned into productions in Ancient Greek and Roman theaters adopted a hierarchical structure. This hierarchical structure was adopted until the twentieth century because it was used as an ideological tool by power structures. In the early twentieth century, we observe that many different directors struggled to liberate the theater from being the ideological apparatus of a certain segment of society. In particular, the art of happening and its successors such as The Living Theater tried to free the art of theater from the space it was stuck in. Their attempts to move the theater space to the streets and squares enabled art to meet people on the streets at a certain level. The elimination of the hierarchy between the audience and the actors, the audience having a say in the flow of theatrical discourse, and being the directing force, transformed art into a more vibrant form. This transformation of the theatrical space has opened the door to new opportunities to serve all segments of society, anywhere and anytime. In geographies where natural disasters, earthquakes and wars occur, such environmental theater practices have enabled people to meet with art quickly and to perform their

'play' and 'distraction' activities in a healthier way. In this sense, environmental theater should be further developed and encouraged to be applied in areas where natural disasters occur.

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THE VIETNAMESE'S BELIEF OF GODDESS WORSHIP IN THE CONTEXT OF SOUTHEST ASIA CULTURE

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Abstract

The Southeast Asian communities of wet-rice cultivation, particularly Vietnam, are one of the few mid-sized Asian countries and global emerging markets that have maintained its ethnic heterogeneity. Apart from the vast areas of Northern Vietnam's pristine mountainous terrains and villages on which the ethnic heritage preservation efforts could partially rely for its success, the concerted promotion of those minorities' religious beliefs and rituals have also largely accounted for the lasting popularity of ethnic customs and traditions. Among those, the practice of Mother Goddess or goddess worshipping remains a religious phenomenon among the indigenous Vietnamese. These customs contribute to the national representation of shared beliefs and mutual respect for diversity of various countries in the region while also showcase the distinct characteristics of each nation.

Traditionally, the preponderance of Vietnam's civilisation advances were associated with the embrace and proliferation of wet-rice cultivation - a culture that implicitly favours femininity. This feminine characteristic could be considered the crucial starting point of a social lifestyle that allows for emotional awareness, a high degree of respect for women, and in the field of beliefs, the worship of a number of female deities. In 2016, the practice of Mother Goddesses' worshipping was recognised by UNESCO as an intangible cultural heritage of humanity. In addition, the Vietnamese's religious beliefs display certain similarities to those of other regions in Asia pertaining to the worship of Guan Yin and other prominent Asian goddesses.

In this report, we shall present the research findings on goddess worship practices in Vietnam in the context of Southeast Asian culture with respect to the following aspects: Origin of goddess worship, Divine expression of the goddess worship, The role of goddess worship in cultural life, Preservation of the heritage value of goddess worship in current era. The research aims to contribute to preserving cultural diversity in Vietnam as well as the broader communities of Southeast Asia.

Keywords: Goddess worship, Southeast Asian culture, preserving cultural diversity.

INTRODUCTION

Southeast Asia includes two main areas which are the Indo-China (Dong Duong) and the islands which the world refers to as Malaysia. From ancient times, this area was referred to by the name of Nam Duong by the Chinese, Nan Yo by the Japanese, Suvarnabhum by the Indians, is an area that holds special parts in the the Eastern-Western trading route, is a place of intersection of some of the world's biggest culture. Southeast Asian culture nowadays is regarded as a unification within variations, full of authenticity. It is an entirety, an interwoven of various cultures including exotic

traditional and a hybrid from interactions and cultural crosses with the Indians, Chinese, Arabians and Westerns.

Folk religion is one of the components to create the national identities of different Southeast Asia ethnicities. Different rituals, customs, spiritual beliefs, religions has crucial purviews to the daily lives of the citizens, they reflect "people's belief in a phenomenon, an object, which has a reflective effect on one's life and the society". By the faith in spiritualities and religions, humans live towards graciousness, showing gratitude towards their ancestors, the Thanh Hoang deities, the patrimonies, moreover nominating humanitarianism, enriching one's spiritual life. Folk religion, which contributes to preserving one's national identity, is a connective element between residential communities' cultures, assisting the variations of native culture.

Lying within Southeast Asia's cultural foundation with the wet rice civilization, the Vietnamese culture in general and religion in specific bear numerous resemblance with the Southeast Asians society, including the Worship towards Mother Goddesses. In this report, we are going to present research results on the Mother Goddesses Worship in Vietnam in the context of Southeast Asia on the subjects of: the origin of Mother Goddesses religion in Vietnam and Southeast Asia, the expression of Mother Goddesses religion, the roles of Mother Goddesses religion in the culture life, the preservation of Mother Goddess religion nowadays. From that, contributing to the conservancy of the vibrant culture of Vietnam specifically and Southeast Asia in general.

MATERIALS AND METHODS

This study was conducted based on documentary research on folk beliefs of Southeast Asian residents in general and Vietnamese people in particular.

The main methods used are interdisciplinary research methods of social sciences, area studies and cultural studies. The object of research here is the belief in Goddess Worship set in the context of Southeast Asian culture, considering this belief as a part of culture, considered from a cultural perspective, not researched from a religious perspective. beliefs.

RESEARCH RESULTS

1. What is belief?

Belief is a set of beliefs that form and reflect the wishes of a community of people. Folk beliefs often have common characteristics: belief in supernatural forces; sublime spirituality; honour mixed with fear; is the interactive relationship between humans and gods, human's attitude towards nature; love for people and fellow human beings.

Not all beliefs are the same and for the same belief, each community may have a different expression of that belief. Depending on the living practices, habits or concepts of each region and each ethnic group, each region, each country and each community has its own indigenous beliefs.

2. Indigenous beliefs of Southeast Asia

Many researchers on regional culture affirm that Southeast Asia has a unique indigenous culture. Indigenous culture "is local culture, originating locally, created by local residents" (1). In Southeast Asia, the indigenous cultural layer is the oldest cultural layer from the time humans appeared in this area until the first century BC - the pure cultural layer created by Southeast Asian residents. from prehistoric and early historical times before Southeast Asians had cultural contact with the outside world (2).

It is no coincidence that in his work Ancient History of the Indianized Countries in the Far East, G. E. Coedes devoted an entire chapter to an overview of the formation and main features of the indigenous culture of Southeast Asia. . According to the author, "…one can point out here the characteristic features of this civilization, for example the material aspect of wet rice cultivation, the domestication of cattle, the primitive use of metals, sailing techniques; In terms of society, the important role of women and the maternal lineage relationship, social organisation comes from the essential needs of cultivating flooded fields; In terms of religious life: animist beliefs, ancestor worship and earth god worship... In terms of mythology, there is a duality about the universe, opposing mountains and seas...; Linguistically, the use of monosyllabic speech has a rich capacity for variation such as prefixes, suffixes and infixes" (3).

In Vietnam, the research works on Southeast Asian culture by scholars Pham Duc Duong, Nguyen Tan Dac, and Mai Ngoc Chu based on archaeological, ethnographic, and ancient bibliographic sources have tried to clarify the indigenous culture. It arose on the basis of wet rice agricultural civilization. If we look at Southeast Asia (more broadly, the East) from a cultural perspective, we can see: different from Westerners (existing in a cold environment, dry climate, plants cannot grow, only immense grasslands - living mainly on animal husbandry), Southeast Asians live in a hot, rainy, high-humidity environment, with large rivers and rich plains, suitable for plants. growing up, living a life inclined towards farming. Therefore, the original cultural type of the West is nomadic, while the original cultural type of Southeast Asia is agricultural (4).

The type of agricultural culture in Southeast Asia has the following basic characteristics:

Regarding how to deal with the natural environment, Southeast Asian residents depend a lot on heaven, earth, water... Therefore, in their relationship with nature, Southeast Asian people always pay attention and promote harmony. .

In cognitive culture, because it comes from wet rice agriculture, we must "Look at the sky, look at the ground, look at the clouds/ Look at the rain, look at the sun, look at the day, look at the night"... so since ancient times, Southeast Asian people have Forming a synthetic and dialectical way of thinking. The things that farmers are interested in are not their separate existence but the interrelationship between them. "Synthesis" covers all elements; while "dialectics" focuses on the relationships between things and phenomena.

In terms of community organisation, Southeast Asians live according to the principle of respect, treating each other equally and democratically. That is village and commune democracy (village and commune culture was born before the feudal monarchy and bourgeois democracy). Village and commune culture with its structure throughout thousands of years of history contributes to forming the identity of Southeast Asian culture. Neighbours who live together for a long time must create cohesion and harmony on the basis of taking love first... This love-centred lifestyle inevitably leads to an attitude of respecting morality, respecting literature, and promoting women.

In dealing with the social environment, dialectical and synthetic thinking dictates a flexible and inclusive attitude in accepting the surrounding world of Southeast Asians. Therefore, later, when coming into contact with other cultures, Southeast Asian peoples flexibly adapted the quintessence of foreign cultures to enrich their own national culture, creating a dynamic force to develop the country's culture. That's why so many cultural colours with different origins coexist in each country and throughout the region.

Indigenous beliefs in Southeast Asia are extremely diverse but still belong to three main categories: Nature worship beliefs, fertility beliefs, and worship of the dead. That commonality comes from the theory of animism, that is, the theory that all things have souls.

The above reality shows that Southeast Asia has an indigenous culture in both material and spiritual aspects. And when referring to this culture in mainland Southeast Asian countries, in addition to the "common denominator" characteristics, each country, due to its geographical location and historical - cultural characteristics, has its own unique characteristics. unique characteristics.

The richness of cultural life and beliefs comes from the fact that there are many classes of residents and ethnic groups living together for a long time, each class of residents contributing their own, unique cultural features. , when blended together, they will create a rich, multi-faceted appearance of common spiritual life

3. Mother Goddesses Worship Belief in Vietnam

In the list of Vietnamese gods, the gods associated with the essence of the universe all have female elements such as Metal, Wood, Water, Fire, Earth (Ba Kim, Ba Moc, Ba Thuy, Ba Hoa), Female The Sun God, the Moon Goddess, Nu Wa wearing a stone to patch the sky... Along with that, natural phenomena such as clouds, rain, thunder, and lightning were also consecrated into Nu and Buddha into the Four Dharmas (Dharma). Van, Phap Vu, Phap Loi, Phap Dien).

In Vietnam, there are no accurate statistics on how many Goddesses there are. According to the book "The True Bien Society", published in 1847 during Thieu Tri's reign, compiled by Thanh Hoa Tu, out of 27 fairies of pure Vietnamese origin, up to 17 are fairies. In the book "Vietnamese Goddesses", 75 typical Goddesses of Vietnam have been collected and initially introduced. In the book "Vietnam's Historical and Cultural Relics", the list shows that, out of 1,000 relics, there are 250 relics worshipping Goddesses and female celebrities. Particularly around the Phu Day relic complex (Nam Dinh) worshipping Mother Goddess Lieu Hanh, there are more than 20 temples worshipping other goddesses. Currently, there are more than 1,200 temples, shrines, and palaces that are worshipping facilities for the Goddess cult, not to mention the system of Buddhist temples with Mother Goddess shrines..

Statue of Queen Duong Van Nga in Hoa Lu, Ninh Binh



The shrine of Holy Mother Lieu Hanh in Tay Ho Palace



3.1. The origin of Mother Goddesses Worship Belief in Vietnam

First, historical and cultural factors

The history of Eastern culture in general and Vietnam in particular is an adjustment from Matrilineal, Matriarchal, Matrilineal to Patriarchal. Matrilineal social organization and matriarchy have existed for a long time in Eastern countries, so it is preserved and clearly reflected in cultural and religious life. In Vietnamese legends and myths, traces of Matriarchy are reflected: the story of Trong Thuy going to live with his son-in-law, the story of Mother U Co giving birth to a clutch of a hundred eggs and giving birth to a hundred children. The female becomes a symbol of the cosmic essence and the source of all things. The story of Mother Rice, Mother Sugarcane, Mother Fire and the Mothers who are the ancestors of professions: weaving, silkworm rearing, salt making, carpentry, baking,...

The "female" element also makes its mark on the symbols of imported religions. According to the Buddhist Church, the Vietnamese people transformed Bodhisattva Avalokiteshvara from a "Good Man" into a woman named Bodhisattva Avalokiteshvara.

Some ethnic minorities in Vietnam such as the Cham, Ede, Giarai, are less directly influenced by Chinese culture, so until now, they still maintain the Matrilineal system, the role of the family. Women are still very big: proactive in marriage, husbands come to live with their wives, children are named after their mothers' surnames…

Second, economic and social causes

Vietnam is located in a tropical, monsoon region, hot, humid, rainy, with many lakes, swamps, and mudflats, so it is suitable for farming. The economic activity of the ancient Vietnamese people was mainly wet rice agriculture. Because it is a purely agricultural economy, although it is very necessary for men's muscular strength, there are four basic elements: water, fertiliser, cannabis, seeds, and farming techniques: ploughing, harrowing, sowing. , sowing, pruning, transplanting, planting, reaping, threshing, an irrigation system requires meticulousness, ingenuity, and diligence of people, so most of it is done by women's hands. (Going to the rice fields early in the morning, returning to the mulberry fields in the evening, carrying the plough on one shoulder, chasing the buffalo with the other, the hoe mixing with the bucket, the machete carrying the manure at the top...). In addition to agriculture, other secondary occupations such as knitting, agave farming, mulberry growing, silkworm rearing, silk reeling, weaving, animal husbandry... also require women's hands. Business and small businesses are also responsible for and shouldered by women. It can be said that women are almost the main labourers and contribute significantly to household economic production (farms are deep, sows are not as good as first-born daughters), all the hard work is also the man's turn. She had to shoulder the responsibility (even fighting the enemy). With such a woman's economic role, women become very important in the family. Although the man is considered the breadwinner and the head of the family, it is up to him to "hand the keys". The wife is in charge, so people have a saying that the husband is like a "basket", the wife is a "stem", without the cuttings, all the fish in the basket will float away (the husband's assets, the wife's merit).

With such an important economic position, despite being heavily influenced by the patriarchal Feudal regime for many centuries, Vietnamese culture still leans towards Maternal nature, this is one of the most important aspects of Vietnamese culture. The basis for women to be honoured and have a position in spiritual life and on the altar like male gods.

In addition, in family relationships, the mother is still number 1 (the father who gives birth is not as good as the mother who raises him), or at least is equal to the father (the father's merit is like the Thai mountain, the mother's kindness is like the water flowing from the source, One Heart Worship Mother Glass Father…). In social relations, women are still respected (have the right to call themselves Kings: Ba Trung, Ba Trieu); His command is not equal to her gong. Society does not force women to strictly

adhere to the Confucian theory of Three Obedience (at home, obey father, at home, follow husband, son obeys son) of Confucianism, and does not condemn the act of remarriage. are still allowed to study and are recognized and appreciated by society.

Third, about psychology and consciousness

Vietnamese people have a prosperous way of thinking, emphasising the factors of Birth, Nurture, and Desire (Reproduction/sexuality; Nurture; Education), which in the Vietnamese perspective are all attributes of Mother: Woman is the source of all reproduction (U Co's mother gave birth to a sac of a hundred eggs); Women are the focus and regulator of sexual relationships in the family. Women are a symbol of the longevity of the race, of the desire for prosperity, prosperity, buds, buds, and flowers. fructification; The mother is also the centre of the family, nurturing, caring for, and educating her children (the father is not as good as the mother who raises them, children are spoiled by the mother, grandchildren are spoiled by the grandmother, foolish children are brought up, and virtue depends on the mother).

Although Vietnamese people are very afraid of "Heaven", they have personified him, seeing it as a divine force that can shelter and protect living beings, can also punish evil people and nurture all things (Sky Lights Shine judge; God has eyes; If you live freely, God will forgive you; if you live crookedly, God will bring you wealth; Thank God for rain and sunshine at the right time; Dear God, when it rains, take the water I drink and use the field I plough; Make a ladder , thirty-six steps, built from the ground, up to ask God, ask about karma for the next life,...). However, Vietnamese people still place the position of "God" on the second level after "Wife" (first Wife, second Heaven), which shows that the way of thinking of Vietnamese people favours reality and practicality.

In general, Mother nature is somewhat dominant, which is the psychological basis for the formation of a culture that favours the negative and is the conscious basis for the formation of the superiority of the Female in belief and religious life.

Fourth, maintain the Matriarchal lifestyle despite practising Patriarchy and Patriarchy

Entering the Patriarchal period, the patriarchy was established, but the ancient Bach Viet clans still maintained the Matrilineal system in their lifestyle. With a purely agricultural economy, Vietnamese people value the Earth, and the Earth is associated with the element - Female - Mother (Father Heaven, Mother Earth). And perhaps, because women manage all the finances in the family (housekeepers), they are also important people in the relationship with relatives, villages, and homeland, which proves that women have had a very important position in life from ancient times until today. For settled agricultural residents, the house and the kitchen are valued, those two important places are both associated with the woman's position (Men plant the scrub, women make the nest; Watch in the kitchen, know how to behave). grandma;...). The wife is often respectfully and respectfully called "my darling at home".

The "dispute" and the fierce and violent reaction of women when the patriarchal regime ascended the throne were also fully reflected and recorded through legends, popular literature and scholarly literature of Vietnam. Vietnamese people. The sentimental, sentimental lifestyle (a little reason is not equal to a little love) of Vietnamese people is also a characteristic that shows a culture that favours femininity and negativity.

In short, evidence from history, economics, culture, psychology, consciousness and all other sources has also shown that, during the period of the creation of the world and many centuries later, the position of , the role of women has been affirmed in many different areas of social life, not only that,

they are also honoured and worshipped as gods with supernatural, creative power. universe, all species.

3.2. The role of Mother Goddesses Worship belief in social life

When the image of women is honoured and worshipped as gods in the spiritual world, it reflects the spirit of gender equality. The Vietnamese people's belief in worshipping the Goddess also reflects the richness of objects of worship in various types of Vietnamese folk beliefs. Goddesses can be Human Gods and Nature Gods. There is a Goddess who comes from myths and legends. There is a Goddess who is a real person, has meritorious service to the people, the village, and the country. When she dies, she is honoured and deified. There are Goddesses from the noble class in society, but there are also Goddesses from the common and poor classes who are also honoured. The Vietnamese people's belief in Goddess worship also reflects the tolerance and openness of the Vietnamese people. There are local Goddesses, foreign Goddesses, and Goddesses representing other ethnic groups and cultural regions. each other (backward region, lowland region). Worshipping the Goddess also orients people toward tolerance and altruism like a mother.

The belief in worshipping the Goddess of Vietnamese people reflects the role of the Mother Goddess in the spiritual life of Vietnamese people. Behind that honour, admiration, and worship is the desire for prosperity, prosperity, and prosperity. enough and prosperous, and the Mother is a typical symbol of that aspiration.

The patriarchy that appeared and lasted for thousands of years in Vietnam has bound women in a social order, a strict and sometimes extreme religious rite that has weighed heavily on their material and spiritual life. God of women, the belief in worshipping the Goddess will contribute to filling, comforting, and comforting the sadness about women's low status and is a great spiritual fulcrum to support women in this world. real world. If a god is in male form, believers may feel scared, small, and self-conscious before the power of the male god. On the contrary, believers will feel peaceful and at ease before the Goddess, because she is a symbol of charity, tolerance, and gentleness. Therefore, it is no coincidence that the position of the Goddess has a profound influence in the spiritual life of Vietnamese people.

The legends about Mother Goddesses reflect the role and position of women in the historical process of building and defending the country. Mother U Co created the Lac Viet lineage, Mother Lieu Hanh specialised in promoting good and punishing evil; Mrs. Xu, Mrs. Den, and Mrs. Thien Yana specialises in curing diseases, chasing away demons, exorcising evil spirits, and keeping the village peaceful. Lady Kho, Mother Pham Thi, and Ba Ba De Tham are all people who have contributed to the resistance wars to defend the country. Whether they originate from real or legendary historical figures, because the Mother Goddesses all play a huge role in the nation's history, the Goddesses have been "historicized" or turned into historical figures. True history associated with the process of building and defending the country of the Vietnamese people.

4. Preserving and promoting the value of Mother Goddess Worship belief in Vietnam today

In general, cultural values in the religious life of goddess worship in Vietnamese provinces and cities are not only being preserved and preserved, but also promoting a great role in economic development. Notably, the awareness of these cultural values and beliefs is increasingly comprehensive and profound across fields and types; Many cultural products are increasingly diverse and rich, meeting new and multi-faceted requirements of society. Many cultural heritages with traditional values of the nation are inherited, preserved and developed, becoming attractive tourism products for domestic and international tourists. Festivals related to goddess worship are held periodically in provinces and

cities, regularly attracting thousands of people to visit, research, and study, contributing to promoting conservation and conservation. promote the cultural heritage values of the nation and develop sustainable tourism. For example, the Quan Them festival in Da Nang city takes place for many days with the ceremony including the following contents: Light procession ceremony, sutra opening ceremony, divination ceremony, lecture ceremony about Bodhisattva Avalokiteśvara. and ethnic groups, the procession of the statue of Avalokiteshvara; The festival took place vibrantly with many cultural and sports activities imbued with national identity mixed with modernity, such as masquerade festivals, folk songs, chess competitions, music, painting, sculpture, four-spirit dance, floating lanterns on the river, traditional opera singing, calligraphy and ink painting exhibitions, interpretation contests about Marble Mountains, vegetarian cooking contests,...

To preserve and promote the beauty of this type of belief, management agencies and people need to join hands to implement measures such as:

Firstly, pay attention to linking religious activities and festival practices in the relationship of economic - cultural - social benefits. Reality shows that making good use of and exploiting cultural values in religious life and turning them into tourism resources not only makes local residents more responsible in preserving and managing them. cultural heritage, but also contributes to shifting the local economic structure in a more positive direction, creating conditions for the community to develop sustainably. On the other hand, through the economic benefits brought, the community will better understand heritage values, thereby consciously preserving and promoting cultural values.

Second, continue to scientifically research religious needs, satisfactorily addressing the legitimate spiritual needs of the people. Leadership and management entities need to create for positive conditions religious and spiritual activities to take place in a healthy way; At the same time, it is necessary to strengthen state management of taking advantage of beliefs to do wrong things.

Third, in order to promote the cultural value of goddess worship, in addition to strictly handling deviant manifestations and taking advantage of this belief for personal gain, it is necessary to step up propaganda work and make people aware of it. People understand more deeply the positive values of practising goddess worship.

CONCLUSION

The Vietnamese culture and belief system does not stop at indigenous beliefs, but is also interwoven and harmonised with many other factors to create many valuable and attractive cultural features. Like culture in general, spiritual culture is formed from practical life activities in the community of residents in each region, region and locality. The above-mentioned religious activities and festival practices are a harmonious combination between the spiritual world and the real life of people. Beliefs and religion are always the spiritual needs of a part of people from all over the world. before now. Therefore, religious activities both meet the needs of people's spiritual and cultural activities and reflect the people's aspirations for a peaceful and prosperous life; At the same time, it is a valuable resource that creates motivation for economic development, especially the tourism and service economy, because once culture stagnates, there will not be any socio-economic development. any.

In 2016, Vietnamese people were honoured to receive the honour of Mother Goddess Worship - one of the manifestations of goddess worship as a representative intangible cultural heritage of humanity. That is recognition for the outstanding values of this type of belief among the types of Vietnamese folk beliefs, for the widespread popularity and long-standing tradition of Mother Goddess Worship, for the contribution Active contributions of the Vietnamese community in all regions of the country in preserving the vitality of Mother Goddess Worship. In particular, it is also because of the

widespread spread of Mother Goddess worship in the Vietnamese community abroad as a traditional cultural identity that is maintained, inherited and developed.

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AUTISM AND THE CHALLENGES OF INCLUSIVE EDUCATIONAL PRACTICES

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Abstract

Autism is a set of neurodevelopmental disorders characterized by impaired social interactions, communication deficits, repetitive behaviors, and unusual or restricted interests. The diagnosis and treatment of autism involve various professionals, as each case requires an individualized approach and support. In the inclusion of students with autism spectrum disorders in regular schools, alongside families, teachers play a crucial role in providing support for students to reach their full potential. Inclusive educational practices require competent teachers who will adapt their teaching to students through flexible programs, aiming towards social acceptance, individualization, and functional skill development.
The OBJECTIVE of our research is to identify teachers' attitudes regarding their level of preparedness to work with students with autism spectrum disorders, the desire to improve specific competencies, and support for the implementation of inclusion in our education system. Empirical non-experimental research was conducted using theoretical analysis and synthesis methods and a Survey research method with the application of appropriate tools: a five-point Likert scale, the PRIVOR questionnaire, F-test, t-test, and χ^2-test.
Research Results: Teachers' attitudes regarding their preparedness to work with children on the autism spectrum were identified (trained or fully trained 42.4%). It was found that 72.8% of teachers want to enhance their specific competencies. Statistically significant differences were observed in teachers' responses based on their job position, work experience, and educational qualifications, but there were no statistically significant differences based on gender. It was determined that 78.7% of teachers support the implementation of inclusion in our education system, and there were no statistically significant differences in teachers' attitudes based on their socio-economic characteristics. The results of the empirical research imply the necessity of providing professional support and training for teachers working with students on the autism spectrum and all other students with developmental disorders. Continuous professional development for teachers and collaboration with educators from other educational systems with more experience in implementing educational inclusion are essential.

Keywords: autism, educational inclusion, teacher competencies.

INTRODUCTION

Autism is a pervasive developmental disorder that begins in childhood, mostly within the first three years of life, affecting nearly all mental functions and lasting throughout one's life. The term "autism"

is derived from the Greek word "authos," meaning self. This term was introduced into psychiatry by Swiss psychiatrist E. Bleuler in 1911 (Faust, 2020).

Scientific research indicates that it is a hereditary neurodevelopmental disorder influenced by environmental factors, and it is more prevalent in boys than in girls. According to the American classification DSM IV, essential characteristics of autistic disorder include significantly abnormal or impaired development of social interactions and communication, as well as a significantly reduced repertoire of activities and interests. The manifestations of the disorder vary depending on the developmental level and chronological age (Stančić, 1985; Baron Cohen and Bolton, 1993; Bujas Petković, 1995; Nikolić, 2000).

Regarding etiology, most experts in the field believe that multiple factors contribute to autism. Simon Baron Cohen and Patrick Bolton (1993), summarizing facts and hypotheses about the causes of autistic disorder, discuss a model of the final common pathway: genetic causes, early-age viral infections, complications during pregnancy and childbirth, and other factors that can result in brain damage. The result of the final common pathway of all or some of these factors is autism or intellectual disability, which overlap in some cases. According to these experts, 70% or more of children with autism also have intellectual disability (Baron Cohen and Bolton, 1993; Nikolić, 2014; Bojanin, 2018; Majoko, 2018).

The first signs of autism include a child's refusal of physical contact, a lack of imagination, lack of eye contact, appearing as if not seeing or hearing, showing no fear of danger, repetitive behavioral patterns, and laughing without an apparent reason. Theoretical analysis of available literature suggests that the clinical presentation, which almost always varies from case to case, has three important common components: 1. disorders in social interactions, 2. disorders in verbal and non-verbal communication, and limited activities and interests, and 3. various motor disturbances and stereotypies.

Diagnosis and treatment of autism involve various professionals because each case requires an individualized approach and support. A multidisciplinary approach is crucial for diagnosing autism. Parents usually recognize problems first, and this typically occurs before the child reaches the age of three. Early diagnosis is of great importance to initiate treatment as soon as possible, allowing the child to develop better social functions as they grow. Various methods are used in treatment, but it's essential to consider that every child with autism is unique, and the same method may have different effects on them. Some of the most well-known and commonly used methods include ABA, Son-Rise, Floor-Time, Verbotonal method, Conductive method, and others. ABA and Son-Rise methods are most commonly used, as they can also be implemented by parents at home (Baron Cohen and Bolton, 1993; Bujas Petković, 1995; Nikolić, 2000; Mavropoulou, Sideridis, 2014).

Inclusion in education has been implemented in Bosnia and Herzegovina since the 2003/2004 school year, based on the Law on Primary Education. This means that students with special needs are educated alongside students without developmental disabilities in regular schools. The term "students with special needs" refers to all students who require additional assistance and support, including those with developmental disorders such as autism (Dukić, 2019).

In educational inclusion, teachers play a crucial role in providing support to students to help them reach their full potential. Inclusion of students with autism spectrum disorders in regular schools requires highly competent teachers. Our theoretical research has shown that inclusive educational practices require teachers to implement flexible programs and adapt their teaching to each student. Teachers should work towards social acceptance, individualization, and the functional development of the abilities of each student, regardless of their differences and individual capabilities. It is essential that inclusive teachers have a belief that every student is capable of learning and developing, and that

there is a stimulating learning environment. Therefore, it is necessary to enable each student to learn and progress in the way that suits them best (Booth & Ainscow 2002; Dukić, 2021; Dukić, 2022). An important question arises: Are teachers adequately prepared for these demanding roles in inclusive educational practice?

MATERIALS AND METHODS

Taking into consideration the foregoing, we defined the research objective.

The OBJECTIVE of our research is to identify teachers' attitudes regarding: a) their level of readiness to work with students with autism spectrum disorders, b) the desire of teachers to enhance their specific professional competencies (competencies for inclusive educational work), and c) support for the implementation of inclusion in our educational system. In this way, we aimed to shed light on specific challenges within inclusive educational practices.

In line with the defined research objective, we formulated the following hypotheses:

1. We hypothesize that teachers have established attitudes about their readiness to work with students with autism spectrum disorders. Over 50% of teachers assess themselves as qualified or fully qualified to work with these students.
2. We hypothesize that the majority of teachers want to improve their specific competencies (competencies for inclusive educational work).
3. We hypothesize that over 70% of teachers support the implementation of inclusion in our educational system, and there are no statistically significant differences in teachers' attitudes based on their socio-economic characteristics.

The empirical non-experimental research was conducted using two methods: 1. Theoretical analysis and synthesis, and 2. Survey research method, with the application of appropriate tools: a) a five-point Likert scale, and b) the PRIVOR questionnaire.
The research was carried out on a representative sample, which represents the population of teachers in elementary schools. The sample consisted of 761 teachers, comprising 633 female teachers and 128 male teachers. The majority of teachers were highly educated, with 75.40% holding a university degree, and 76% having up to 20 years of work experience.
In determining the metric characteristics of the instruments and data processing, the following statistical methods were applied: Pearson's correlation coefficient, item-total correlations, chi-square test, t-test, calculation of Cronbach's alpha reliability coefficient, analysis of variance (ANOVA), measures of central tendency and standard deviation, calculation of percentages and coefficients of variation. Testing for differences was done using t-tests and F-tests. The homogeneity of variances was examined using Levene's test. Data analysis was carried out using the statistical software package SPSS 20.0 for Windows. Before conducting the research, assumptions regarding the research approach, obtaining consent, confidentiality, and anonymity were ensured.

This article presents only one segment of a comprehensive empirical non-experimental research conducted for the purpose of a doctoral dissertation titled "Competencies and Professional Development of Teachers for Inclusive Educational Work in Elementary School."

RESULTS and DISCUSSION

Teachers' Attitudes Regarding Their Level of Preparedness to Work with Students on the Autism Spectrum.

Teachers self-assessed their level of preparedness to work with students on the autism spectrum. The results are presented in Table 1.

Table 1.
Self-assessment of the level of teacher competence for working with students on the autistic spectrum

THE LEVEL OF KOMPETENCE	Self-assessment of the level of teacher competence for working with students on the autistic spectrum	
	Frequencies (f)	**Percentage (%)**
1. I am not competent at all	**62**	**8,1**
2. I am insufficiently competent	**112**	**14,7**
3. I am partially competent	**265**	**34,8**
4. I am competent	**240**	**31,5**
5. I am fully competent	**82**	**10,9**
Тотал:	**761**	**100**
M	**3,22**	
Me	**3,00**	
SD	**1,083**	
V	**33,63**	
N	**761**	

Teachers' Attitudes Regarding the Desire to Improve Competencies

Table 2 presents teachers' attitudes regarding their desire to improve competencies for inclusive educational work.

Table 2.
The desire to improve competences for inclusive educational work

ATTITUDES OF TEACHERS	of **Do you want to improve your competences for inclusive educational work?**	
	Frequencies (f)	**Percentage (%)**
I want	**554**	**72,8**
I don't want	**77**	**10,1**
I don't know	**130**	**17,1**
Тотал:	**761**	**100**

Teachers want to improve their competencies due to the complexity and responsibility of the job they perform, for which they do not feel adequately competent and prepared. Differences in responses exist concerning the teachers' work experience.

Table 3.
The desire to improve competences – work experience

Do you want to improve your competences for inclusive educational work?

work experience	I want	I don't want	I don't know	N	χ^2	df	Sig	p
up to 10 years	281	17	39	337				
11 – 20 years	165	31	47	243				
21 – 30 years	86	19	30	135	43,538	6	0,000	p<0,01
over 30 years	22	10	14	46				
N	554	77	130	761				

By applying the chi-square test, we obtained the following result:
(χ^2=43.538; df=6; Sig. 0.000) => p<0.01.
Therefore, at the degree of freedom df=6, there is a statistically significant difference at the risk level p<0.01. Comparing the frequencies of each response option, we find that teachers with up to ten years of work experience, f(10)=0.833, expressed a greater desire to improve competencies for inclusive educational work, while teachers with over 30 years of work experience predominantly expressed that they do not want to, f(30)=0.217.

Table 4.
The desire for improvement competences - work place

„Do you want to improve your competences for inclusive educational work?“								
WORK PLACE	I want	I don't want	I don't know	N	χ^2	df	Sig	p
subject teacher	256	47	70	373				
teacher	255	27	56	338	10,122	4	0,038	p<0,05
expert associate	43	3	4	50				
N	554	77	130	761				

Therefore, at the degree of freedom df=4, there is a statistically significant difference at the risk level p<0.05. We find that professional collaborators expressed a greater desire for improving competencies for inclusive education than subject or class teachers.

Regarding the educational level, there are also statistically significant differences, as we have also determined using the chi-square test: (χ^2=23.480; df=4; Sig. 0.000) => p<0.01.
Statistically significant differences do not exist based on the gender of teachers, as determined using the χ^2 – chi-square test => (χ^2=2.727; df=2; Sig. 0.256) => p>0.05.

Table 5.
Support for inclusion

	Frequencies (f)	Percentage (%)
Do you support the implementation of inclusion in our educational system?		
Very supportive	97	12,7
Supportive	502	66,0
I don't support	162	21,3
Total:	761	100,0



Figure 1. Support for inclusion

In response to the question of whether they support the implementation of inclusion in our educational system, 97 or 12.7% of teachers stated that they strongly support it, 502 or 66% support it, and 162 or 21.3% of teachers indicated that they do not support it. These results show that 78.7% of teachers support or strongly support the introduction of inclusion into our educational system, while 21.3% do not support it. The result indicating the number of teachers who do not support the introduction of inclusion into our educational system is a clear sign that teachers need support to be better prepared to embrace the challenges of inclusive education. Therefore, inclusion in education should be a primary task of teachers' professional development.

Regarding differences in teachers' responses based on socio-economic characteristics, we have identified the following:

a) (χ^2 = 4.053; df=2; Sig. 0.132) => p>0.05; there are no statistically significant differences in teachers' responses based on their gender.

b) (χ^2 = 6.278; df=6; Sig. 0.393) => p>0.05; there are no statistically significant differences based on teachers' work experience.

c) (χ^2 = 4.771; df=4; Sig. 0.0787) => p>0.05; there are no statistically significant differences based on their educational level.

d) (χ^2 = 4.172; df=4; Sig. 0.383) => p>0.05; there are no statistically significant differences based on teachers' workplace.

Therefore, by applying the chi-square test, we have identified that there are no differences in teachers' attitudes regarding the support of inclusion implementation in our educational system based on their socio-economic characteristics: gender, work experience, educational level, and workplace.

CONCLUSIONS

1. Teacher attitudes regarding their level of competence in working with children on the autism spectrum have been identified. 42.4% of teachers consider themselves competent or fully competent, 34.8% consider themselves partially competent, 14.7% feel inadequately competent, and 8.1% of teachers believe they are not competent.

2. The desire to improve competencies exists in 72.8% of teachers because they understand that the job they perform is complex and responsible, and they do not feel sufficiently competent and prepared for the new challenges of inclusive practices. In teachers' responses, there are statistically significant differences based on their job position, at the risk level $p<0.05$; based on their work experience, $p<0.01$; and based on their educational level, also at the risk level $p<0.01$. There are no statistically significant differences in teachers' responses based on gender.

3. It has been identified that 78.7% of teachers support the implementation of inclusion in our educational system. By applying the χ^2 – chi-square test, ($\chi^2=4.053$; df=2; Sig. 0.132) => $p>0.05$; we have determined that there are no statistically significant differences in teachers' attitudes based on socio-economic characteristics: gender, work experience, educational level, and job position.

4. All three hypotheses have been confirmed. The results of the empirical research imply the necessity of professional support and training for teachers working with students on the autism spectrum. Continuous professional development for teachers and collaboration with educators from systems with more experience in implementing educational inclusion is essential.

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IMMOBILITY: PART OF MOBILITY STUDIES

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Abstract

Mobility studies are concerned with not only physical movement, but also potential movement, blocked movement, immobilization, dwelling and place - making (Buscher and Urry, 2009). Mobility studies also explore the impacts of mobility on the physical immobility of an individual, in a certain environment and time, which also includes the elements Time and Place in the explanations of studies related to the topic. Immobility encompasses mobility in ways pertaining to infrastructure, mobility and regimes of mobility (Salazar, 2016). This paper aims to explore in the studies of mobility - the impacts it brings to immobility. This paper is based on a systematic review of the available literature on mobility studies and includes both qualitative and quantitative studies conducted over the past decades. The research questions for this paper are: how are mobility studies defined?; what is and what is not mobility?; how does mobility affect immobility?; what are the meeting points? The systematic literature review generated comprehensive understandings of the embeddedness of mobility in immobility and the importance of understanding the impact that infrastructure, mobility and its regimes, have on immobility. The environment in which an individual in immobility stands, changes as a result of mobility. Mobility regimes include and study the ways in which regulatory/ legal systems define mobility. Studying approaches that cooperate with each other, explains the construction of mobility through institutions or new technological elements and changes in ideology.

Keywords: mobility, immobility, environment.

IS PHUBBING IN UNIVERSITY CLASSROOMS A NORM OR PRONE? ACADEMICS' VIEWS

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Abstract

The rapid growth of technologies especially smartphones are influencing people globally especially adolescents. Many studies discussed about the addiction of students towards smartphones. The behaviour of snubbing someone by paying attention on smartphones due to their addiction instead of listening to that individual is called as "Phubbing". It is an amalgamation of the two words "phone" and "snubbing". Since it is a brand new term in the field of education, little studies are there on Phubbing in classroom especially in a university context. As the academics are the people who will be snubbed due to the Phubbing behaviour of students in classroom, assessing the views of Lecturers and Peer Assisted Learning (PAL) Tutors makes this study more apt. PAL Tutors are the senior level students who are experts in the subject and are employed by the university to lecture and support their junior students. Moreover, the studies based on the views of academics on students Phubbing in university classrooms that too in a developing country such as South Africa are highly scarce which makes this study a worthy problem to be investigated. Therefore, this paper aims to examine the views of academics such as Lecturers and Peer Assisted Tutors to investigate whether Phubbing of students in the university classrooms is a norm or prone. The data will be collected through semi-structured interview as it enables the researcher to have the benefit of rephrasing the questions as and when the questions are not clear for the respondents. Qualitative data will be transcribed and analysed using thematic analysis to generate major themes and sub themes.

Keywords: Phubbing, Smartphones, Academics.

PICASSO'S POETRY: A 'CHORAL RENDERING'

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Abstract

One of the least known facets of Picasso's life is that of a poet. From an early age, he showed great admiration for writing. He perceived words as forms infused with multiple layers of meaning, rich in colors and textures. His texts, a combination of letters and graphic signs that intermingle, can even be interpreted pictorially. Indeed, exploring his poetry can enhance the interpretation of his plastic works, given that writing, drawing, painting and sculpture were hybrid and sometimes indiscernible activities for him. He wrote around three hundred and fifty poems in Spanish and French. Like his plastic works, Picasso's poems are not easy to interpret. His lines project a collage of the artist's thoughts and feelings. Understanding his poetry requires knowledge of his plastic works, his life and his cultural background. One quality of Picasso's poetry is its polyglot dimension. He grew to think, speak and write in three languages: his native Spanish, the Catalan of his youth, and French, after settling in Paris. To the multilingual nature of his poems, in which all three languages mix and resignify each other, the artist added an iconoclastic dimension since poetry for him often served to evoke what pictures could not represent. His writing has been the subject of numerous publications and exhibitions. In 1989, the *Musée Picasso* in Paris showed "Picasso poète, le crayon qui parle" to wide critical acclaim; and more recently, the *Museu Picasso*, Barcelona, explored his writing in "Alphabet. Picasso Poet." A comprehensive selection of his poems has been translated to English, German, Italian and other languages. I explore multiple translations of his poems with the aim of finding a "Choral rendering" of their content, in Martha Collins's terms. Picasso's complex texts present challenges for many reasons (semantic, syntactic, stylistic, cultural). These difficulties are the places where different translations tend to deviate. Looking at these differences carefully can take us deeply into the nuances of both the original version and its translations. In fact, as I show, multiple translations give us a better sense of the poem, allowing us to come closer to the poet's own experience.

Keywords: Picasso, poetry, translation, Choral, rendering.

THE STUDY OF COMMUNICATION RESEARCH: DIGITAL´S SKILLS EVOLUTION IN SPANISH ACADEMIC UNIVERSITIES

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Abstract

This study is the end of the project "*Maps of Communication Research in Spanish Universities from 2007 to 2018*", under registration as *PGC2018-093358-B-100*, within the I+D+I projects included in the State Research and Knowledge Generation Program, under the Ministry of Science, Innovation and Universities of Spain and coordinated by Professors Mrs. Carmen Caffarel Serra and Mr. Carlos Horacio Lozano Ascencio.
The work is also performed on the methodological designs wich evidences the scientific discourse, determining the field of analysis, types, techniques and forms of triangulation. In this way, our objective was to configure interactive maps of doctoral theses, R&D projects, scientific articles, communications, conferences, reference books and research groups between 2007 and 2018 in order to obtain a map of the last decade of communication research in Spain. We create a platform in Open Acces with the purpose of generating knowledge by updating the interactive cybernetic cartography this research production[1].
With the contrast of the information, we designed a survey form applied to communication researchers to contrast the scientific discourse and prepare the census of research groups, being able to establish specific databases (using the DELPHI and PHILLIPS 66 skills) applied to identify methodology, production and trend in communication research in Spain for the Communication Faculties. Finally, our intention is to explain a model that can be exported to other institutions and be practical for its application in the international community.

Keywords: Mapcom, Spain, Research, Knowledge, Interactivemaps, Communication.

[1] For more information it is recommended to visit Mapcom | Mapas de investigación en Comunicación en las universidades españolas

MOJOES AND EDUCATIONAL INNOVATION AT THE UNIVERSITY: METHODOLOGY APPLIED TO THE TRAINING OF SPANISH JOURNALISTS

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Abstract

This research belongs to the educational innovation project MOJOES II (MOBILE JOURNALISM EMPLOYMENT SKILLS) assigned under the number PIE23_145 in the Center for Teaching Innovation and Digital Education (CIED) of the Rey Juan Carlos University (Madrid, Spain) in the 2023/2024 academic year. For other hand, this project awarded to the teaching innovation group on content in mobile journalism (COMOJO) at the same institution.
The objective of this research is to present the evolution in the teaching methodology of future journalists since the end of the pandemic, where we observe a change in the skills of Spanish journalists. This is a specific case study between the Rey Juan Carlos University of Madrid (Spain), with the Bachelor's and Master's students in communication and information professionals through the Luca de Tena Foundation (Spain) where a specific experiment was carried out in learning competencies with Intelligence Artificial.
The results are interesting from a generational point of view, where younger journalists are less adaptive than older ones, which raises a different perspective regarding the mobile training of journalists. The case study uses survey tools, document analysis and group interviews carried out among the different profiles whose conclusions show us a more active, concrete and to a certain extent dehumanized type of teaching.

Keywords: Comojo, Mojoes, Innovation, Knowledge, Mobility, Communication.

THE HELLENIC OPEN UNIVERSITY AS AN "INFLUENCER" OF THE TRADITIONAL EDUCATIONAL LANDSCAPE

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Abstract

Due to the large offer of distance education programs (hereafter D.E.), especially during recent years, a severe dialogue has arisen related to the implementation practices of this education model by conventional higher education institutions. Consequently, it was deemed necessary to investigate the innovations, changes and influences that the Hellenic Open University (Greece) (henceforth H.O.U.) has taken place during these years in the way and methodology of offering short or long-term study programs by higher institutions and in areas that make up the pedagogic status of distance education. It should be emphasized that it is also the only university in the country that provides recognized degrees, applying the distance education model exclusively. This paper presents and describes in the context of the "Funding of research in the H.O.U." program the research project that aims to investigate and analyze the innovations, changes and influences initiated by the H.O.U. and has had an impact on the way and methodology of offering short or long study programs by higher education institutions of the country. After clarifying the concepts of educational innovation and change, the research program's purpose, goals, and innovative elements are presented. In addition, the innovations of the H.O.U. are recorded. & changes in offering quality curriculum provision. Then, the influences of the H.O.U. in fourteen higher educational institutes that provide conventional education concerning her physiognomy from distance education. The first results show the distance education model's effect on these institutions and the training programs they offer. However, more data will emerge during the research program. Finally, the first results of this research are presented, aiming to continue the research through interviews with people involved in the educational process.

Keywords: innovations in education, H.O.U., distance education, conventional education

INTRODUCTION

Education is decisive in the changing landscape and is the most important means for social and cultural cohesion. Therefore, educational systems must be flexible and anticipate the future parameters that will affect the social and economic environment. The Hellenic Open University offered and still offers the opportunity to study to thousands of people. Still, at the same time, it influenced conventional academic education by remaining open to the dictates of new educational needs and requirements.

Many conventional education institutions seem to have been affected by the dynamics of curriculum delivery through the distance education model (Chawinga & Zozie, 2016) due to competitive and demanding markets, often without carefully applying the elements that characterize academics' quality data and criteria. institutions. More specifically, many H.E.I of the country offer training programs, but with the question of whether they meet the conditions for effective operation and implementation of the D.E.

The advantages of D.E. are significant compared to the conventional education environment. Among the most basic is the offer of flexibility in the space and time of engagement of the trainees with their learning subject. (Nikolaki, et al., 2013). They are offered the opportunity to study at their own pace the teaching material structured to serve the student-centered nature of HE (Koutsoupa & Lykesas, 2013 Buselic, 2012). It allows institutions to educate a more significant number of people by employing a smaller number of teachers, thus offering a cost-effective method of providing higher education (Garuth & Garuth, 2013) In addition, learners have the opportunity to pursue lifelong learning regardless of lifestyle or location in which they live (Cheawjindakarn et al., 2016). As a result, many higher education institutions have been led to offer ever-increasing distance learning training programs.

Implementing the D, E model and its supporting structures requires careful planning, mainly when applied to conventional education structures. The assessment of the pedagogical character of the study programs is an element of study and research as it permeates the course of the entire educational planning. At the same time, often the appropriate attention required is not given.

This paper presents within the framework of the program "Funding research in the H.O.U.", the research project that aims to investigate and analyze the innovations, changes and influences initiated by the H.O.U. and they had an effect on the way of offering short or long study programs by higher education institutions in areas that make up the pedagogical nature of distance education. Also, investigate similarities and differences as they arise between the annual and six-monthly programs the educational institution offers. The conception of the proposal resulted from the study of the international and Greek literature, where the need to investigate the application and methodology of distance education in conventional academic education became apparent. Many traditional education institutions have been effected by the dynamics of providing curricula through the distance education model due to competitive and demanding markets, often without carefully applying the elements that characterise academic institutions' quality data and criteria. Often, the characteristics that are prerequisites for the effective functioning of D.E. are not included in the educational reality of conventional universities. Therefore, it will be investigated how the H.O.U. affected traditional higher education in creating and delivering distance learning or training programs in relation to educational materials, the role of the teacher, assessment, support, and the institution that designs and implements the respective HE academic plan. With the corresponding criteria, the similarities and differences of six-monthly and annual H.O.U. programs will be investigated through our research. as it started offering them relatively recently.

PURPOSE AND OBJECTIVES OF THE RESEARCH PROJECT

The purpose of the research is to analyse and investigate the innovations, changes and influences played by the H.O.U. and of the way it affected the curriculum methodology in conventional institutions of all kinds and in areas that make up the pedagogy of DE.

In addition, the H.O.U. in recent years, following the times' requirements, offered six-month study programs. It is essential to explore how, through its pioneering path, these programs show similarities and differences with the annual ones it offers and the possible reflections as these will arise from the new data. More specifically:
Because the elements which in essence constitute characteristics and are recorded as conditions for the effective operation of D.E (Lionarakis, 2001, 2006, 2008, 2010, 2019) are not always and entirely applied in educational reality, it will be investigated how distance education affected conventional higher education in the provision of distance learning or training programs in relation to: The educational material in the context of HE and the unique characteristics it must have in order to facilitate active learning / The existence of educational intervention planning and support / The role given to the teacher in relation to communication, counseling of students / The way evaluation and feedback of the students and the material they are asked to process / The role of the higher education institution that organizes and plans the introduction and implementation of the HE model along with the curricula in the conventional education environment / The absence of the team to a significant extent in relation to traditional education and the use of individualized and collaborative formats teaching & learning.
B) The similarities and differences of six-monthly and annual H.O.U. programs will be explored. as well as possible concerns in relation to: The educational material / The support of the students / The communication of the professor-counselor with the student / Assignments/ exams/feedback / The role of the professor-counselor / Problems that will arise from the research data.

RESEARCH PROJECT METHODOLOGY

The proposed research has so far been developed as follows: it investigates bibliographically the changes that were initially carried out in the very operation of the H.O.U. Through its innovations and then influences on conventional academic institutions of the country are investigated concerning the implementation of distance education by them and based on the above objectives and purpose of the research. The data will then be collected and recorded as it emerges from the research. The research results will be analysed after they are connected to the principles and characteristics of D.E as provided by the H.O.U. The changes and the influence played by the H.O.U. will be recorded in detail. In the academic landscape of the country. Also, the problems that may have been created by the provision of six-month study programs by the H.O.U. and solutions will be proposed to deal with them. Interviews with teachers of both the H.O.U. and conventional universities will follow the bibliographic research

INNOVATIONS OF THE H.O.U. & CHANGES IN OFFERING QUALITY CURRICULUM PROVISION

The first step for open and distance education at the university level in Greece was made by the Hellenic Open University, which was founded as a tertiary institution for distance education and is an essential factor in the cultivation and dissemination of the philosophy of open and distance education in the Greek educational system. (Lionarakis, 2006). It is one of the 22 Public Universities of Greece, and all its operation is subject to the legislation governing HEIs, providing degrees that are equal to those of other Universities. It is the third in a row in terms of the number of its students

Below, based on the bibliographic research so far, there are elements of innovation of the H.O.U. and describes the changes/ways that the existence of these innovations shapes its operation as an educational organisation exclusively based on the philosophy of distance education (H.O.U. 2013, 2021, 2022, n.d).

The significant number of collaborative teaching staff (CTS) manages many students simultaneously with a considerable amount of data. Data concerning the physiognomy of the Hellenic Open University which offers higher education, exclusively through the distance education model.

Among its significant innovations, is training 1,500 writers and 2,000 teachers to operate the university strictly according to the dictates of distance education.

The H.O.U. is the first public Greek university institution, which provided access to the good of education, removing the "obstacles" of the conventional university and covering basic needs in the country's Higher Education. Using these two "tools", the H.O.U. achieves, during all its years of operation, the bridging of all forms of learning, as it has developed programs that lead either to a simple certification (non-formal learning), or to the acquisition of a bachelor's or master's degree (formal learning) always providing the option to develop individual interests and inclinations (informal learning).

THEMATIC UNITS

The Hellenic Open University instituted for the first time the Thematic Unit, the Laboratory Thematic Unit (THE) and the Practical Exercise Unit (EPA) as basic functional units, each of covered by a distinguished academic subject at the undergraduate or postgraduate level.

Thematic units have replaced the "lesson" philosophy, with material consisting not of thousands of pages of teaching material by specific authors only, but of small units of varied teaching material

THE INTERNAL EVALUATION UNIT

The Internal Evaluation Unit of the Hellenic Open University (H.O.U.) was established by Law 2552/97. Its main objective is to contribute to upgrading the quality of the services provided by the H.O.U. through the tasks it carries out throughout the academic year. The objectives relate to evaluating the educational process of the H.O.U. and more specifically the teachers, the thematic Units (TE), the educational material and the administrative services. Also, other activities of the Unit are training the teaching staff of the H.O.U. cooperation with competent bodies for external evaluation and scientific research in methods and procedures to ensure the quality of educational technologies. The operation of the I.E.U. has brought about the following changes in the operating procedures of the H.O.U.:

Assesses can know the result of their assessment and, consequently, the points where they will need to improve their work. Also, the renewal of the tenure of the teaching staff members for the next academic year is based on the procedures of the MEA. Furthermore, reports are created with aggregated and detailed data on evaluation results available to CES members, coordinators and Program Directors. Thus, points for improvement are highlighted either in the coordination of a thematic unit or in the direction of a study program. In addition, reports are produced, which are attached to the reports. In this way, the coordinators can have a complete picture of the assessment. With access to the evaluation of the educational material provided and to the evaluation table of teachers, the "History of Evaluations" service is available through the Electronic Evaluation System. Thus, all lecturers, coordinators & and directors of the Study Programs have the right of access. The individual committees use the results of the electronic evaluation as a tool for reviewing the educational services they offer and to identify weaknesses related to the general organization. More specifically, the following actions are mentioned: The study schedule is being restructured / The communication between Teachers and Students is being reviewed / The requirements for a more

efficient organization of Group Advisory Meetings (GAMs) are being defined/)/ Criteria such as frequent low grades, non-positive student comments, and some teachers' general behaviour lead to the teaching staff's change. On the contrary, the teachers' evaluation results are used for their selection to participate in pilot actions of H.O.U. (Training Seminars) / The I.E.U. produces groups of reports, which contain evaluation indicators of the educational work provided by the H.O.U. for each Study Program for each Faculty and the entire H.O.U. The material is given as reports to the external evaluators (H.O.U. n.d.).

INTERNAL CONTROL UNIT (ICU)

The Internal Control Unit is responsible for providing advisory services, either as assistance to the President of the H.O.U.'s Steering Committee or as part of the annual work program, intending to improve its effectiveness and also, ensuring the correct, efficient and secure management and use of information systems, as well as the control of the operation, activities and programs of the H.O.U. based on the principles of sound financial management (H.O.U., n.d.).

The operation of the I.C.U. has brought about the following changes in the operating procedures of the H.O.U.: Evaluation of the operation and activities of the H.O.U. based on the principle of sound financial management and transparency / Evaluation of planning processes, implementation and evaluation of operations and programs /Preparation of a program of internal audits of the administrative, academic, research and service units and structures of the H.O.U., taking into account its strategic planning / Carrying out scheduled and extraordinary audits in the administrative services, academic, research and other structures and units of the H.O.U. .A.P. and the preparation of audit reports/ Submission of a periodic report to the President of the Steering Committee and the Steering Committee / Management Council of the H.O.U. regarding the compliance of the services with the proposals of the internal audits (H.O.U, n.d).

LABORATORY OF EDUCATIONAL MATERIAL AND EDUCATIONAL METHODOLOGY (L.E.M.E.M.)

The Laboratory of Educational Materials and Educational Methodology (EEHEM) was established by article 7 of Law 2552/97 and operates following its Internal Regulations as an independent unit of the H.O.U. It supports and assists all members of its community (academic and teaching staff, collaborating scientists, students and researchers) in the creation, adoption, certification and implementation of educational materials, effective teaching and innovative educational technologies.

The operation of L.E.M.E.M. has brought about the following changes in the operating procedures of the H.O.U.: It develops digital educational material suitable for the requirements of distance education / By coordinating the process of developing digital educational content, it provides complete technical support and training to the development agents of the educational material so that the material meets the requirements of the ex AE/ By providing certification of the produced educational material based on internationally accepted standards, it ensures the quality / Trained approximately 1,500 educational material creators. These authors developed approximately 600 book titles based on the principles of D.E./. The training material was created, which includes and extensively analyzes the basic information systems and electronic services of the H.O.U. that teachers need to understand and use. The specific material aims to provide know-how for the utilization of the provided learning technologies, the interpretation of the evaluations of the quality of the teachers' work and the possibility of expanding the cognitive horizon of the teachers with sources of

information. The material is supplemented with audio-visual presentations of the essential electronic services of the H.O.U. These presentations were designed and created by L.E.M.E.M. and IEU for each electronic service they manage (H.O.U. n.d).

POLYMORPHISM

In 1998, Lionarakis introduced the term "Multiform Education", which defines a dimension, perspective, philosophy and methodology in D.E These lead to specific pedagogical practices in the teaching and learning processes, setting the element of multi-functionality both at the level of media diversity which are utilised, both at the level of pedagogical principles, but also of a broader process of quality education (Lionarakis, 2001, 2006, 2013 Manousou, 2008).

Diversity in distance education allows the educational process to be adapted to different levels and preferences of learners. Learners have different learning styles, paces and preferences that must be taken into account in the course of effective training. It refers to educational pedagogical terms and dimensions that offers the possibility and flexibility of developing educational models with quality criteria and with adaptation to the needs of each system.

At the same time, the polymorphism assigns unique values to the D.E., such as flexibility, democracy, freedom of choice and management, such as the means of information transfer and communication, but using evaluative processes of measurability (Lionarakis, 2006). It is a pillar of D.E. that permeates all stages of the learning/teaching process.

GROUP COUNSELING MEETINGS G.C.M.

The group counselling meetings are four-hour educational meetings either face to face or mainly through the Teleconferencing Service. In the digital departments, a teleconference platform is used to conduct the Group Counseling Meetings instead of the live meetings in predetermined rooms. The Teleconferencing Service chooses for this purpose systems that simulate a classroom, are focused on distance education and not simply on communication, with tools and possibilities for collaboration, interaction and facilitation in the conduct of educational activities (H.O.U. n.d.).

With the existence of the G.C.M, learners are provided with cognitive, emotional, psychological and educational support. This is achieved through explaining the teaching material, clarifying the instructions before the written assignments, providing feedback, guiding the students in studying the teaching material, and solving queries. In addition, they offer live teacher-learner interaction, communication between all participating members of the learning community, and active learning techniques are applied. The G.C.M.s are the only case of face-to-face communication between the teacher-counsellor and the trainees and are judged to be the most critical, valuable and essential form of contact with them. They also contribute to the trainees' self-determination and control of the learning process, which is an element of self-regulated learning (Lionarakis, et al. 2019).

TEACHING MATERIAL

In D.E the teaching material plays a huge role. It is the main pillar and source of knowledge as it makes up for the lack of the teacher's physical presence. It is the most basic learning tool. More specifically, the polymorphic material ensures the existence of flexible, dynamic and personalized learning and focuses on interactive content between learners, teacher and learner as well as between learner and teaching material. At the same time, its purpose is to motivate learners during their learning process (Lionarakis, et al., 2018 Hassan, et al., 2014).

Didactics changes orientation, as it shifts from the teacher's responsibility to the value that the teaching material should have, regardless of its form. The learner studies the educational material of the unit, collaborates with the other members of the group and exchanges opinions with the aim of completing the activities assigned to them in the time frame agreed with the teacher.

With the teaching material that follows the physiognomy of D.E, the place, time and pace of study are determined by each student. The material "enables the student to learn alone and operate autonomously towards a heuristic learning path" (Lionarakis 2001). It ensures the teaching functions that in the conventional environment would be performed with the teacher's intervention. It guides the student in his study. Explains difficult points and concepts. Evaluates and informs the student about his progress. It encourages the student to continue. The educational material is the heart of the system

TEACHER ROLE/ COMMUNICATION

The role of the teacher in distance education is communicative, advisory and encouraging. The regular and different forms of communication that the teacher can - and must - have with his students contribute to this. The teacher creates a support framework, which can significantly contribute to self-regulated learning. Consequently, there is a transition from the traditional and now obsolete teacher-centred model to the student-centred model of distance education. Enables his team members to understand their learning needs and identify the means to meet them effectively (Janglis, 2013).

Ensuring regular and mutual communication between teacher and student is particularly important since its quality compensates for the lack of immediacy and personal contact (Zygouris & Mavroidis, 2011). He is therefore the key person in the programs from D.E. because he acts as a link between the educational institution and the students/students, taking care of the guidance of their studies. In other words, the teacher mainly supports the participants in learning (Papadimitriou & Lionarakis, 2010).

WRITTEN ASSIGNMENTS

In H.O.U. the preparation of assignments is mandatory to successfully complete the Thematic Units within the predetermined study schedule that each unit follows. The number of assignments is related to the subject of study. To participate in the module's final exams, the trainees must collect from the G.E. 50% of the potentially excellent grading of all assignments (H.O.U., 2013).

His has as a consequence, the cognitive and metacognitive involvement of the learners. They work motivating since they provide the possibility of active and experiential involvement. They direct, transfer and adapt their actions to the new cognitive requirements and ventures. They also offer the trainees a sense of effectiveness in achieving their goals. In addition, learners, along with learning objectives, also acquire performance objectives while at the same time skills are used, and the criteria for academic writing are taught.

COUNSELING AND PSYCHOLOGICAL SUPPORT CENTER

In 2013, the Meeting of the Steering Committee of the H.O.U. approved the establishment of the Counseling and Psychological Support Center. It provides free information, support and psychological counselling services to all members of the H.O.U. community who face occasional difficulties in developmental, personal and educational issues, such as manifestations of anxiety and stress, difficulties adapting to study conditions, problems or difficulties in relationships, psychosomatic problems, time management problems, decision-making problems, inability to

concentrate, reduced performance, lack of interest, etc. It also provides information on mental health and counselling issues.

With its services, it effectively contributes to the improvement of the quality of life of the recipients of its services. At the same time, it facilitates the members of the educational community of H.O.U. in the educational process (H.O.U., n.d.).

COLLABORATING EDUCATIONAL STAFF (CTS) TRAINING

Until the academic year 2014-15, the training process was carried out through live seminars, which created limitations in terms of the number of participants, the possibility of participation of teachers located in remote areas, the possibility of financial coverage of related costs, etc. Now, the training of CES members is carried out remotely using Massive Open Online Courses (MOOCs) technologies with courses aimed at large-scale interactive participation and open access via the internet.

The training of the teachers and especially the new members of the Collaborating Educational Staff (CES) results in them being trained with knowledge related to D.E. as well as the Information and Communication Technologies that support the educational process in the H.O.U. Also, they are informed about examples of good practice in distance education. Using examples of good practices, C.E.S. members can derive ideas for applications adapted to the particular conditions and requirements of their Thematic Unit (H.O.U., 2022).

H.O.U. INFLUENCES IN H.E.I. CONVENTIONAL EDUCATION

Below is indicatively recorded the influence of the H.O.U., as seen in the way that fourteen conventional H.E.I. of the country offer distance training programs in combination with their own as conventional training structures. These are: National Kapodistrian University of Athens, Universities of Patras, Macedonia, Ioannina, Aegean, Crete, Piraeus, Western Attica, Thessaly. Peloponnese, Ionian, International, Economic, Aristotle Thessaloniki. All of the following relate to the offer of training programs through the D.E from the conventional H.E.I. and not the more general way conventional education has been affected. The following data were obtained from the fourteen H.E.I information pages. The data referred to and related to the DE (National kapodistrian University of Athens, n.d. Athens University of Economics & Business, n.d., Aristotle's University) are presented indicatively (n.d) Ionian University (n.d). International Hellenic University and University of Crete n.d University of Ioannina. n.d University of Macedonia. n.d. University of Patras, n.d University of the Peloponnese n.d University of Piraeus University of Western Attica, n,d University of the Aegean, n.d University of Thessaly, n.d). Based on the data of the research so far, the following emerges:

Like Piraeus, the National and Kapodistrian University of Athens offers Thematic modules instead of Courses. The element of autonomy in study is presented by all universities, as is the element of flexible planning in study. In the Universities of Ioannina, Aegean, Crete, Thessaly, Piraeus, Aristotle, Ionian, Peloponnese. it is emphasized that the teaching material offered follows the principles of HE. A written work is deemed necessary for the final evaluation in combination with intermediate ways of participating in the fora. The element of student support as well as communication is presented in the information material of all conventional universities.

The University of Crete recognizes the need for communication of each student throughout their learning process. It has academic advisors to help them better organize their studies. Departments appoint an Academic Advisor for each student enrolled in it. Academic Advisors are faculty members of the Department who, through discussion, can help the student with academic matters, such as

managing problems with the curriculum and clarifying questions concerning the procedures established by the Department. They also connect students and the Foundation's services, such as Student Care, the Internship Office or the Student Counseling Center, to better organise and successfully complete the students' studies. The Secretariats inform newly admitted students during their registration of the name and contact method of their Academic Advisor. Also, the Student Counseling Center (SCC) is a service of the University of Crete that provides individual/group psychological support and counselling to all institution students with difficulties related to: developmental, personal adjustment problems occasional/chronic difficulties. It supports disabled students who face learning, physical or psychological difficulties. It develops initiatives and programs implementing unique educational benefits for their equal access to academic studies.

FIRST CONCLUSIONS

Following the imperatives of the time for lifelong learning, development, and updating of knowledge and skills, the highest educational institutions in the country offer training programs. There seem to be some elements that characterise D.E., but not all and to the same extent. The H.E.I. provide Training Certificates through supplementary distance education programs, with Lifelong Learning Centers providers. They do not award degrees except through their traditional educational character.

They provide the teaching material via the internet for the thematic units, as they call them, which they offer in a D.E. training program. The possibility of studying the material is offered through platforms, in whatever form it may be, as well as the existence of a forum for student communication. However, forums do not exist in all programs even if the university offers them (e.g. Macedonia).

The communication between the trainees and the teachers is done almost exclusively through the platform and e-mail. Students send their questions to the platform and lecturers answer them. There is no other form of personal communication, except through two or three teleconferences in which general task instructions are given.

The teaching material is not always the result of the work of strictly academic staff, except for the University of the Aegean where it is explicitly stated that it comes from academic and scientific staff of the country or abroad.

There is no mention of training for teachers in the external education system or Group Advisory Meetings. Also, the Psychological Support Center seems to exist only at the University of Crete. At the University of Thessaly, emphasis seems to be placed on familiarising students with new technologies within the framework of the AE through a two-week preparation program. At the University of Peloponnese, emphasis is placed on the teaching material offered. At the same time, at the International University, the support and communication of teachers and students throughout the program is emphasised.

The approach of distance education by H.E.I. studied so far could be characterised as superficial in the way its programs offer, concerning its physiognomy from D.E. The research aspires to go in depth by approaching both the issues of the influences of conventional universities from the H.E.I. and the changes and innovations of the Hellenic Open University itself. This will be done through interviews of teaching staff of both the H.O.U. and of conventional Greek universities as the information material from university pages or bibliography cannot provide documented data.

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URBAN ONOMASTICS AND THE LINGUISTIC LANDSCAPING OF ZAGREB IN THE PERIOD OF AUSTRIA-HUNGARY AND THE KINGDOM OF YUGOSLAVIA

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Abstract

Many street names in former socialist countries were changed after the fall of socialism in Europe in the aftermath of the Cold War. The topic has become the subject of research for many scientists and the source of countless public disputes. Sociolinguists refer to the totality of street names as *citytext*, implying that city toponyms together produce texts that can be understood as a discourse that relays information about the identity of a city, country or nation, as well as about the power balance in a specific political and historical context.
These changes were found to have been extremely frequent and extensive in Zagreb. They did not occur only as a result of frequent changes of the state context, as one might expect, but even more often than that. Some of the street or square name changes have been the source of reoccurring conflicts in the City Council and in the public. Despite this topic being in the focus of public attention, an accurate and complete list of the changes has not yet been compiled.
Within the limitations of a single paper, the authors explore the toponyms in the city centre of Zagreb from the beginnings of street naming in the 19th century to the fall of the Kingdom of Yugoslavia before the Second World War.
Several sources were used in this research, including the minutes of the City Council work sessions, old Zagreb tourist guidebooks, and the available reference works about the topic.
The research has shown how the distribution and the changes of hodonyms are indicative of the power balance in two political and administrative contexts. General conclusions about the informativeness of the city onomastics were drawn from these findings.

Keywords: onomastics, linguistic landscape, hodonyms, Zagreb.

Introduction

Toponyms referring to a major architectural unit, usually a city district or street, are known as hodonyms, which stems from Greek *hodos* “street” and *onuma* “name”. These names can be based on different underlying motivations and are often derived from anthroponyms (people’s names), as streets are often named after deserving individuals. Such imposed names are arbitrary and subject to change. Streets and squares are also often referred to by their traditional names irrespective of the official name they might bear at a given time. As opposed to imposed names, such names are referred to as spontaneous. Hodonymy is a rare field in toponomastics where imposed and spontaneous names exist side by side, much like in anthroponomastics, where people’s names are established through a

due process consisting of inheritance (surname), new naming (given name) or spontaneity (nickname) (Skračić, 2011: 119).

In addition to facilitating orientation in space, toponyms serve a variety of other purposes and objectives. Their symbolic meanings are also important, as is spontaneous or organised resistance against imposed names. Speakers accept different choices depending on context, their communication needs, or their intentions, *thus reflecting and forming their experiences, emotions and awareness of places in a long and unlimited semiosis process* (Bertoša, 2021: 65).

Linguistic landscaping (abbreviated as LL) is an area of sociolinguistics that has been rapidly developing lately. A quick search returns a multitude of recent scientific articles in the area. Having started as the study of street signs, street and place names, and signs on public buildings, linguistic landscaping expanded to include the study of all types of signs, however inconstant and short-lived they may be, and irrespective of where, how, and on whose behalf they were put up (Said and Kasanga, 2016: 71). This new scientific field has developed in recent years as an area of interest and cooperation for applied linguists, sociolinguists, sociologists, psychologists, cultural geographers, and scientists working in several other scientific disciplines. They all share an interest in the linguistic landscape as a scene where the public space is also symbolically constructed (Ben-Rafael et al, 2006; Shohamy and Gorter, 2008). This happens through the identification of tangible and intangible objects and through language tokens. These tokens can be analysed with respect to the languages they use, their relative prominence in the linguistic landscape, and their syntactic and semantic aspects. Researchers agree that these linguistic facts, which occur in a number of variations, are indicative of cultural, social, political, and economic circumstances (Ben-Rafael et al, 2010).

The exploration of the linguistic landscape is nowadays mostly focused on the present urban linguistic mosaic. However, the linguistic landscape is a diachronic process rather than a state, and it is impossible to fully understand its present meaning without considering the past (Pavlenko, 2010: 133). Looking into the use of language in Kyiv over time, Pavlenko (2010: 148) found that almost every new government left its mark on the city's linguistic landscape, imposing a new change. Similarly, every government change in Zagreb affected urban onomastics.

The practice of changing street names started in Paris after the French Revolution, when, for instance, the name of present-day Place de la Concorde was changed from Place Louis XV to Place de la Revolution (Azaryahu, 1997: 481). The custom spread to other countries, turning the onomastics of urban place names and their changes into a vehicle for communicating information about politics and power relations in urban communities.

In recent decades, the topic has kindled significant scientific interest. According to Stanić et al (2009: 91-92), heightened interest in this topic stems from three factors: disintegration of big colonial systems, ethnic dissent in multiethnic communities, and the fall of socialism in eastern Europe. The increased scientific interest in this topic has resulted in a substantial amount of relevant reference works in Croatia as well as internationally. Scientists from a variety of fields have researched this topic, producing articles about street name changes that fall within a wide range of scientific

disciplines, including linguistics, geography[2], sociology[3], ethnology[4] and history[5]. Foreign scientific articles refer to the totality of street and square names in a given city as *citytext* (Azaryahu, 1990; Palonen, 2008; Rose-Redwood, 2008).

Linguistic research of this topic often establishes correlations between toponyms and proper names on the one hand and ethnic specificities of the inhabitants of certain regions, which are closely tied to language as a particularly strong bond that binds together the members of a certain ethnic group, on the other. Toponyms and names constitute a special segment of language and are often the subject of conflicts in multilingual communities. To encourage discussion about names and their ever-present conflict potential, the NAMEN research group from the Department of German Linguistics at the Regensburg University organised the symposium "Names and their Conflict Potential in the European Context" in 2007. The proceedings of this symposium comprise articles by twenty-four scientists from fourteen European countries, discussing how diverse types of names can provoke conflict. Given that street and square names, and their changes, have been the source of conflicts in Croatia, one of the articles explores the changes of street names in Đurđevac[6] in the early 1990s. The author of the paper in question concludes that controversies and debates about the changes of street names are not really focused on street names as such. Rather, street names are in this case primarily a reservoir of meanings that the stakeholders concerned use to position themselves in social and public settings and to build corresponding identities, irrespective of whether they accept or reject a given solution (Piškorec, 2007: 131).

The history of street and square name changes in Zagreb

Speaking of Zagreb, the streets in Grič had names back in the mid-18th century, as mentioned in one of the guidebooks thet were looked at (Srkulj, 1936: 26): *Streets in the hill of Gradec had names as early as in 1743: Plebanuška (present-day Basaričekova), Opatička, Mesnička, Benetačka, Biškupova vulica, vulica od Kamenitih vrat etc*. In one of his earlier guidebooks the same author explained how the citizens of Zagreb reacted to the introduction of German as the official language, indicating that street names changed as early as in the second half of the 18th century, like in Paris, depending on the citizens' political views (Srkulj, 1928: 32): *This turned everyone against Emperor Joseph II, and the citizens of Zagreb stopped referring to Petrinjska ulica (Petrinja Street) as Josipova (Joseph's Street), the name they had given it during his 1775 visit.*

The first systematic naming of the streets in Zagreb occurred in 1878, during Ivan Mažuranić's time as viceroy (1873-1880). The streets were (re)named several times after that, partly because this part of the city was built in the first of the two periods so the squares and streets that were added to the urban landscape at the time had to be given names. Streets were also renamed as a result of the major historical and political change that came to pass with the fall of Austria-Hungary, and that logically resulted in changes of square and street names. Croatia severed all governmental and legal bonds with Austria-Hungary on 29 October 1918. As early as on 3 December, the City Council passed the decision on new street and square names: *Eager to erase the last memory of our people's enslavement and subjugation by foreigners, the City Council calls for the deletion of all foreign square and street*

[2] Stanić et al, 2009.
[3] Marjanović, 2007.
[4] Rihtman-Auguštin, 2000.
[5] Hrvoić and Rukavina, 2021.
[6] A city in the north-west Croatia.

names, including Ulica Marije Valerije (Marie Valerie Street)[7], Jelisavina ulica (Elizabeth Street)[8], Rainerova ulica (Rainer Street)[9] and Baroševa cesta (Baross Road)[10], along with the square names after Franz Joseph I and Khuen Hedervary, and the replacement of the name Ulica Marije Valerije with Strossmayerova ulica (Strossmayer Street), and Trg Khuena Hedervaryja (Khuen Hedervary Square) with Trg 29. listopada 1918. (29 October 1918 Square). Also, until the final decision is made at a later time, Trg Franje Josipa I (Franz Joseph I Square) will be called Square I, and Jelisavina and Rainerova ulica and Baroševa cesta will be called A, B and C.[11]

An analysis of available scientific monographs and articles describing the changes of street and square names in Zagreb showed that there is no accurate and/or complete chronology of these changes. Therefore the exact chronology of these changes in the two periods had to be examine and determined, especially the changes that occurred on the western side of the Lenucijeva potkova (Lenuci's Horseshue)[12] This is the area of Zagreb where square names changed most often, and the debates about the name of the largest among them, formerly Trg Maršala Tita (Marshal Tito Square), now Trg Republike Hrvatske (Republic of Croatia Square), often sparked conflict in the City Council and in the public alike. Even though the name has been changed, the conflict potential still persists, and this issue is occasionally brought up again in the media, especially after the city government had changed. The frequency of this square names' changes as well as the way they were changed even in later periods attest to its importance and its meaning for identity positioning in the city's public space.

Two publications were of great assistance in this research: the 1994 monograph *Zagrebačke ulice* (Streets of Zagreb) and *Zagrebački leksikon* (Lexicon of Zagreb), published by the Miroslav Krleža Institute of Lexicography in 2006. The Zagreb City Council meeting minutes spanning the period by 1925 were also very useful. In the research, the text of old tourist guidebooks of Zagreb were also used, i.e. their textual parts as well as city maps, which are often included in this text type, and which were preserved in copies of guidebooks from both periods covered by this research. The city maps that the authors used in their research were featured in guidebooks by Leo Woerl (1885), Adolf Hudovski (1892), Dragutin Lihl (1897), Karl Baedeker (1900), unknown author (1911), Milan Šenoa (1928) and Stjepan Srkulj (1930, 1936), while the textual parts of the guidebooks by Ivan Bojničić and Vjekoslav Novotni (1922) and Joso Modrić (1927) were also found useful. The findings are presented in the table in the following chapter.

Discussion

The changes concerned are shown in Table 1.

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7 Present-day Praška ulica (Prague Street) was named after Archduchess Marie Valerie, daughter of Franz Joseph I and Sissi.

8 Present-day Klaićeva ulica (Klaić Street) was named Jelisavina after Empress Sissi/Elizabeth (1837-1898).

9 Present-day Žerjavićeva ulica (Žerjavić Street) was named Rainerova after Archduke Rainer of Austria, member of the House of Habsburg, who was born in Zagreb (1895-1930).

10 Present-day Stara Branimirova (Old Branimir Street) was named Baroševa (Baroš Road) after the Hungarian Minister of Trade Gábor Baross (1848-1892).

11 City Council's Report on the General Administration of the Royal Free City of Zagreb 1913-1925, State Archives in Zagreb, 2015, p. 186.

12 Lenuci's Horshue is a part of historical Zagreb also known as the Lower City. Its architectonical concept was devised in the 19th century by an architect Milan Lenucci. It consists of eight parks surrounded by public buildings which together form a letter U.

Table 1 Street and square name changes in Austria-Hungary and Kingdom of Serbs, Croats and Slovenes / Kingdom of Yugoslavia

	Austria-Hungary	Kingdom of Serbs, Croats and Slovenes	Kingdom of Serbs, Croats and Slovenes / Kingdom of Yugoslavia	Present-day
1	Trg Franje Josipa I (Franz Joseph I Square) (as of 1895)	Square I (as of 1918)	Trg kralja Tomislava (King Tomislav Square) (as of 1927)	Trg kralja Tomislava (King Tomislav Square)
2	Akademički/Akademijski trg (Academy Square) (as of 1886)	Akademički/Akademijski trg (Academy Square)	Trg Josipa Jurja Strossmayera (Josip Juraj Strossmayer Square) (as of 1928)	Trg Josipa Jurja Strossmayera (Josip Juraj Strossmayer Square)
3	Trg Nikole Šubića Zrinskog (Nikola Šubić Zrinski Square) (as of 1866)	Trg Nikole Šubića Zrinskog (Nikola Šubić Zrinski Square)	Trg Nikole Šubića Zrinskog (Nikola Šubić Zrinski Square)	Trg Nikole Šubića Zrinskog (Nikola Šubić Zrinski Square)
4	Ulica Marije Valerije (Marie Valerie Street) (by 1918)	Strossmayerova ulica (Strossmayer Street) (as of 1918)	Praška ulica (Prague Street) (as of 1928)	Praška ulica (Prague Street)
5	Trg bana Jelačića (Viceroy Jelačić Square) (as of 1850)	Trg bana Jelačića (Viceroy Jelačić Square)	Trg bana Jelačića (Viceroy Jelačić Square)	Trg bana Jelačića (Viceroy Jelačić Square)
6	Ilica	Ilica	Ilica	Ilica
7	Sajmište (Fair Ground) (? – 1890) → Sveučilišni trg (University Square) (as of 1890)	Wilsonov trg (Wilson Square) (as of 1918)	Trg kralja Aleksandra Karađorđevića I (King Aleksandar Karađorđević I Square (as of 1927)	Trg Republike Hrvatske (Republic of Croatia Square) (as of 2017)
8	Tvornička (Factory Street) → Tvornička (Factory Street) / Jelisavina ulica (Jelisava Street) (as of ?)	Ulica 29. listopada 1918. (29 October 1918 Street) (as of 1918)	Ulica Vjekoslava Klaića (Vjekoslav Klaić Street) (as of 1929)	Ulica Vjekoslava Klaića (Vjekoslav Klaić Street)
9	Trg Khuena Hedervaryja (Khuen Hedervary Square) (as of 1896)	Trg 29. listopada 1918. (29 October 1918 Square) (as of 1918)	Wilsonov trg (Wilson Square) (as of 1927)	Rooseveltov trg (Roosevelt Square)
10	Trg Ivana Mažuranića (Ivan Mažuranić Square) (as of 1909)	Trg Ivana Mažuranića (Ivan Mažuranić Square)	Trg Antuna, Vladimira i Ivana Mažuranića (Antun, Vladimir and Ivan Mažuranić Square) (as of 1929)	Trg Antuna, Vladimira i Ivana Mažuranića (Antun, Vladimir and Ivan Mažuranić Square)
11	–	–	Trg Marka Marulića (Marko Marulić Square) (as of 1928)	Trg Marka Marulića (Marko Marulić Square)
12	Mihanovićeva ulica (Mihanović Street) (as of 1896)	Mihanovićeva ulica (Mihanović Street)	Mihanovićeva ulica (Mihanović Street)	Mihanovićeva ulica (Mihanović Street)
13	Bregovita ulica (Hilly Street)	Bregovita ulica (Hilly Street)	Tomićeva ulica (Tomić Street) (1928)	Tomićeva ulica (Tomić Street)
14	Duga ulica (Long Street)	Duga ulica (Long Street)	Ulica Pavla Radića (Pavle Radić Street) (as of 1928)	Ulica Pavla Radića (Pavle Radić Street)
15	Krvavi most (Bloody Bridge)	Krvavi most (Bloody Bridge)	Krvavi most (Bloody Bridge)	Krvavi most (Bloody Bridge)
16	Opatička ulica (Nun Street)	Opatička ulica (Nun Street)	Opatička ulica (Nun Street)	Opatička ulica (Nun Street)
17	Vrazovo šetalište (Vraz Promenade)	Vrazovo šetalište (Vraz Promenade)	Vrazovo šetalište (Vraz Promenade)	Vrazovo šetalište (Vraz Promenade)
18	Demetrova ulica (Demeter Street)	Demetrova ulica (Demeter Street)	Demetrova ulica (Demeter Street)	Demetrova ulica (Demeter Street)
19	Markov trg (Mark's Square)	Markov trg (Mark's Square)	Trg Stjepana Radića (Stjepan Radić Square) (as of 1928)	Trg sv. Marka (St. Mark's Square) (as of 1992)

20	Gospodska ulica (Gentlemen's Street) / Ulica 23. listopada 1847. (23 October 1847 Street) (as of 1917)	Ulica 23. listopada 1847. (23 October 1847 Street)	Ćirilometodska ulica (Cyril and Method Street) (as of 1935)	Ćirilometodska ulica (Cyril and Method Street)
21	Trg sv. Katarine (St. Catherine's Square)	Trg sv. Katarine (St. Catherine's Square)	Trg Katarine Zrinske (Katarina Zrinska Square) (as of 1928)	Trg Katarine Zrinske (Katarina Zrinska Square)
22	Južna promenada/ Strossmayerovo šetalište (South Promenade / Strossmayer Promenade)	Strossmayerovo šetalište (Strossmayer Promenade)	Strossmayerovo šetalište (Strossmayer Promenade)	Strossmayerovo šetalište (Strossmayer Promenade)

Out of twenty-two square and street names listed in the table, eight are located in the Upper Town[13] (Gornji grad), and fourteen are located in the Lower Town (Donji grad). The street Krvavi most (Bloody Bridge), which was named after the bridge connecting Gradec and Kaptol, is a part of the Upper Town. Among eight streets in the Upper Town, the names of five did not change: Opatička, Demetrova, Krvavi most, Vrazovo and Strossmayerovo šetalište. Out of twelve streets in the Lower Town, the names of five remained the same in both periods concerned: Jelačićev trg, Zrinjski trg, Ilica, Mažuranićev trg, and Mihanovićeva ulica. One, Marulićev trg, was assigned a name for the first time. This yields the conclusion that street names after the members and promoters of the Illyrian Movement have proven the longest-lived, as have square names after Ivan Mažuranić or the Mažuranić brothers, and after Marko Marulić, who is considered to be the father of Croatian literature. Croats remembered by their outstanding contributions in the wars against Ottoman Turks, such as Nikola Šubić Zrinski, Petar Berislavić, and Nikola Jurišić, were prevalent among other Croatian historical figures. Speaking of the imperial family, squares and streets were named after Franz Joseph I, Empress Elizabeth, Archduchess Marie Valerie, and Archduke Reiner of Austria, in addition to the barracks named after Prince Rudolph, and the university named after Franz Joseph I. Among Hungarian officials, Viceroy Khuen Hedervary had a square named after him as well as the Minister of Trade Gábor Baross, who was credited with the expansion of Hungarian railway infrastructure. This duality of members of the Illyrian Movement, writers and military leaders on the one hand and foreign rulers on the other, and their onomastic positioning, is reflected in the city text. Interestingly, no streets or squares were named after former emperors, such as Maria Theresa, nor after Croatian martyrs Petar Zrinski and Fran Krsto Frankopan, who are one of important markers in the perception of the Croatian historical identity. The Society "Brotherhood of Croatian Dragons"[14] (*Družba "Braća Hrvatskog Zmaja"*) found their mortal remains in 1907, but Franz Joseph refused to grant permission to have them brought to Zagreb, and the Society was only able to transport them to Zagreb in 1919 (Perčinlić, 2021).

In the period of the Kingdom of Serbs, Croats and Slovenes / Kingdom of Yugoslavia, street and square names were changed for the first time one month after all governmental and legal bonds were severed with the collapsed Monarchy. All street and square names after Austrian and Hungarian rulers

[13] The medieval part of the old town that consisted of two settlements on two neighbouring hills is often referred to as the Upper Town.

[14] The society was established in 1905 with the purpose is to preserve and restore Croatian cultural and historical heritage and to revive memories of important Croatian past events.

were erased, and, with the exception of several hodonyms, most were replaced by numbers and letters in anticipation of a future decision on their final names. The square formerly named after Franz Joseph I thus carried the name Trg I (Square I) for nine years before it was finally named after Tomislav, the first crowned Croatian king, in 1927. Present-day Trg Republike Hrvatske was renamed from Wilsonov trg (Wilson Square) to Trg kralja Aleksandra Karađorđevića (King Aleksandar Karađorđević Square) in 1927 as well. These two name changes might have been connected. They satisfied two needs: firstly, the need to have an important urban space named after a prominent Croatian historical figure, which was found in King Tomislav, a figure with no conflict potential; and secondly, the need to simultaneously cast the new king as a new spatial identity component in the most monumental of Zagreb's squares. King Aleksandar chose the names for his three sons in a populist attempt to appear close to all the three of his peoples. He thus named his eldest son Petar after his father Petar I Karađorđević, his second son Tomislav after the 10th century Croatian king, and his third son he gave a Slovenian name Andrej. In doing so, he wanted to demonstrate that he accepted all the identities of the newly established state also on a personal level. Under the same pretence of closeness, ostensibly arguing that no mediator is necessary between the king and his people, Aleksandar dissolved the Parliament (*Narodna skupština*) and proclaimed a dictatorship on 6 January 1929. This decision included an onomastic intervention in the name of the country, which was changed from the Kingdom of Serbs, Croats and Slovenes to the Kingdom of Yugoslavia in reflection of Aleksandar's strong unitarian policy. After the assassination in the Parliament[15], the main square in the Upper Town, which used to be called Markov trg (Mark's Square), was named after Stjepan Radić, and the former Duga ulica (Long Street), leading to the Upper Town, was named after Pavle Radić. Former Pivarska ulica (Brewers' Street), leading from Demetrova ulica (Demeter Street) to Markov trg, was renamed Ulica Đure Basaričeka (Đuro Basariček Street). All these changes took place in 1928, immediately following the assassination. The speed with which the change was implemented and the importance of the spaces that were subject to the onomastic interventions attest to the intensity of the trauma caused by this event, and the need to honour it appropriately.

The two remaining changes concern Trg sv. Katarine (St. Catherine's Square), which was renamed Trg Katarine Zrinske (Katarina Zrinska Square), and Ulica 23. listopada 1847. (23 October 1847 Street), named after the date when Croatian became the official language by virtue of the Parliament's decision. Like her husband, Petar Zrinski, Katarina Zrinska is considered a Croatian martyr. In 1935, the name Ulica 23. listopada 1847. was changed to Ćirilometodska ulica (Cyril and Method Street) after two Slavic apostles from the ninth century. The name of the street connecting the two most important squares in the Upper Town was thus changed form a name that held a special importance for Croatia to a name of Pan-Slavic importance, and the square that this street opens into to was renamed in honour of Katarina Zrinska, who was martyred by Leopold I of Austria. In 1928, when there were no more political obstacles, this identity component was included in street and square names as well. The walk from St. Mark's Church to the Funicular during Austria-Hungary took you from Markov trg along Gospodska ulica to Trg sv. Katarine. In the Kingdom of Yugoslavia, this same walk took you from Trg Stjepana Radića along Ćirilometodska ulica to Trg Katarine Zrinske. In

[15] The political climate the Kingdom of Yugoslavia was shaped by two assassinations. The first occurred in 1928 in the Belgrade Parliament when a radical Serbian politician shot five Croatian representatives, killing two (Pavle Radić and Đuro Basariček) on the spot and fatally wounding the third, Stjepan Radić who was the most popular Croatian politician at the time. The second occurred in Marseille in 1934 when the king, Aleksandar Karađorđević was assassined by Emigré Croatian and Macedonian separatist groups—the Ustaša and the Internal Macedonian Revolutionary Organisation (IMRO).

addition to the change of state as the most powerful change, these new names also reflect more subtle policies, along with the creation and positioning of identities in the new state.

Bishop Strossmayer was the only one who was given both a promenade and a square in the Upper and in the Lower Town, respectively. When Strossmayerova ulica (Strossmayer Street) was renamed Praška (Prague Street) in 1928, Akademički trg (Academy Square) was renamed Strossmayerov trg (Strossmayer Square) a year after Meštrović's monument was erected. As a supporter of Illyrism that was underpinned by Pan-Slavism, Bishop Strossmayer became a symbol of united Yugoslavia. Replying to the telegram sent to him by Stjepan Srkulj, Mayor of Zagreb, on 3 December 1918, King Aleksandar therefore wrote:

> *I am greatly pleased by the greetings I received from my royal free city of Zagreb on the occasion of the unification of our entire people, bearing three names, into a single state under the rule of His Majesty King Petar, my esteemed father. Even more so because the city of Zagreb has always stood at the helm of the movement for the freedom and unity of the Slovenes, Croats and Serbs. Today, when the ideals of great Bishop Strossmayer and the dreams of all the great freedom and independence fighters from the Croatian portion of my Yugoslav people have come true, I am overjoyed to be able to greet you and all the citizens of my royal free city of Zagreb, and assure you that I hold you in special regard. Long live the united people of Croats, Slovenes and Serbs, Aleksandar.*[16]

Bishop Strossmayer was acceptable to everyone, because the people held him in particularly high regard, and the ideals he promoted partly overlapped with Aleksandar's idea about one state in which all South Slavs would be united. He was therefore the only supporter of Illyrism who kept his existing hodonym in the narrow city centre and got a new one at the time.

Conclusion

The analysis of twenty-two street and square names in the centre of Zagreb shows that nine remained unchanged in the two periods covered by the analysis. Most of these streets and squares were named after the promoters of the Illyrian Movement (Strossmayer, Demeter, Mihanović and Vraz), fighters against Ottoman Turks (Zrinski), and Croatian writers and politicians (Marulić and the Mažuranić brothers). Three were named after prominent landmarks or buildings (Ilica, Kamenita vrata and Opatička ulica). All of these streets still bear the same names today.

Unlike the streets and squares that were named in honour of deserving individuals (Wilson, Stjepan and Pavle Radić, Đuro Basariček, Vjekoslav Klaić), the names of streets and squares named after rulers changed over time. They were erased as soon as the state that they had belonged to collapsed (Franz Joseph, Elizabeth, Rainer, Marie Valerie, Hedervary, Baross). None of the names from the latter category exist today. In contrast, the names from the former category are much longer-lived, and all of these names have survived until the present, with the exception of Wilsonov trg, which was replaced by another US president (Roosevelt), and Trg Stjepana Radića, whose historical name Markov trg was restored in 1992 (but the square in front of the City Hall building was renamed after Stjepan Radić at the same time).

[16] City Council's Report on the General Administration of the Royal Free City of Zagreb 1913-1925, State Archives in Zagreb, 2015, p. 24.

Speaking of monuments to Franz Joseph and the members of the imperial family, we do not even know their exact number, because there has been no systematic research about this topic (Dobrovšak, 2019: 240). The fate of those monuments that we know existed is also unknown. It is assumed that they were destroyed in the first outburst of the citizens' anger after the collapse of the Monarchy (Dobrovšak, 2019: 263). Some were relocated, some are kept at museums, and some plaques set up in their honour are currently undergoing renovation (Dobrovšak, 2019: 265). For this reason, unlike street and square names, it is impossible to use monuments to compare the "balance of power" of Croatian dignitaries and foreign rules.

All of the above points to the conclusion that the city authorities were able to, if not politically then at least onomastically, maintain the domination of the Croatian identity in Zagreb's streets in both periods covered by our analysis in spite of the efforts of foreign rules to force their own nomenclature on the city in favour of the local one. However, we can also conclude that in both the periods foreign rulers compensated for the greater number of local names with the monumentality, position, and importance of the squares and streets bearing their names.

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RUSSIA'S WAR IN UKRAINE AND NATO's EXPANSION IN THE BLACK SEA REGION (CASE STUDY: UKRAINE AND GEORGIA)

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Abstract

Russia's invasion of Ukraine has fundamentally changed the world's geopolitical vectors. Humanity faced a completely new reality in which nuclear war once again has become a real danger. Vladimir Putin and high-ranking Russian government officials name the denazification and demilitarization of Ukraine as the reason for the invasion of the neighbouring country, kremlin's main justifying argument is the expansion of NATO and getting closer to Russia's borders which Moscow perceives as a direct threat. On the other hand, it is vital for Russia to maintain its dominant position in the Black Sea region, which it historically considers to be Russia's sphere of influence. Three countries in the Black Sea region - Turkey, Bulgaria and Romania - are NATO member states, while Georgia and Ukraine are among the so-called "aspirant" countries for which NATO's doors are open, and there is a high expectation that, after appropriate political, economic or military reforms, Georgia and Ukraine will officially join the North Atlantic Treaty Organization. The accession of Georgia and Ukraine to NATO is strictly unacceptable to Russia, which demands the neutrality of Ukraine and ignoration of the 2008 NATO Bucharest summit declaration. The purpose of the article is to study the challenges and difficulties of two countries of the Black Sea region (Georgia, Ukraine) after the Russian-Ukrainian war whilst the aim of the paper is to answer the question of how much NATO has strengthened or weakened after the Russia-Ukraine war and what threats exist in the Black Sea region, considering the changed geopolitical situation.

Keywords: Russia, Ukraine, Georgia, NATO, Black Sea region.

THE RELATIONSHIP BETWEEN GREEN ENTREPRENEURIAL ORIENTATION AND GREEN INNOVATION PERFORMANCE IN START-UP FIRMS: THE MEDIATION ROLE OF DYNAMIC CAPABILITY AND ENVIRONMENTAL MANAGEMENT CAPABILITY

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Abstract

The study analyzed the mediation effect of firm dynamic capability and environmental management capability in the relationship between green entrepreneurial orientation and green innovation performance of start-up firms in Addis Ababa. The paper followed a positivist paradigm, quantitative approach, cross-sectional explanatory design, survey method, and questionnaire as a data collection instrument. The entrepreneurial ecosystem including Hubs, Networks, Academia, and Labs Startup companies established the study population. Owing to Covid-19 challenges, the researcher used both Google Forms and printed questionnaires to reach out to 400 survey participants. 207 questionnaires were collected and only 185 were found useful for further analysis. Smart PLS-SEM was used to analyze mediation effects. Results indicated both entrepreneurial dynamic capability and entrepreneurial commitment partially mediate the relationship between green entrepreneurial orientation and green product innovation performance in startup firms.

Keywords: Green entrepreneurial orientation, environmental commitment, environmental legitimacy, green product innovation, green process innovation.

CATASTROPHE DUE TO INVASION OF FLOOD AND LANDSLIDE IN MANDI, HIMACHAL PRADESH, INDIA DURING JULY 2023 AND ITS EFFECT IN THE PRESENTISM OF THE LOCAL COMMUNITY OF MANDI AND NEARBY VILLAGES

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Abstract

Presentism is an attitude where practice can only make the people and community strong.
The study aimed at bringing the situation of flood and landslide in July 2023 in Mandi, Himachal Pradesh, India and to show how people practiced presentism in uncertain. conditions through mother nature.
The study focused first on the real-life scenario of the Flood and Landslide situation in July 2023 where it exploited the devastation caused by the flood and landslide to the life of human beings, animals and the properties and other assets of the public.
It also emphasizes the help given by the state government and the local community to the public and how the public has sustained themselves for a couple of days without home, power and other necessary infrastructure.
The next part focused on how the emergency services were responding to the calls from several people and how they were trying to answer and keep the public calm for all the messages and calls for flood and landslide related issues. It also focuses on the ambulatory services, Police services for their swift action.
The last part focused on mindset and practiced presentism resulting in becoming calmer and more composed by the people of Mandi, Himachal Pradesh, India

Keywords: Flood, Landslide, Water logging, Traffic Jam, Emergency.

BUSINESS MODELS: AN OWNERSHIP GENDER-BASED FORMULA

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Abstract

This study explores the business models of a variety of entrepreneurship activities owned by females [0], males [1], and both genders [2]. The study also considers the fact that, in some cases, the owners also act as business administrators [administrator (0) or non-administrator (1)]. In this research study, we have analyzed 131 business data referring to the 2021-2022 period. They pertain to the financial area (17 indicators) and the organizational context (5 indicators). The artificial neural network model used on the matter implements the Multilayer Perceptron Analysis (MLP). The last one, for training purposes, uses only 91 businesses. Thus, in 28 cases, the businesses are owned by females; in 51 cases are owned by males; and in the other 12 cases, they are owned by both genders. Then, we developed a multilayer perceptron network with 14 input layers patterns, 14 customers' patterns factors, and one covariate [business administrator (0) or non-business administrator (1)] through the hyperbolic tangent activation function. The number of hidden layers is 1, and the number of units in hidden layers is 20. The MLP analysis proves that the incorrect predictions in response to the ownership gender-dependent variable are 0%, the error function is too small (0.031), and the training process has run too fast (00:00:01.717 seconds). The area under the curve for each ownership gender (0, 1, and 2) is estimated to be 1. Thus, it can be confirmed that the MLP approach is the adequate one for exploring the business models owned by females [0], males [1], and both genders [2], also considering as covariate variable business administration: [business administrator (0) or non-business administrator (1)].
Accordingly, some recommendations are provided for chambers of commerce, line ministries, and professional institutions acting in the country concerning the business mindsets of each strategic management formula.

Keywords: Business models, Multilayer Perceptron Analysis, Ownership gender, Business administration, Strategic management.

INTRODUCTION

The women entrepreneurship in Albania is accelerating. This speaks loud about the increase of competition in the market. Referring to the year 2022 INSTAT data, it is evidenced that women own 23% of all active enterprises at national level. The district of Tirana has the highest percentage, with 41.4%. The capital is followed by the district of Fier with a percentage of 10.3% and the district of Durrës, with 7.7%. Meanwhile, the district of Kukës has recorded the lowest number of enterprises that are owned by women, with 1.2%. Also, the Dibër district has a low percentage, with 1.6%.

If we compare the growth of enterprises owned by women with those owned by men, quite interesting figures emerge. For the district of Tirana, during 2022, the growth of enterprises with female owners is higher than the growth of enterprises with male owners. The increase in absolute terms, for enterprises with female owners, is recorded at 413, while for enterprises owned by men, the increase is 256. The same change is observed in counties such as Korça and Shkodra. The difference for the region of Shkodra is that the number of active enterprises with male owners has decreased by 40 enterprises, while the number of businesses owned by women has increased by 46 enterprises.
Among others, it is also interesting to discuss about the total number of enterprises run by women at the national level. The district of Tirana accounts for 10.7% of the total enterprises run by women for 2022. After the district of Tirana, the district of Fier ranks with 2.5% and that of Durrës, with 2.1%. The lowest percentage is recorded the district of Kukës, with 0.2% of businesses with female managers in total, followed by the district of Dibra, with 0.4%.
Thus, it worth understand the factors influencing certain ownership-gender stereotype in Albania.
The literature on the matter (Mukhtar, 1998; Freeman and Varey, 1997; Powell and Ansic, 1997; Oakley, 2000; Sonfield, et al., 2001; Galloway et al., 2002; Orser and Riding, 2006; Levie et al., 2006; Fairlie and Robb, 2009; Çınar, 2010; Simo , 2016) opt for various factors (psychological, entrepreneurial and managerial) influencing businesses ownership-gender stereotype worldwide. But there isn`t any evidence based on Albanian market.
Correspondingly, this paper can help filling the gap in literature in different ways:

1. First, to our knowledge this is the first study that contemporaneously uses business organizational characteristics and financial indicators to model business gender-based entrepreneurship style; The study also considers the fact that, in some cases, the owners also act as business administrators or not;
2. Second, this study implements a artificial neural network model through the Multilayer Perceptron Analysis in modeling businesses gender based entrepreneurship style. The last one, is a dynamic and complex analysis that allow us to better understand businesses approaches;
3. To test the businesses gender-based ownership approach we have used the Albanian businesses environment data.

LITERATURE REVIEW

The ownership-gender stereotype businesses revolve around independence, goal pursuit, achievement, focus, social orientation, and desire for development. This leads to the understanding that gender-based perceptions constitute differences in management and entrepreneurship style characterized even by psychological traits.
In this light it should be also admitted that technological advancements nowadays have also pushed businesses toward a certain ownership-gender stereotype. And in some way, these businesses competencies development models are running under the term ‘gender-based entrepreneurialism’ (Mukhtar, 1998).
Thus, women in the digital area, at first instance use the social networks and act as bloggers and then become part of the fashion industry with personal brands.
Meanwhile, men advertise teaching forex in social networks and then develop customized forex platforms and build their own companies. However, these approaches seem to be even a matter of mentality.

Despite the current reality, researchers confirm that gender differences are prominent in managerial and entrepreneurial strategic behavior (Powell and Ansic, 1997; Sonfield, et al., 2001).
The Orser and Riding (2006) research reports that between women and men-ownership businesses in Canada there are different priorities. For example, women business owners prioritize entrepreneurial skills and build self-confidence. Conversely, male business owners prioritize operational skills while improve strategic management trying to identify opportunities for growth.
Another study handled in Finland and Scotland suggests that female entrepreneurship often comprises unique circumstances and characteristics. They are less motivated than male for startup and for business growth, as well as for the entry in various industry sectors (Galloway et al., 2002).
In this logic the study of Levie et al. (2006) found that business entrepreneurs in UK were twice as likely to be male than female entrepreneurs.
Referring to the last point, many explanations for the lack of women entrepreneurship are provided in the Oakley (2000) study. Here is mentioned their lack of experience, inadequate career opportunities, gender differences in linguistic styles and socialization, gender-based stereotypes, the old boy network at the top, and tokenism.
But a turkish study demonstrates that men and women managers have no differences in team-oriented and participative leadership styles. Besides, significantly, the pre-managerial and managerial experiences of the women managers have a bigger effect on leadership styles than those of men managers (Çınar, 2010).
Referring to the action in a business group instead the study of Kim and Shim (2003) indicated that the members of the female group perceived themselves to display a higher level of mentor and broker roles than did the members of the male group.
It is also recognized that existing similarities and differences in management and communication styles of male and female entrepreneurs might interact with entrepreneurial behavior (Freeman and Varey, 1997). Obviously, this impacts on the working life of employees and the performance of business enterprises.
Some other researchers found that males and females are equally successful in making decisions under conditions of risk (Hudgens and Fatkin, 1985; Johnson and Powell, 1994) are equally effective in roles of leadership (Eagly et al., 1995; Hollander, 1992), and are equally capable of processing and reacting to information (Hyde 1990; Stinerock et al., 1991).
But considering that established male and female businesses exhibit also different characteristics, gender-based entrepreneurialism should be acknowledged and considered by policy makers. Almost considering the low rate of female owned/managed businesses these ones may require differentiated policies beyond the pre-start up and start-up stages for developing business competencies and to nurture their growth and development (Mukhtar, 1998).
Therefore, it is also important to evaluate whether the presence of women among owner-stakeholders affects firms' financial performance and further their growth.
The study of Simo (2016) indicates that firms jointly owned by men and women appear to perform better than those owned by men although the presence of women among owners does not correlate with firm survival.
In family businesses women have been found to be more dependent and have a greater concern for others, while men have been characterized as more independent. Thus, women have been described as "peacemakers," "mediators," and "nurturers" in their roles as family business owners and managers (Cole, 1997). Another study indicates that although financial performance appears to be significantly different for females' and males' sole proprietorships, these performance differences are explained by several variables other than gender directly (Collins-Dodd, 2004).

Age of business, home-based, number of professional staff, and hours put into business provided information about the firm performance.
A prior study undertaken by Watson (2002) explored the performance of female and male-owned small and medium sized businesses in Australia from a technical point of view. It examined the output measures (sales and profit) while relating them to appropriate input measures (total assets and total equity).
There were noticed no differences in these performance measures, based on ownership gender. In contradiction, the study of Fairlie and Robb (2009) found that female-owned businesses are less successful than male-owned businesses.
Various estimation methods are used to measure the effects of ownership gender in business strategies. Thus, the logit and linear regression models are used for several business outcomes to identify the owner and firm characteristics that predict business success Fairlie and Robb (2009).
While gender-entrepreneurial effects in other businesses are measured even through the correlation and regression analysis on the responses of the subjects indicated via survey (Chandrakumara, 2011, Verheul and Thurik, 2001).
Our paper builds on and extends the previous studies on business development in Albania based on owner's gender by focusing in various business organizational characteristics as well as in their financial indicators through the implementation of Multilayer Perceptron Analysis. In this study we also consider the fact that, in some cases, the owners also act as business administrators or not.

MATERIALS AND METHODS

An artificial neural network (ANN) model is implemented in this research in order to artificially simulate the physiological structure and functioning of human brain structures for analyzing businesses gender-ownership style.
One of the most popular ANNs is Multi-Layer Perceptron (MLP). For these businesses gender-based ownership style analysis purposes the "customer patterns-processing elements" known as a perceptron consists of a single neuron with "n" inputs and three ouputs (businesses owned by females [0], males [1], and both genders [2]).
The training process of the perceptron analyses the configuration (pattern) input and weights patterns through synapses, deciding which category of output is associated with the configuration (Taud and Mas, 2018).

THE MULTILAYER PERCEPTRON ANALYSIS

The Multilayer Perceptron analysis (Zhao, 2015), feed-forward signals propagate from input (business organizational characteristics and financial indicators) to output (businesses ownership gender-based style) feedback.
This learning algorithm calculates the appropriate syntactic weights between inputs and neurons of intermediate layers and between them and Multilayer perceptron analysis, through a series of attempts, sometimes prolonged. And further allows modelling the weights that link the input (customers' patterns) with output (businesses owned by females [0], males [1], and both genders [2]) through the hidden layers of neurons. In order to provide the MLP analysis results in this research we used the statistical package SPSS 21.0 version.

BUSINESS DATA

This research explored 91 business data out of 131 business data collected. The data pertain to a panel of businesses of various activities operating Albania during the 2021-2022 period. For Multilayer Perceptron analysis training, these 91 businesses are also considered valid (refer to Table 1). In 28 cases, the businesses are owned by females; in 51 cases are owned by males; and in the other 12 cases, they are owned by both genders.

Table 1. Case Processing Summary

	N	Percent
Sample Training	91	100.0%
Valid	91	100.0%
Excluded	40	
Total	131	

Source: Authors` estimation through SPSS

Businesses Data Information

The businesses data collected (see Table 2) are classified into Organizational characteristics (5 patterns) and financial indicators (18 patterns).
The last ones refer to Liquidity (5), Operational Efficiency (4), Leverage (4), and Growth (5) patterns. These data are provided from the National Registration Centre (NRC) and Credit Registry of Bank of Albania (CRBA) databases of the year 2022.

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Table 2. Research Variables Summary

		Variable	Measurement	Abbr.
	Organizational patterns	Administrator Gender	Administrator´s gender (female-0, male-1 and mixed genders-2)	AG
		Business Ownership	Business owner (administrator -0 or no administrator-1)	BO
		Equity Origin	Business equity origin (national-0, foreign-1 and joint-venture-2)	EO
		Ownership Gender	Ownership gender (female-0, male-1 and mixed gender ownership-2)	OG
		Borrower Status	Borrower Status (non-performing + 30 due days-0 /performing 0-29 due days-1)	BS
Financial patterns	*Liquidity indicators*	Current assets	Short term assets/Short term debts	CA
		Inventory	End of year inventory	INV
		Short term assets	Cash+ trade securities portfolio+ receivable accounts + inventory	STA
		Working capital	Short term assets- Short term debts	WC
		Short term debts	Payable accounts, short term loans	STD
	Op. Efficiency	Gross profit margin	Gross profit/Net sales	GPM

		Net profit margin	Net profit/Net sales	NPM
		Assets turnover	(Net profit + interest expenses)/Average equity	AT
		Return on equity	Net profit/Average equity	ROE
	Leverage indicators	Long term debt/equity ratio	Long term debt/equity ratio	LTDER
		Interest coverage ratio	Earnings before interest and taxes / Interest expenses	ICR
		Total Leverage ratio	Total debts/Total assets	LEV
		Long term debts	End of year long term debts	LTD
	Growth indicators	CV	Collateral value	CV
		Business size	Ln(total assets)	BoS
		Age of firm	Analysis period-Business registration period (start-up: 0-5Years/0; growth: (6-15Years/1;maturity:>15Years/2)	FA
		Return on assets	Net profit/Average assets	ROA
		Equity	Business equity	EQ

Source: NRC and CRBA elaborated data

Network Information

We developed a multilayer perceptron network with 14 input layers patterns, 14 customers' patterns factors, and one covariate [business administrator (0) or non-business administrator (1)] through the hyperbolic tangent activation function. The number of hidden layers is 1, and the number of units in hidden layers is 20.

RESULTS AND DISCUSSIONS

The MLP analysis (see Table 3) proves that the incorrect predictions in response to the ownership gender-dependent variable are 0%, the error function is too small (0.031), and the training process has run too fast (00:00:01.717 seconds). The area under the curve for each ownership gender (0, 1, and 2) is estimated to be 1. Thus, it can be confirmed that the MLP approach is the adequate one for exploring the business models owned by females [0], males [1], and both genders [2], also considering as covariate variable business administration: [business administrator (0) or non-business administrator (1)].

Table 3. Model Summary

Training	Sum of Squares Error	.031
	Percent Incorrect Predictions	.0%
	Stopping Rule Used	Training error ratio criterion (.001) achieved
	Training Time	00:00:01.717

Source: Authors` estimation through SPSS

This reconfirms that the MLP analysis (see Table 4 in Annex 1) used in gender-based ownership style is an objective approach. In addition, the calculation of the syntactic weights for each pattern/ variable used in MLP needed for the hidden layer estimation (from 1-20), is obtained for the output estimation

purposes [businesses owned by females [0], males [1], and both genders [2]]. This provides a concrete estimation for each business gender-based ownership style.

CONCLUSIONS

The MLP analysis results confirm that the essential variables with the normalized importance estimation at a 95% confidence level, in the three business gender based ownership models are: working capital (100%), current assets (97.3%), short-term debts (96.5%), total leverage and long-term debt/equity ratio (94.1 %) as well as inventories (93.3%). According to MLP approach parameters estimation, the activities owned by both genders [2] are listed first, referring to the highest number of variables through those considered (11/21) that positively impact the business formula, followed by those businesses owned by the female [0] (10/21) and male [1] (8/21). Thus, it is confirmed that businesses owned by females [0] are open to various business exigencies (such as financial and organizational contexts). Meanwhile, businesses owned by males [1] are specially oriented to a limited number of factors that influence their business formula. Furthermore, those businesses owned by both genders [2] tend to be balanced on those financial and organizational factors that both owners are interested in. Female ownership business style is mainly focused in managing businesses liquidity and leverage aspects. Male owned businesses opt for operational area. Meanwhile both genders ownership is balanced on the previously indicated businesses aspects. Business organizational factors do not affect the gender-based ownership style in any case. In close reference to MLP lift chart results, it can be reported that both gender's [2] owned model is the most strategic one with 0.9, followed by the one owned by the female [0] with 0.37, and finally, those owned by a male [1] with 0.2. Accordingly, worth recommending to financial institutions and finance ministry more support for female ownership businesses style. Thus, grants and more loan facilities should be provided to these businesses. Male owned businesses instead should be supported with training and research while being mainly focused in businesses operational aspects. Hopefully this would help to support these businesses mindsets aiming to create a better business climate within the country.

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	Ownership gender		
	Female (0)	Male (1)	Both genders (2)
Bias	1.125	0.743	0.299
H (1;1)	-0.183	0.416	-0.282
H (1;2)	0.203	-0.231	0.045
H (1;3)	-0.262	0.410	-0.131
H (1;4)	0.572	-0.660	-0.045
H (1;5)	0.324	-0.196	-0.040
H (1;6)	-0.328	0.326	0.029
H (1;7)	-0.340	0.598	-0.136
H (1;8)	-0.027	-0.308	0.266
H (1;9)	-0.327	0.050	0.247
H (1;10)	-0.203	-0.363	0.396
H (1;11)	0.499	-0.038	-0.443
H (1;12)	0.028	-0.306	0.245
H (1;13)	0.112	-0.486	0.186
H (1;14)	-0.085	-0.194	0.312
H (1;15)	-0.285	0.391	-0.063
H (1;16)	-0.019	0.085	-0.102
H (1;17)	-0.009	-0.297	0.206
H (1;18)	0.484	-0.180	-0.424
H (1;19)	0.015	-0.211	0.156
H (1;20)	0.183	-0.013	-0.094

ANNEX 1

Table 4. MLP – Ownership gender parameters estimates

Source: Authors` estimations

PROTECTING CONSUMER RIGHTS IN E-COMMERCE TRANSACTIONS

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Abstract:

E-commerce transactions are growing, and online shopping is a consumer trend. However, besides the many conveniences of electronic commerce, the number of violations of consumer rights in e-commerce transactions is also increasing and becoming increasingly complex, although Vietnam has promulgated legal regulations on protecting consumer rights. The article uses the analysis of written law and theoretical research to analyze the current situation and limitations of legal rules and make recommendations to improve the legal regulations to protect the interests of consumers in e-commerce transactions in Vietnam.

Keywords: Protecting rights, e-commerce, consumer.

INTRODUCTION

Electronic commerce (E-Commerce) is a concept used to describe the process of buying and selling or trading products, services, and information through computer networks. In the narrow sense, it means buying and selling online. Characteristics of e-commerce include (i) Not displaying transaction documents on paper, helping to reduce storage and search costs, providing confidentiality but must ensure security and safety in e-commerce transactions; (ii) Depends on technology and information technology level of the user; (iii) Depends on the level of digitalization of the economy and the ability to integrate digitally with the global economy; (iv) Has a fast speed.

Consumer protection is closely linked to the idea of consumer rights and to the formation of consumer organizations that help consumers make better choices in the marketplace and assist them with complaints. Organizations that promote consumer protection include government organizations and business organizations such as consumer protection agencies and organizations, inspectors, and, in the United States, the US Commerce Commission. Federal and Better Business Bureaus in the US and Canada... Consumer interests can also be protected by promoting fair trade, direct and indirect competition, and accurate information on the market to serve consumers, consistent with economic efficiency. A consumer is a person who purchases goods or services for direct use or possession rather than resale or use in manufacturing and production. The Law on Consumer Rights Protection explains: " Consumers are people who buy and use products, goods, and services for consumption and daily life purposes of individuals, families, agencies, organizations and not for commercial purposes." [1]

When consumers participate in buying and selling goods or services with traders and businesses, they often encounter many disadvantages. Because consumers often need to improve in terms of information, weak in negotiation ability, and weak in finance. For the above reason, consumers have

[1]Clause 1, Article 3 of the Law on Consumer Rights Protection 2023

become objects protected by the law. Consumers also have rights and obligations regulated and protected by law as a subject in society. Consumer rights that are cared for and protected by law include the right to ensure life, health, and safety and to be provided with accurate and complete information about organizations and individuals trading in goods. Protecting consumer rights ensures the rights of individuals and organizations who purchase and use goods and services for consumption and daily living purposes.[2]

In any country, consumers are always the largest group of people who receive the most attention and are an essential factor and driving force contributing to the country's socio-economic growth. Therefore, in the economic development process of a country, in addition to creating favorable conditions and promoting the development of the production and business sector to create more wealth and material for society, It also needs to be harmonious and ensure the interests of consumers. For businesses to develop sustainably, they need to take consumers as the center of that development because consumers are the leading resource and driving force for the development of any organization or individual. Which business person? However, due to a need for more information and choice, consumers often need to improve the relationship between buying, selling, and using goods and services with business organizations and individuals. Therefore, it is necessary to have legal adjustments and specific state supervision in this consumer relationship to balance the interests, rights, and obligations of consumers and organizations. business individuals.

Legally, consumers are protected through laws, including the Law on Consumer Rights Protection, which includes government regulations to protect consumer rights, such as requiring businesses to disclosure detailed information about products, especially where public health or safety is concerned, regulations that prevent businesses engaging in fraudulent or unfair practices from winning gain an advantage over competitors. The law also protects the most vulnerable people in society. Ensuring consumers' legitimate rights and interests promotes consumption activities and encourages building a sustainable business environment, creating an essential driving force for stable economic development.

In 1985, the United Nations General Assembly officially approved the United Nations Guidelines on Consumer Protection, setting out fundamental consumer rights. This is an essential and comprehensive document on consumer protection and is a reference source for many countries in developing policies and laws on consumer protection. Laws protecting consumer rights are general rules of conduct promulgated by the state and enforced by coercive measures to regulate the relationship between consumers and business owners when performing consumption activities.[3]

MATERIALS AND METHODS

This article is based on (1) Analyzing documents, reports, data for protecting consumer rights in e-commerce transactions provided by research agencies and (2) Legal reports and research documents in relevant magazines and the internet.

[2] https://luatminhkhue.vn/cac-bien-phap-bao-ve-nguoi-tieu-dung-bang-phap-luat-canh-tranh.aspx accessed September 4, 2023

[3] Kieu Oanh (2022), *The necessity of laws to protect consumer rights,* Industry and Trade Magazine. Link https://tapchicongthuong.vn/bai-viet/su-can-thiet-cua-phap-luat-bao-ve-quyen-loi-nguoi-tieu-dung-101685.htm accessed September 4/ 2023

The author has reviewed personal documents and consultants with experts, journalists, and lawyers to learn about the contents related to legal adjustments on the protecting consumer rights in e-commerce transactions and in terms of work. Solve problems related to protecting consumer rights in e-commerce transactions.

RESULTS

ASEAN is currently the region with the highest e-commerce growth rate today, with total e-commerce revenue 2022 of nearly 200 billion US dollars, estimated to reach 330 billion US dollars by 2022. 2025, according to the Economy SEA 2022 Report (Google and Temaseak, 2022).[4] According to the latest report by market research company Euromonitor, the growth potential of the e-commerce market in the Asia-Pacific region is very large; by 2025, e-commerce sales in this region, including Australia, will have a growth potential of 68.5 billion USD, becoming the leading global e-commerce market. In the report, "Retail in Transformation: Future E-Commerce Opportunities for Asia-Pacific and Australia," Euromonitor estimates online sales for the entire region, accounting for over 45% of global e-commerce growth. The report emphasizes that the COVID-19 epidemic mainly drives the growth of the e-commerce market in the Asia-Pacific region. In 2020, e-commerce sales in the Asia-Pacific region increased by about 187.2 billion USD, while Australia's growth was 5.3 billion USD. The most apparent growth comes from more developed markets such as China and Korea. In addition, although Thailand and India are still e-commerce markets in the early stages of development, they grew the highest over the same period, reaching 80% and 60%, respectively. Singapore is also a fast-growing e-commerce market, recording a 51.4% increase in sales in 2020.[5]

As digital commerce grows, so does the trade in counterfeit goods, negatively impacting consumers and business innovation. Asia-Pacific is the focus of the most innovative and expansive trade agreements in the world, such as The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the Global Economic Partnership Agreement, The Regional Partnership (RCEP) or Digital Economic Partnership Agreement, and the Singapore-Australia Digital Economy Agreement, among others, are serving as models for a new form of trade agreement. The United Nations Office on Drugs and Crime reported in 2019 that in Southeast Asia, the internet and e-commerce provide counterfeiters with a powerful global platform for marketing and distributing their goods to more potential consumers with minimal costs and higher profits. The Korean Intellectual Property Office recorded nearly doubling of counterfeit goods sales on online platforms in 2021, while the Consumer Association of Singapore said that counterfeit goods sales on online platforms routes tripled in 2020.[6]

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[4] Reference source https://moit.gov.vn/tin-tuc/bao-chi-voi-nguoi-dan/asean-thuc-day-bao-ve-nguoi-tieu-dung-trong-thuong-mai-dien -tu.html accessed February 23, 2023

[5] Department of E-commerce and Digital Economy (2021), the Asia-Pacific e-commerce market will lead globally by 2025. Reference source https://idea.gov.vn/default.aspx?page=news&do=detail&category_id=5b40b58c-9d99-4679-acb4-8deae9436815&id=29d23adf-37fe-456d-b505-d68bdfd2c51b accessed September 4, 2023

[6] Department of E-commerce and Digital Economy (2022), *Asia-Pacific Region: Tough "war" against counterfeit goods on digital platforms.* Reference source https://idea.gov.vn/default.aspx?page=news&do=detail&category_id=5b40b58c-9d99-4679-acb4-8deae9436815&id=337df7eb-af65-4aff-adb5-7129b8e86baa accessed September 4, 2023

In 2022, according to investigations and surveys by the Ministry of Industry and Trade, retail e-commerce revenue in Vietnam will grow by 20% compared to 2021, reaching 16.4 billion USD, accounting for 7.5% of retail revenue. A report published by eMarketer in January 2022 pointed out that Vietnam is ranked among the top 5 countries with the world's leading e-commerce growth rate and digital transformation in businesses.[7] The situation of requests, feedback, and complaints from consumers at the Ministry of Industry and Trade in recent years shows that requests, feedback, and complaints from consumers in e-commerce are increasing continuously. During the period 2019-2021, on average each year, over 200 complaints and requests in the field of e-commerce were received and processed. Some behaviors that are frequently reported and complained about include: Goods received are different from those advertised; Consumer transaction information is used by a third party to impersonate delivery; automatically cancel orders; Consumers cannot purchase products at advertised prices or accompanying promotional items; selling counterfeit goods, used goods, goods of unknown origin, infringing intellectual property rights; Extend the time to resolve complaints.[8]

DISCUSSION

Vietnam has joined and signed international treaties on e-commerce, and Vietnamese law has regulations to protect the rights of consumers in e-commerce transactions in Vietnam, including 02. The fundamental law is (i) Electronic Transaction Law 2023 and (ii) Law on Consumer Rights Protection 2023.

(i) Electronic Transaction Law 2023

The policy of developing electronic transactions in Vietnam aims to protect the interests of the state, public interests, and legitimate rights and interests of agencies, organizations and individuals; ensure voluntary choice to conduct electronic transactions; Agree on the choice of technology, electronic means, electronic signatures, and other forms of confirmation by electronic means to perform electronic transactions; develop comprehensive electronic transactions to implement electronic means and promote digital transformation fully; synchronously apply mechanisms and measures to encourage and facilitate the development of electronic transactions; Prioritize investment in developing technology infrastructure, developing and applying new technology.

In electronic transactions, Agencies, organizations, and individuals must comply with the provisions of the law on electronic transactions, the law on network information security, the law on network security, and other relevant laws when implementing Current electronic transactions; Information in data messages within the scope of state secrets must comply with the law on protection of state secrets and the law on ciphers.

It is strictly prohibited to take advantage of electronic transactions to infringe upon national interests, national security, social order and safety, public interests, rights, and interests. Legitimate interests of agencies, organizations and individuals; Illegally obstructing or preventing the process of creating, sending, receiving, storing data messages or committing other acts aimed at sabotaging information

[7] Reference source https://idea.gov.vn/default.aspx?page=news&do=detail&id=a486088d-fa18-4186-b6aa-38b8cdfa749b accessed February 23, 2023

[8] Reference source https://moit.gov.vn/bao-ve-nen-tang-tu-tuong-cua-dang/tang-cuong-bao-ve-nguoi-tieu-dung-tren-cac-hoat-dong -thuong-mai-dien-tu.html accessed February 23, 2023

systems serving electronic transactions; illegally collect, provide, use, disclose, display, distribute, and trade data messages; falsify, falsify or unlawfully delete, destroy, copy or transfer part or all of a data message; creating data messages to commit illegal acts; Fraud, forgery, appropriation or illegal use of electronic transaction accounts, electronic certificates, electronic signature certificates, electronic signatures; hinder the choice to conduct electronic transactions.[9]

The Law on Electronic Transactions 2023 creates a complete legal corridor to convert activities from the natural to the digital environment, affirm the legal value of electronic transactions, and recognize that electronic transactions have the same legal value as traditional transactions in a natural environment, encouraging electronic transactions.

(ii) Law on Consumer Rights Protection 2023

The Law on the Protection of Consumer Rights of Vietnam introduces the concept of "Remote transactions are transactions carried out in cyberspace, electronic means or other means that consumers are not allowed to check or have direct contact with." contact with products, goods, and services before participating in transactions."[10] Accordingly, when organizations and individuals conduct remote transactions, they must provide consumers with accurate and complete information about the name, address, phone number, and other contact methods of the business organization or individual or representatives of organizations and individuals doing business in Vietnam; Business registration certificate number or business code or another equivalent document for economic organizations; Personal tax code for individuals; measurement, quantity, volume, quality, use, price, source, origin, the shelf life of products, goods, and services; delivery costs; Payment method and term; time, place, method of selling and providing products, goods, and services; Conditions and methods of exchanging and returning products, goods, and services; Validity period of the transaction request; Information on fees, costs, value-added tax, fee calculation methods, costs that may arise and general transaction conditions applicable in the process of providing products, goods, and services to customers; details about the uses, methods of use, and warranty of products, goods, and services; process for exchanging or returning products, goods, services or terminating the performance of concluded contracts; process for receiving and resolving consumer feedback, requests, and complaints.[11]

When concluding contracts in remote transactions with consumers, business organizations and individuals are responsible for building tools and implementing measures to ensure accurate and complete provision of contract content to consumers. Consumer research before entering into a contract; ensure that consumers have the right to discuss and clarify contract contents and confirm their agreement to enter into contracts; Ensure consumers review and download contracts that have been confirmed and signed by consumers.

In case a business organization or individual provides inaccurate or incomplete information as prescribed, the consumer has the right to agree on how to handle the contract with the business organization or individual, Unilaterally terminate the performance of signed contracts, and notify business organizations and individuals within 30 days from the date of conclusion of the contract; do not have to pay any costs in any form to terminate the contract, except for costs for used products, goods and services; request the competent authority to declare the contract invalid or cancel the

[9]Articles 4, 5, and 6 of the Law on Electronic Transactions 2023

[10]Clause 5, Article 3, Law on Consumer Rights Protection 2023

[11]Article 37 of the Law on Consumer Rights Protection 2023

contract; Business organizations and individuals must refund to consumers the amount of money paid corresponding to the unused products, goods and services within 30 days from the date the consumer declares unilateral termination. Terminate the performance of the contract past this time limit; business organizations and individuals must pay interest on the late payment amount at the interest rate agreed upon by the two parties or according to the provisions of civil law in case of termination. If a person terminates the performance of a contract and causes damage to consumers, business organizations and individuals must compensate for the damage according to the provisions of civil law.[12]

In transactions in cyberspace, the organization establishing and operating the intermediary digital platform is responsible for designating and publicly announcing the contact point and authorized representative to coordinate with competent state agencies the right to resolve issues related to protecting consumer rights; Develop and publicly announce the operating regulations of the digital intermediary platform for consumers, clearly defining the responsibilities of the parties participating in the transaction; provide information about business organizations and individuals operating on intermediary digital platforms when consumers transacting with those business organizations and individuals request; Allows consumers to respond and evaluate business organizations and individuals, products, goods and services sold and provided by business organizations and individuals, and at the same time fully and accurately display the results of feedback or evaluation, except in cases where such feedback or evaluation violates the law or is contrary to social ethics; Fully and transparently display information about products, goods and services sold and provided by business organizations and individuals, including mandatory contents shown on product labels according to the provisions of law on Product labels, except product-specific information, including: date, month, year of manufacture; expiry date; Production batch number; the frame of the machine; result standards to be achieved in providing products, goods and services; designate and publicly announce the focal point to receive and resolve consumer feedback, requests, and complaints related to products, goods, services, and information content on intermediary digital platforms; Receive and resolve feedback, requests, and complaints from consumers to organizations establishing and operating intermediary digital platforms; take measures to allow priority display of reviews, feedback, and recommendations of social organizations participating in protecting consumer rights or credit rating organizations according to the provisions of law; directly store information or provide solutions for storing information about products, goods, services and related transactions, allowing consumers to access, trace, download, store and print invoices, vouchers and documents related to transactions on the intermediary digital platform that they manage; Transparency of advertising activities in cyberspace according to the provisions of law in case of advertising activities; provide reports on content moderation activities carried out at the request of competent state agencies; Maintain an online reporting account and provide updated information and data until the reporting time is required to serve the inspection and examination activities of competent state management agencies according to the provisions of the Law. law; authenticate the identity of organizations and individuals selling products, goods, and services on intermediary digital platforms; responsible to consumers.

Organizations that establish and operate large digital platforms must comply with the above regulations and are responsible for establishing an advertising archive that uses algorithms to target specific consumers and consumer groups, Periodically evaluate content moderation activities, use algorithmic systems and advertising targeting consumers and specific consumer groups; Periodically

[12]Article 38 of the Law on Consumer Rights Protection 2023

evaluate the implementation of regulations on handling fake accounts, the use of artificial intelligence, and fully or partially automated solutions.

Competent agencies are responsible for providing and publicizing information on a list of organizations and individuals doing business in cyberspace that violate the legitimate rights and interests of consumers and a list of organizations and individuals doing business in cyberspace that violate the legitimate rights and interests of consumers. Individuals doing business in cyberspace whose acts violate the law on protecting consumer rights are handled by competent foreign agencies and affect the rights of Vietnamese consumers in order to warn consumers in cyberspace transactions: Press agencies and social organizations participating in protecting consumer rights publicize information to warn consumers about transactions in cyberspace in appropriate forms, ensuring convenience for consumers to receive information.[13]

Consumers are essential in helping businesses operate to a higher standard, thereby creating a fair and inclusive environment, including on the internet. However, consumers are always considered to need to be more vital in online transactions. Therefore, ASEAN recognizes the need for effective rules to protect consumers better, manage business responsibility, and handle mechanisms for unfair and irresponsible practices of online sellers. The Recommendation on Consumer Protection in Electronic Commerce was adopted by the OECD Council on March 24, 2016, upon the Recommendation of the Committee on Consumer Policy (CCP), to update and replace the Recommendation of the OECD in 1999 on Principles for consumer protection in electronic commerce - commerce (1999 Recommendation). The Recommendation sets out the core features of consumer protection in e-commerce. It addresses e-commerce development, including consumer ratings and reviews, the use of consumer data, and product safety. Recommendations apply to business-to-consumer e-commerce. The scope of the Recommendation is expanded to include commercial activities through which businesses enable and facilitate consumer-to-consumer transactions and those related to monetary and non-monetary transactions for goods and services, including digital content products. In addition, the Recommendation addresses emerging issues related to the increasingly active role of consumers in product promotion, development, and innovation; mobile commerce; privacy and security risks; payment protection; online product safety; Recognizing the importance of providing information to consumers in e-commerce transactions with evidence.[14]

The Law on Consumer Rights Protection 2023 completes regulations to protect consumer rights in remote transactions and transactions in cyberspace in the context of digital transformation of the economy, creating motivation for the competition and creative development of businesses, supporting and encouraging the activities of social organizations, contributing to promoting economic, cultural, social development, international and regional integration.

CONCLUSION

In order to better protect consumer rights in e-commerce in Vietnam, the Government needs to create favorable conditions for the national digital transformation process and the development of products, services, and business models of high technology, sharing economic models, transactions, management of digital assets, new payment methods, authentication, and electronic identification systems; Strengthen the effectiveness and efficiency of state management, anti-counterfeiting and

[13]Articles 37, 38, 39, 40 Law on Consumer Rights Protection 2023

[14] OECD Legal Instruments (2022), Recommendation of the Council on Consumer Protection in E-commerce

consumer protection in e-commerce activities; Concentrate forces and use a combination of professional measures to fight and prevent violations of the law on production and trading of counterfeit goods and goods infringing intellectual property rights; clarify the cause of the violation; propagate and educate the law, raise awareness of responsibility to comply with the law, and participate in combating violations of counterfeit goods in e-commerce activities; Expand cooperation with agencies, units, law enforcement forces at home and abroad, and international organizations to mobilize all resources to serve anti-counterfeiting and consumer protection activities—e-commerce movement.

To implement this orientation, essential solutions are needed, including research and assessment of the current situation and review of legal documents, mechanisms, and policies in anti-counterfeiting and consumer protection in the e-commerce activities industry; Complete the system of policies and laws on management of e-commerce activities; anti-counterfeiting, consumer protection, standards, measurement, product and goods quality in e-commerce activities; Build a centralized database on anti-counterfeiting and consumer protection in e-commerce activities and connect and share with relevant databases of competent forces of ministries and branches; Build a monitoring system and collect data on e-commerce transactions on social networking platforms to supplement input data sources for the centralized anti-counterfeiting and consumer protection database in e-commerce activities; complete the system of national standards and national technical regulations on product and goods quality; Promote the implementation of codes, barcodes, and traceability of products and goods.[15]

REFERENCES

1/ Law on protecting consumer rights in 2023

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REPORTING IN ISLAMIC BANKING

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Abstract

Islamic banking has become an undeniable reality that emerged in the 1970s and is now one of the important industries in the world as it plays an essential role in the financial stability of economies. Despite the degradation of the global financial system, the Islamic finance industry has seen remarkable growth. But Islamic banking in non-Muslim regions is still at a very early stage of development. Islamic finance is an ethical financial system based on Islamic law. It spread beyond the Muslim world, but with different theoretical and practical implications.
The main objective of the study is 1) to trace the progress of Islamic banking - past, present and future, and to clarify the main differences with conventional banking; 2) to see the different nuances of Islamic finance in individual countries - both from a legal and economic point of view and 3) to review the literature related to Islamic banking.
The main conclusion is that there is potential for high growth in all over the world as well. Given the risks that Islamic banks (IBs) face, they need legal, corporate and regulatory frameworks as much as other conventional banks. A sound legal framework is a key prerequisite for the safe development of Islamic banking. This report examines the various regulatory frameworks for Islamic banking in both the Muslim and non-Muslim worlds. The main differences with conventional banking are also presented. An important decision to be made by countries allowing Islamic banking is whether to maintain a unified set of banking laws and regulations for Islamic and conventional banking or separate ones.

Keywords: Islamic banking, finance, reporting, potential, performance, sustainability.

INTRODUCTION

Islamic banking has become an undeniable reality that emerged in the 1970s and is now one of the important industries in the world as it plays an essential role in the financial stability of economies. Despite the degradation of the global financial system, the Islamic finance industry has seen remarkable growth. According to the World Database of Islamic Banking and Finance, Islamic banks are spread across 21 different countries such as Bahrain, UAE, USA, UK, Saudi Arabia, Pakistan and Indonesia.

MATERIALS AND METHODS

This report aims to trace the historical development of Islamic finance around the world as well as in Europe; to highlight the main principles of Islamic finance; to make a comparison between traditional finance and Islamic finance; to focus on the issue of reporting in Islamic banking and to summarize 60 researches in the field of Islamic finance for the period 2003-2018. The methodology used in the report is literature review and the analytical tool, the result of which is the table as an Annex at the end of the report.

Emergence of Islamic banks

Islamic banks represent a new wave of corporations whose social goals are as important as generating profit (Haniffa and Hudaib 2007, p. 98). They must be socially responsible regardless of financial results - positive or negative (Dusuki 2008a). The Islamic banking industry is progressing and becoming an increasingly significant segment within the global financial market. It is a competitive form of financial intermediation not only in Muslim countries, but offers a wide range of financial products and services in non-Muslim countries as well.

Among all Islamic financial institutions, banks appear the earliest (Sobol, 2015). Prerequisites for their appearance are the neo-revival movements among Muslim societies, on the one hand, and the growing wealth of the countries of the Middle East, on the other. One of the most influential movements was the "Muslim Brotherhood" in Al-Ismailija (Egypt) in 1928, founded by Hassan al-Banna. The Muslim Brotherhood criticizes the interest-based financial system in Egypt and other parts of the Muslim world and argues that Islam provides a comprehensive ideological framework for all aspects of life, which should include economic issues. The Muslim Brotherhood and other similar religious movements have followers both in the academic world and in the marketplace.

According to Kaplan (2019), the history of the Islamic banking system dates back to the 1940s. Before the partition of Pakistan and India, the Muslims who lived in that geography in 1946 came together and developed a different model of carrying out interest rate transactions. In this model, in addition to fulfilling the existing debt obligation, a Muslim who has granted a loan must pay the 'zakat' on the profit from the transaction to another bank (Mutlu, 2003: 298). Interest-free banking was first introduced in the modern sense of the word by Muhammad Uzeir, who lived in Pakistan in 1955. The interest-free banking system, which was established under the name "Savings Associations" in the 1960s, was further developed in the following years (Battal, 1999: 18). Since 1963 the Malaysian government established the Pilgrimage Management Fund (Tabung Haji) to assist Muslims wishing to perform their pilgrimage. (Alrifai, 2013: 101).

According to Di Mauro (2013), from a historical perspective, the idea of an Islamic financial system began to emerge in the second half of the 20th century, when decolonization and the creation of new countries with a majority Muslim population led to the foundation of Islamic banking. The Islamic financial system is seen as a segment of the overall Islamic economy that supports the Islamic social order and can be an alternative to capitalist liberalism and socialist planning. This offers believers the opportunity to combine their economic activity with their religious beliefs. Thus, historically, Islamic finance has developed over a long period with profound distinctive features.

The first Islamic bank was established in Egypt under the name "Mit Gamr" in 1963, and the first Sharia-based bank according to Sadoveanu (2011) was founded in 1963 in Egypt - "MitGhamr Savings Bank", renamed after of Nasser Social Bank. The first Islamic banks were "Dubai Islamique banque", "Kuwait Finance House" and "Bahrain Islamic Bank".

The factors for the emergence of Islamic banking are: 1) financial deregulations and innovations that allow the development of pure Islamic banking products and services; 2) the emergence of "visionaries" - people with deep knowledge of Islamic doctrine and banking; 3) the oil shocks of the first decade of the 1970s, which aided the accumulation of a large amount of petrodollars in Arab countries.

The rise in oil prices since the 1970s has led to the accumulation of significant amounts of foreign exchange reserves in oil-producing countries. The foreign trade surpluses of these countries flow to Western countries in the form of savings in petrodollars. There are also underdeveloped or developing Islamic countries that do not have rich oil reserves, but instead have idle natural resources and labor due to insufficient capital. Cooperation between Islamic countries with a capital surplus and countries with a capital deficit is economic factor for the creation of Islamic banks (Çobankaya, 2014: 11). The Islamic finance industry emerged on the global stage in the 1970s, when a huge influx of liquidity in

the Gulf states was used to support the establishment of several institutions offering Islamic financial services – IIFS (Di Mauro, 2013). Since then, Islamic finance activity has grown significantly in both volume and scope.

According to Kaplan (2019), the reasons that led to the emergence of participatory banking can be religious, economic, social or political. According to the Islamic religion, interest is prohibited because it causes various damages, such as distorting the distribution of income, restricting development, causing excessive costs and risk in investment enterprises, and preventing the realization of projects with low profit but high social efficiency. Every social society consists of individuals with different capabilities, which also leads to the emergence of different classes in society. In order for these classes to continue their relations and for the economic differences between the classes to be reduced to a minimum, the interest-free banking system must be introduced. Income from savings is used for production, trade and industry and contributes to employment, thereby mitigating inequalities between classes and individuals in society (Kaya, 2013: 9-11).

The first interest-free bank established with the help of the state was Nasir Social Bank (NSB), which was also established in Egypt in 1971. The most important step in the history of Islamic banking was made in 1975 when the Islamic Development Bank was established in accordance with Islamic principles to support economic development and social development in Muslim countries (Sümer and Onan, 2015: 298).

Although the beginning of the history of Islamic finance can be traced back to the 1920s, the huge impetus for Islamic finance came from the Gulf countries as a result of the oil crisis and the huge increase in oil prices. Almost all Islamic banks established in the 1970s were partly or even entirely financed by oil revenues. Since then, Islamic finance has seen a growing importance. So far, banks have played a dominant role in the Islamic finance industry. The value of their assets amounts to about 80% of the assets of all Islamic financial institutions. Apart from banking services, other Islamic financial services that are developing dynamically are the issuance of Islamic bonds (sukuk), Islamic insurance (takaful) and Islamic funds.

The growing demand for interest-free banking products is accelerating the development of the Islamic banking system. Islamic banks are beginning to attract more and more customers, offering different financial products than commercial banks. Islamic banking is also becoming attractive in some non-Muslim countries (Salman and Nawaz, 2018: 155).

Islamic banking in European Union countries is still at a very early stage of development. There are only a small number of banks in the EU offering Islamic financial products and services. Most of them are located in the United Kingdom, which is considered the European Islamic financial center.

The first participation of European banks in interest-free financing took place already in the 20s of the 20th century. At the time, the Eastern Bank, the predecessor of Standard Chartered, was allowed to open a branch in Bahrain on the condition that it avoid all interest-based transactions. At the same time and under the same conditions, National Handelsbank of the Netherlands, a predecessor of ABN-Amro, was granted permission to establish a branch in Jeddah, the purpose of which was to provide money exchange services for pilgrims from Dutch Indonesia. The intervention of European banks in the Persian Gulf for the first time led to the demand for Islamic financing. And according to Wilson (2007), the beginning of IS in Europe is associated with the mentioned 2 events in the 1920s.

For the next fifty years, European banks involved in the Muslim world conducted their operations using interest, just like their local counterparts. It was only in the 1970s, when the first Islamic banks were established in the Middle East, that European banks again came into contact with interest-free banking. Newly established Islamic banks have problems managing their liquidity because they cannot use tools that are available to conventional institutions. As a response to this problem, a

number of banks operating in London, notably Saudi International Bank and United Bank of Kuwait, are beginning to offer liquidity management services to Middle Eastern Islamic banks.
In the late 1970s, however, the perceptions of European bankers began to change, largely as a result of the emergence of Islamic banks in the Persian Gulf, with Dubai Islamic Bank being the first to be established in 1974, followed by Kuwait Finance House in 1977 and the Islamic Banks of Bahrain in 1978.
As for the first Islamic financial institutions in Europe, it should be noted that they appeared only at the end of the 1970s (Kurochkina ,2019). Gradually, with the change in national legislation, full-fledged Islamic banks or the so-called "Islamic windows" in conventional banks began to be created. Thus, in 1978, the Islamic Banking System (later renamed Islamic Finance House Universal Holding) was established in Luxembourg, and in December 1982, the first Islamic insurance company Takafol was established (both for investors from the Persian Gulf countries).
In Switzerland, due to existing legal restrictions, the first full-fledged Islamic bank was founded only in 2006 (Faisal Private Bank). Another project of Islamic banking in Europe was the acquisition of the Hargrave Securities investment group in the United Kingdom in 1982 by the Saudi-based Al-Baraka, an organization that had a license to make bank deposits. According to Sobol (2015), this is a big step towards the implementation of Islamic banking services in European banks. However, the newly established Al Baraka International Bank serves the British Muslim community only to a limited extent.
In 1995, at a conference organized by the Islamic Foundation, the then governor of the Bank of England, Lord Edward George, gave a speech in which he drew attention to the dynamic development of Islamic banking in the Muslim world and its emergence on the international scene, as well as the need for attracting Islamic banks to the UK. It also points out a number of issues and difficulties associated with the development of Islamic banking in the UK. In practice in 2001, when a special commission was appointed, including representatives of the government, the Financial Services Authority (FSA), Muslim community banks, to determine the legal obstacles facing the further development of Islamic banking in the UK . 2004 brought a breakthrough in UK Islamic banking. In that year Islamic Bank of Britain (IBB) became the first fully Islamic retail bank to be licensed by the FSA. It is the first full-fledged Islamic bank not only in the UK but also in the whole of the European Union. In the following years, several fully Islamic banks were established in the UK. In 2014, six full-fledged Islamic banks already exist. In 2023 there are Abu Dhabi Islamic Bank (ADIB), Ahli United Bank, Bank of London and the Middle East, Al Rayan Bank, Gatehouse Bank, QIB UK
The foundation of interest-free banking or Islamic financial institutions is relatively recent compared to the history of the banking sector. Approximately 50 years have passed since the first Islamic financial institution appeared, to date there are many Islamic financial institutions operating according to Islamic rules and principles in many countries around the world and they maintain important functions in the financial system. (Schuster, 2013: 3). The Islamic financial system and the way it is perceived by all the major players has changed profoundly since the 1970s: there has been a diversification of products and participants and a strengthening of the cross-border dimension. Islamic finance is no longer seen as the opposite of the "secular" global financial system, but as an integral part of it. The industry began to target non-Muslim customers as Islamic financial companies began operating in Western countries in the 1990s. The existing Islamic financial system provides a variety of religiously acceptable financial services to both Muslim communities and non-Muslim clients seeking ethical investments and greater risk diversification. Today, the Islamic financial system is not limited to Islamic countries, but has gained popularity in Western countries, especially in Great Britain and the United States of America (Schuster, 2013: 3). In recent years, the Muslim

population and Islamic banks, which remained stable during the Great Recession, have played an increasingly active role in the European Union's economy.

Basic principles of Islamic Financing

Conventional banking does not differentiate the goods and services provided from a religious point of view. At the core of the Islamic financial industry is the principle of interest-free banking, avoidance of transaction uncertainty, prohibition of speculation, and investment in halal-permitted goods and services (Hussain et al. 2015). The most important feature of Islamic banking is that it promotes a risk-sharing model - the risk is shared between the fund provider, the financial intermediary and the fund user, while in conventional banking the entire burden rests on the borrower's "shoulders". In addition, Islamic banking does not allow investing in haram or prohibited activities and industries such as gambling, alcohol and pork production (Ullah et al. 2014). Islamic banks confirm their socially responsible behavior in their economic activities by complying with Shariah principles of commerce (Cebeci 2012). This is a major 'differentiating point' of the social responsibility of Islamic banks that fundamentally distinguishes them from conventional banking.

The main differences between Islamic banking and conventional banking include not only the ways in which they operate, but also all the values that guide the entire operation and outlook of Islamic banking (Dusuki, 2008). These values prevail within the scope of Sharia (Islamic law) and are expressed not only in his dealings but also in his role in society. This requires internalizing the principles of Islamic financial transactions, both in form and substance. As Shariah-based companies, Islamic banks must fulfill social responsibilities that go beyond the conventional capitalist worldview of solely profit maximization (Dusuki, 2008). Islamic banks operate on the basis of Sharia principles and are far from conventional banks, which are highly motivated for profit through the so-called "concept of brotherhood", social obligations, and fairness are the main objectives of Islamic banks (Masruki et al., 2010).

Many scholars of Islamic banking (Ahmad, 2000; Iqbal and Molyneux, 2005; Lewis and Algoud, 2001; Warde, 2000) argue that Islamic banks perform mostly the same functions as conventional banks, but they do so in distinctly different ways. The most important features of Islamic banking and finance that make it different and unique from its conventional counterpart: first, Islamic banking strives for a fair, honest and balanced society as envisioned in Islamic economics. Second, Islamic banking is built on the principle of brotherhood and cooperation, which means that they are based on a system of capital, risk and equity sharing. Third, based on the ethical and moral framework of Shariah, Islamic banking is also characterized by ethical norms and social commitments (Dusuki, 2006). Fourth, Islamic banking is community-oriented, entrepreneur-friendly, emphasizing productivity and the physical expansion of economic production and services. Finally, Islamic banking operates within limits that ensure stability of the value of money and that reduce destabilizing speculation (Dusuki, 2011).

Islamic finance refers to "the application of Islamic law in the management of money" and encompasses intermediation activities and risk transformation similar to traditional finance. They are, however, unlike conventional financial, interest-free (ribā), real asset-based and capital-backed businesses that refrain from both taking risks (gambling) and exhibiting an excessive degree of uncertainty (gharar).

Broadly speaking, Islamic finance is based on divine law or Shariah as revealed in the Qur'an and Sunnah. These are respectively the Muslim holy text and real-life examples of the Prophet Muhammad. Islamic banking is a banking system in which profits, revenue or fees from any service are not spent or reinvested in interest-based activities or practices and is a system that avoids unethical and anti-social business transactions. While conventional banks earn a fixed income by charging

compound interest rates, Islamic banks generate income by sharing risk, charging fees by providing services, leasing, trading and using other Shariah exchange contracts. Islamic banking and conventional banking differ in the following aspects:
1)Conventional banking is based on interest based principles and Islamic banking sector is based on interest free principles. The principle of profit and loss sharing (PLS) of the Islamic banking system creates an excellent relationship of financial trust and partnership between debtor and creditor. as well as an intermediary; 2)The conventional banking sector charges compound interest while the Islamic banking sector shares the losses; 3)Islamic banks act as partners with their depositors on the one hand and act as partners with an organization or entrepreneur on the other when an employee deposits funds for indirect investment compared to a commercial bank that is a borrower or lender of funds; 4)In conventional banking, money is a commodity that can be used to exchange and store value. Therefore, it can be sold at a higher price than its face value and can also be rented out. While in Islamic banking, money is not a commodity but can be used as a medium of exchange and storage of values. Therefore, it cannot be sold at a higher price than its face value; 5)There are rules that govern investment behavior in the Islamic banking sector.
- Avoiding interest based transactions such as (RIBA).
- The concept of Islamic tax like (ZAKAT).
- Prohibition of producing all those goods and services which are "HARAM" in Islam.
Islamic finance is an ethical financial system based on Islamic law. It spread beyond the Muslim world, but with different theoretical and practical implications. There is potential for high growth in Europe as well. There is a normative approach to the study of Islamic finance within a non-Islamic setting, namely the European Union (EU). The main focus is to argue for the normative autonomy of Islamic finance and Islamic rules applied to financial institutions within the EU legal order, analyzing the resulting regulatory challenges and opportunities for the European legislator.
The Great Recession and financial crisis led to a decline in the profits of financial institutions from 2007 to 2008. Many banks make high-risk loans to increase profits, which helps them be competitive in the market. Banks change loan rates according to market conditions. The interest rate has been vital for banks and other financial institutions to generate profits. In contrast, the relatively new financial practice-Islamic finance uses its different financing methods to generate profit. Charging interest on loans disrupts the circulation of wealth to those people who already have it, because the lender does not give loans to those people who cannot repay it, therefore, the gap between rich and poor is further widened, and therefore the interest rate forbidden in Islam.

Reporting issue in Islam Finance
A basic Muslim belief is that Allah will give an account of everything on the Day of Judgment and each person will be held accountable for whether their actions were in accordance with the Sharia or not. Therefore, reporting responsibility is the basic concept for Muslims, for the Islamic system and all relationships within any Islamic society (Aljirari, 1996). Emdadul (2010) affirms the concept of accountability in Islam in the following statement: “Accountability to Allah for all activities is vital to the Muslim faith. Sharia dictates how business should be conducted, organized and managed. According to Islam, the basic rule in business is honest and fair accounting and fair treatment of customers; such obligations impose the moral responsibility of the business community to Islam. Samuel and Stewart (2009) point out the consequences of the formation of sustainable accountability. They add that there is no sustainable accountability outside of Sharia - they are far from reality because they seek imposed accountability and ignore the responsibility that comes from the depths of faith such as morality and ethics. Lewis (2006) argues that “accountability to God and the community for all activities is paramount to the Muslim faith”.

Al-Humaidhi (1999) states that the mainstream of accountability in Islam is seen at two levels. The first level is when each person is responsible for their actions. The second level includes the accountability for the persons and objects that are under his influence. Therefore, the accountability of intermediate units lies below the second level through accountability to all stakeholders. This accountability can be achieved and is provided through disclosure in annual reports and websites. In an Islamic context, the Ummah (nation) has the right to know how the corporations that are part of the Ummah affect its welfare (Maali et al., 2006). The responsibility to reveal the truth is a very important issue in the Islamic context, and this responsibility applies to both businesses and individuals. From an Islamic perspective, the primary objective of corporate reporting, which overrides other objectives, is to enable Islamic enterprises to demonstrate that they are Shariah compliant and serve society (Baydoun and Willett 2000). A corollary to this objective is that have a responsibility to disclose all information material to their stakeholders about their operations. Islamic banks have an obligation to disclose their Shariah compliance to stakeholders. Maali and others (2006) explain that "requiring Muslims to reveal the truth is intended to help the community understand the effect of a person or business on its well-being". Based on Islamic values, profit maximization should not be the sole objective of risk management and control. According to Hameed and Yahya (2003), every Islamic business institution is required not only to report its economic performance but also its Shariah compliance, social concern and environmental concern to its stakeholders. Stakeholders are expected to have broader objectives covering Shariah, social value; ethical behavior as well as financial which are a necessary part of their value proposition (Warde, 2013).

The perception of disclosure from the Islamic approach is based on two general requirements: the concept of social accountability, which contains Shariah and social disclosure, and the concept of full disclosure, which focuses on financial disclosure as well as Shariah and social issues (Baydoun and Willett, 2000; Haniffa, 2002; Haniffa and Hudaib, 2002). Haniffa and Hudaib (2002) argue that full disclosure of applicable and reliable information should assist external users in making both economic and religious decisions, in addition to assisting management in achieving their accountability to God, society and all other interested parties. Based on the debates, the IB has 3 reports - Sharia compliance, social and financial.

From an Islamic perspective, social issues are expected to be the main factor in the disclosure of companies' annual reports. As a result, every Shariah business entity is expected to be more transparent in its disclosure practice. Islamic banks must disclose full information to the ummah (Muslims) about how their activities are carried out based on the objectives of Shariah to improve public prosperity (Meutia; 2017). Most of the literature on Islamic banks confirms that they generally perform their CSR functions in the same way as conventional banks, although they have a different approach (Ahmad, 2000; Chapra, 2000; Warde, 2000; Henry and Wilson, 2004; Iqbal and Molyneux, 2005; Dusuki and Abdullah, 2007b; and Iqbal and Mirakhor, 2007). Islamic finance prohibits usury (interest rate), gharar (ambiguity), maisir (gambling) and some other pro ducts such as alcohol and pork (Rosly, 2010) and are based on the principles of participation in the real economy and social justice. Jaufeerally (2011) added two obligations of Islamic banking, namely, first, profit and loss sharing and second, financing that is supported by real assets. Unlike conventional banks, Islamic banks (IIBs) must adhere to Islamic law in their dealings. As a result, *there are differences in disclosure and reporting methods between Islamic and conventional banks.*

In an Islamic context, the main purpose of corporate reporting is to enable Islamic enterprises to demonstrate that they are Shariah compliant (Baydoun and Willett, 1997, p. 6). Other purposes of corporate reporting may include those known in the Western model, such as assisting economic entities in making economic decisions, but from an Islamic perspective these are secondary purposes.

This view of the primary objective was adopted by the AAOIFI when it set out its Statement of Financial Accounting Objectives for Islamic Banks and Financial Institutions - Islamic firms must disclose all information necessary to advise the Umma (Islamic community) about their operations, even if the disclosure of such information would be against the company itself. In the Islamic context, the Ummah has the right to know how the individuals and organizations that are part of the Ummah affect its welfare. This obligation is emphasized in the Qur'an: "and do not conceal the truth with a lie, nor hide the truth that you know" About Islam God is omniscient - God says "I know what you reveal and what you conceal." Muslims are responsible for their actions and must consider this responsibility to the society in which they live because their actions affect society. Islamic businesses as well as individuals are required to undertake charitable activities and help the poor and needy. The requirement to pay Zakah is a clear example of such an obligation (the Qur'an lists eight uses for Zakah). The information provided by Islamic business enterprises, in addition to showing Shariah compliance, should therefore assist Muslims in fulfilling their religious obligations, especially the payment of zakat.

The conclusion of this discussion is that there are three broad objectives that can be used as a basis for identifying the social disclosures of Islamic business enterprises: 1. To demonstrate compliance with Islamic principles; 2. To show how business activity has affected the welfare of the Islamic community. 3. To help Muslims fulfill their religious duties.

Hasan and Siti-Nabiha (2010) argue that Islamic Banks accountability issues need further research. Recently, integrated reporting practices have attracted the attention of many scholars as a new evolutionary form of corporate reporting. The advantages and benefits of integrated reporting implementation highlighted by various studies. For example, integrated reporting improves information quality by linking financial and sustainability information (Baboukardos and Rimmel, 2016). Integrated reporting in the Islamic finance industry is not yet widespread. Critics note the need to introduce a new approach, with Gelmini (2017) arguing that Islam represents an extremely important area of study for integrated reporting. It qualitatively examines the integrated reporting of specific three Islamic banks to identify the reasons why these banks issue integrated reporting. To study the adoption of an integrated reporting framework in Islamic financial institutions, Ramli et al. (2018) explores the principles of integrated reporting that are aligned with Islamic non-profit organizations that trace their origins to waqf, zakat and sadaqa (charity). To overcome the shortcoming of conventional reporting models in reporting waqf revelations Mansor et al. (2017) proposed a new integrated accounting system for "waqfs" through integrated accounting based on Islamic accounting principles. Masruki et al. (2020) also proposed an integrated waqf reporting model that covers four different disclosure areas, first, waqf performance; second, waqf financial and non-financial information; third waqf administration; and finally waqf socio-economic effect.

RESULTS

Table 1. Summary of researches for Islamic finance

Year	Author(s)	Research	Object	Findings
2002	Haniffa and Hudaib	"A theoretical framework for the development of the Islamic perspective of accounting."		They argue that from an Islamic perspective, full disclosure along with social responsibility disclosure is important in the context of Islamic banking and highlight certain dimensions of social disclosure.
2003	Harahap	"The disclosure of Islamic values—annual report. The analysis of Bank Muamalat	The Islamic Bank of Indonesia	Reveals Certain Islamic Values of Islamic Bank Indonesia Through Interpretive Content Analysis of Annual Reports 1992–2000.

		Indonesia's annual report"		
2006	Maali	„Social reporting by Islamic banks."	29 full-fledged Islamic banks in 16 countries.	This study is related to the social disclosure of Islamic banks. The disclosure index examined 30 items across 6 dimensions. The sample of the study was 29 fully-fledged Islamic banks in 16 countries. Content analysis was performed on annual reports for 2000–2002
2007	Dusuki and Abdullah	„Maqasid al Shari'ah, Maslahah, and corporate social responsibility"		They define the maslahah pyramid as a framework for implementing CSR. This framework is based on general ethical guidelines derived from an understanding of the objectives of the Shariah and the public interest in the light of Islamic axioms
2007	Dusuki and Abdullah	„Why do Malaysian customers patronise Islamic banks?"	750 customers of two leading full-fledged Islamic banks in Malaysia	The factors that customers consider important when choosing an Islamic bank are defined.
2007	Farook	„On corporate social responsibility of Islamic financial institutions"		It classifies CSR for Islamic banks into two forms - mandatory and recommended according to the degree of importance
2007	Haniffa and Hudaib	„Exploring the ethical identity of Islamic Banks via communication in annual reports."	2002–2004 Annual Reports of 7 Islamic Banks in the Gulf Region	They develop an ethical identity index to assess the social disclosure of Islamic banks. The index examines 78 items across the eight dimensions.
2008	Dusuki	„What does islam say about corporate social responsibility?"		A continuum of levels of CSR has been defined - irresponsible, minimalist, apathetic, tactical and the highest level, called taqwa-centric.
2008	Dusuki	„Understanding the objectives of Islamic banking: a survey of stakeholders' perspectives."	1,500 stakeholders such as customers, employees, community members, managers, regulatory officers and Islamic banking Shariah advisors from two full-fledged Islamic banks in Malaysia	Explores stakeholders' perspective on the philosophy and objectives of Islamic banks in Malaysia's dual banking environment.
2009	Hassan and Latiff	„Corporate social responsibility of Islamic financial institutions and busi-nesses."		Considers CSR in the context of philanthropy. The central focus is on how to increase charity (other than Zakat and Qard al Hassan)
2010	Aribi and Gao	„Corporate social responsibility disclosure: a comparison between Islamic and conventional financial institutions."	Annual reports of 21 IFIs and 21 CFIs for 2004..	The study aims to compare CSR disclosure between Islamic Financial Institutions (IFIs) and Commercial Financial Institutions (CFIs) operating in the Gulf region.
2010	Hassan and Harahap	„Exploring corporate social responsibility	The Annual Reports (for 2006) of seven Islamic banks in seven countries	A CSR disclosure index was developed, which consists of 78 items in eight dimensions.

		disclosure: the case of Islamic banks.“		
2010	Hassan et al.	„Ethical gaps and market value in the Islamic banks of Bangladesh“	6 Islamic Banks in Bangladesh	The impact of ethical identity on the market value or performance of Islamic banks in Bangladesh is investigated.
2010	Rahman et al.	„Corporate social reporting: a preliminary study of bank Islam Malaysia Berhad (BIMB).“	Reports for 1992–2005. of an Islamic bank in Malaysia.	Analysis of CSR disclosure
2010	Williams and Zinkin (2010)	„Islam and CSR: a study of the compatibility between the Tenets of Islam and the UN global compact.“		Checking the compliance of the principles of Islam with the ten principles of the United Nations Global Struggle for Socially Responsible Business
2011	Aribi and Gao	“Narrative disclosure of corporate social responsibility in Islamic financial insti-tutions.”	The annual reports for 2004 of 21 Islamic financial institutions from the Gulf region	The influence of Islam on CSR is explored
2011	Farook et al.	“Determinants of corporate social responsibility disclo-sure: the case of Islamic banks.”	47 banks from 13 countries	Through content analysis method, the determinants of CSR disclosure of Islamic banks are explained.
2012	Cebeci	“Integrating the social maslaha into Islamic finance.”		The paradigm of sustainability and long-term social development in the true spirit of Islamic finance is argued
2012	Christine Mallinb, Hisham Faraga	„Corporate social responsibility and financial performance in Islamic banks“	90 Islamic banks from 13 countries/	The paper finds a positive relationship between CSR and financial performance in Islamic banks, and a highly significant relationship between the size of the Sharia Supervisory Board (SSB) and CSR disclosure.
2012	Zahid and Hassan	„Corporate social responsibility to employees: considering common law vis-a-vis Islamic law principles.“		They argue that the employer's obligations are similar to Islamic legal principles. While common law looks at issues from a temporal perspective, Islam takes it as a holistic view
2013	Almunawar and Low	„Islamic Ethics and CSR.“		CSR in Islamic banks is based on certain axioms of Islamic ethical philosophy such as tawhid (unity), adl (justice), ikhtiar (free will), fard (responsibility) and ihsan (benevolence).
2013	Kamla and Rammal	„Social reporting by Islamic banks: does social justice matter?“	19 Islamic banks in 11 countries	Emphasize disclosure and social reporting of Islamic banks in terms of social justice and poverty eradication. They address 5 topics and 11 disclosure analysis points.
2013	Khan	„Developing a conceptual framework to appraise the corporate social responsibility per-	10 Islamic banks in seven countries	It assesses the CSR performance of Islamic banks through content analysis and based on interpretive and discursive analysis. It conceptualizes the framework of CSR from the Islamic principles of Shariah,

		formance of Islamic banking and finance institutions.“		community welfare, brotherhood, socio-economic development and Western literature on CSR.
2013	Rahman and Bukair	„The influence of the Shariah supervision board on corporate social respon-sibility disclosure by Islamic banks of Gulf co-operation council countries.“	Отчетите за 2008г. на 53 ислямски банки от региона на Персийския залив	This study explains the influence of Shariah supervisory board, bank size and performance on CSR disclosure of Islamic banks in the Gulf region.
2013	Rashid et al.	„Customer-centric corporate social responsibility: a framework for Islamic banks on ethical efficiency“	The reports for 2008 of 53 Islamic banks from the Gulf region	They divide the ethical identity index (Haniffa and Hudaib 2007) into two layers, viz. religious commitment and commitment to stakeholders. The study sample also contains multiple were considered for content analysis of CSR disclosure
2013	Sairally	„Evaluating the corporate social performance of Islamic financial institutions: an empirical study.“	46 Islamic financial institutions (36 Islamic banks in 20 countries)	It assesses and describes the CSR performance of Islamic banks. The research framework begins by identifying the principles of CSR, examines the management of CSR, and finally evaluates the effectiveness of CSR.
2014	Darus et al.	“Social responsibility reporting of Islamic banks: evidence from Indonesia.	Annual reports for 2007–2011 years of 3 Islamic banks in Indonesia	Investigating the CSR disclosure of Islamic banks in Indonesia. .
2014	Darus et al.	“Corporate social responsibility towards the community: evidence from Islamic financial institutions in Malaysia.”	The 2012 Annual Reports of 37 Islamic Financial Institutions, including 17 Islamic Banks of Malaysia	They explore society-oriented CSR disclosure.
2014	Hamdan	“Corporate social responsibility of Islamic banks in Brunei Darussalam.”	Two Islamic banks in Brunei	It investigates the CSR perspectives of two Islamic banks in Brunei. The study takes data for this purpose from secondary sources viz. bank website, magazines, magazine articles, news, etc. and also from some informal conversational interviews with several employees of Islamic banks
2014	Khurshid et al.	„Developing an Islamic corporate social respon-sibility model (ICSR)“		Carroll's (1979) theory of CSR is reviewed from an Islamic perspective according to the doctrine of Shariah al-Muamalat.
2014	Koku and Savas	„On corporate social responsibility and Islamic marketing.“		They explore the concept of CSR and its relationships with Islamic marketing. They define Islamic marketing with its components and consider them under the lens of CSR.
2014	Mallin et al.	“Corporate social responsibility and financial performance in Islamic banks.”	2010-2011 Annual Reports of 90 Islamic Banks in 13 Countries	The relationship between CSR and financial performance in the context of Islamic banks is empirically investigated.

2014	Ullah et al.	"Socially responsible investment: insights from Shari'a departments in Islamic financial institutions."	Two Islamic banks from UAE and Pakistan	Investigate socially responsible investing (SRI) of Islamic banks.
2014	Zaidi and Low	„The koranic discourse on corporate social responsibility."		They refer to the facts that the concept of CSR according to the views of the Qur'an has a different paradigm that promotes socio-economic development, social justice and an interest-free economic system
2014	Zaki et al.	"The association of Islamic bank ethical identity and financial performance: evidence from Asia"	The 2006–2010 Annual Reports of Seven Islamic Banks in Asia	They examine the effects of ethical identity on financial performance following the approach of Haniffa and Hudaib (2007)
2015	Alamer et al.	"A new business process and outcome oriented corporate social responsibility index for Islamic banking"		They propose a process- and business-oriented CSR index, while arguing for the need for standardization and a comprehensive disclosure index.
2015	Aribi and Arun	„Corporate social responsibility and Islamic Financial Institutions (IFIs): manage-ment perceptions from IFIs in Bahrain."	The 2006, 2008 and 2010 Annual Reports of 7 Islamic Financial Institutions in Bahrain	This study investigates CSR disclosure by ch. of managers' understanding of the nature and practice of CSR.
2015	Belal et al.	"Ethical reporting in Islami Bank Bangladesh Limited (1983–2010)"	Islamic Bank in Bangladesh for a period of 28 years (1983–2010)	Ethical practices and disclosures over a 28-year period (1983–2010) are examined. The survey index contains 149 items for 16 groups.
2015	Jusoh et al.	"An Islamic perspective on corporate social responsibility of Islamic banks "		They argue for accountability through the theocentric exposition of divine appointment and human responsibility
2015	Nor and Hashim	„SR and sustainability of Islamic banking: the bankers view. "		They investigated the perception of CSR practices through 11 interviews with key employees of Islamic banks in Malaysia. They aim to explore bankers' understanding of Islamic banking, its objectives, CSR and sustainability, and also gauge opinion on CSR activities, reporting and benefits as well as challenges to Islamic banking
2016	Azis and Mohamad	„Islamic social business to alleviate poverty and social inequality"		They present the case for CSR by emphasizing that Islamic banks can introduce innovative products for social and small enterprises while using different financing instruments such as Islamic microfinance and qard al-hasan
2016	Bakar and Yusof	„Challenges in CSR engagements: the case of bank Islam"	Islamic Bank in Malaysia	They investigate the challenges of CSR engagement for a particular Islamic bank in Malaysia.

2016	Bakar and Yusof	„Managing CSR initiatives from the Islamic perspective: the case of Bank Islam Malaysia Berhad (BIMB) “	29 interviewees belonging to the design, implementation, monitoring and recipient groups of CSR initiatives.	They describe the framework and processes of managing CSR initiatives through a particular Islamic bank in Malaysia
2016	Di Bella and Al-Fayoumi	„Perception of stakeholders on corporate social responsibility of Islamic Banks in Jordan“	210 respondents belonging to various stakeholder groups such as customers, managers, employees, Shariah advisors, regulators and community members	This study aims to assess the perception of different stakeholder groups regarding the CSR of Islamic banks operating in Jordan.
2016	El-Halaby and Hussainey	„Determinants of compliance with AAOIFI standards by Islamic banks“	The 2013 annual reports of 43 Islamic banks from the MENA region	They examine the compliance and level of disclosure of Islamic banks with respect to AAOIFI standards. The CSR index contains 95 items in 12 areas.
2016	Helfaya et al.	„Qur’anic ethics for environmental responsibility: implications for business practice“		They argue that Islam emphasizes responsible behavior towards the environment and its elements and present a discursive analysis of Qur'anic verses in the area of environmental responsibility
2016	Khan	„CSR standards and Islamic banking practice: a case of Meezan Bank of Pakistan.“	Pakistan Islamic Bank 2012, 2013 and 2014 Annual Reports, e-newsletters, media reports, websites and other sources	It examines the CSR engagement of Pakistan Islamic Bank in relation to certain stakeholders
2016	Maulan et al.	„Measuring halal brand association (HalBA) for Islamic banks“	121 customers of Islamic banks	They examine the factors of 'brand' association in the context of Islamic banking. The factor analysis concluded that there are three dimensions of Halal in the context of Islamic banking, viz. god consciousness, Sharia compliance and CSR
2016	Menne	„Evidence of CSR practices of Islamic Financial Institutions in Indonesia“	The Annual Reports (2010–2014) of 9 Islamic Banks in Indonesia	It examines the empirical relationship between CSR and financial performance. using Zakat and Qard al Hassan funding as indicators of CSR and profit as an indicator of financial performance.
2016	Mostafa and ElSahn	„Exploring the mechanism of consumer responses to CSR activities of Islamic Banks“	203 customers of Islamic banks operating in Bahrain	They examine the relationship of Islamic bank customers' perception of CSR and its impact on consumer and bank identification, as well as examining the mediating role of Islamic ethics.
2016	Nobanee and Ellili	„“Corporate sustainability disclosure in annual reports: evidence fromUAE banks: Islamic versus conventional.	16 banks, including conventional and Islamic, operating in the UAE	They empirically examine the relationship between corporate sustainability disclosure and financial performance. Sustainability disclosure was measured by the energy and environmental reporting indicator, and financial performance by the short-term deposit growth indicator.
2016	Platonova et al.	„The impact of corporate social responsibility disclosure on financial performance: evidence from the GCC Islamic banking sector“	The 2000–2014 Annual Reports of 24 Gulf Islamic Banks	They investigate the impact of CSR disclosure on the financial performance of Islamic banks. The survey design includes an index to measure CSR disclosure, return on assets as an indicator of financial performance.

2016	Rahman et al.	„Determinants of ethical identity disclosure in Islamic banks: an analysis of practices in Bahrain and Malaysia“	2007–2011 Annual Reports of 21 Islamic Banks	They investigate CSR disclosure in Islamic banks from Malaysia and Bahrain. using the Haniffa and Hudaib (2007) index to measure ethical identity.
2016	Turker			She revised Carroll's (1979) model according to the Islamic paradigm
2017	Ahmed and El-Belihy	„An investigation of the disclosure of corporate social responsibility in UK Islamic Banks“	The Annual Reports (2007–2009) of Islamic Banks in the United Kingdom	They investigate CSR disclosure by Islamic banks in the UK and conclude that four Islamic banks in the sample adopt Haniffa and Hudaib's (2007) index.
2017	Amran et al.	“Social responsibility disclosure in Islamic banks: a comparative study of Indonesia and Malaysia”	3 domestic Islamic banks from Indonesia and 3 from Malaysia for the period 2007-2011.	They present a comparative analysis of CSR disclosure made by Islamic banks in Malaysia and Indonesia based on six areas and 78 items
2017	Migdad	“CSR practices of Palestinian Islamic banks: contribution to socio-economic develop-ment.”	3 Islamic banks from UK	The CSR practices of the Palestine Islamic Bank are examined through the 2015 annual reports and 11 interviews with six practitioners at the decision-making level and five members of the banks' Shariah board.
2017	Rawashdeh et al.	„Philanthropy, markets, and Islamic financial institutions: a new paradigm“		They build an argument based on the assumption that the market and philanthropy are not mutually exclusive but complementary, based on a participatory approach. They emphasize the need to spread charitable CSR activities by offering Islamic financial instruments to enterprises.
2018	Franzoni and Allali	“Principles of Islamic finance and principles of corporate social responsibility: what convergence?”		They provide a comparative analysis of traditional and Islamic CSR and conclude that the only difference of traditional CSR is the obligation of Islamic banks to take responsibility mostly for religious reasons. They also argue that if religious obligations are excluded from the CSR of Islamic banks, the concept converges with the expositions of Carroll's (1979) model.
2018	Jaiyeoba et al.	“Are Malaysian Islamic banks’ corporate social responsi-bilities effective? A stakeholders’ view”	193 stakeholders including employees, customers and community members of Islamic banks from Malaysia	They investigate the CSR performance of Islamic banks operating in Malaysia through a stakeholder opinion survey.
2018	Muhammad Bilal Zafar, Ahmad Azam Sulaiman	„Corporate social responsibility and Islamic banks: a systematic literature review“	A Literature Review on CSR in Islamic Banks.	It is concluded that there are various studies which are descriptive in nature, investigating CSR in Islamic banking in different regions and contexts, but they are less compared to the studies to reveal CSR in Islamic banking.

2018	Murphy and Smolarski	"Religion and CSR: an Islamic political model of corporate governance."		A normative model of critical Islamic perceptions in the field of governance is proposed
2018	Shabbir et al.	"Corporate social responsibility and customer loyalty in Islamic banks of Pakistan: a mediating role of brand image."	350 customers of Islamic banks	They examine the relationship between CSR and customer loyalty based on stakeholder theory, taking customer loyalty as a performance indicator.

DISCUSSION

In summary, it can be argued that research is contradictory – according some authors Islamic and conventional banking are not drastically different. Others are of the opinion that the two systems function on the basis of fundamentally different principles and ethics. The answer to this question also depends a lot on the specific country and the legal regulation in which the banks operate.

CONCLUSION

Islamic finance has become a key dimension of the relationship between Arab banks and their European counterparts. While Arab banks imported most of their conventional financial products from Europe in the past, European banks are now importing Sharia-compliant products from the Arab world, and not just for their overseas Arab clients, but also for Europe's growing Muslim population. Thanks to the emergence of Islamic banking, the transfer of knowledge in finance has become a two-way process - European banks have as much to learn from the Arab world as the latter have from Europe. The growing proliferation of Sharia-compliant finance is transforming Euro-Arab financial relations into a partnership in the twenty-first century.

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ONLINE NEWS AND PUBLIC OPINION: AN EXAMINATION THROUGH THE LENS OF AGENDA-SETTING THEORY

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Abstract

Recent years have seen significant changes in the media landscape, largely due to the emergence and widespread use of digital news platforms. This study aims to examine the influence of digital news platforms on public opinion, specifically within the context of the Agenda-Setting Theory. The motivation behind this study is driven by a hypothesis proposing a direct association between the amount of attention that digital news outlets assign to different topics and the perceived significance of these concerns among the general population. At the core of this inquiry lies the query, "To what extent do the reporting preferences exhibited by digital news platforms correspond with the public's perception regarding the significance of various issues?" Furthermore, the objective of this paper is to examine the role of prominent online news platforms in Albania in shaping public debate and influencing public opinion. In order to achieve this objective, the study utilizes content analysis methodologies to identify and classify significant themes and subjects within the digital news landscape of Albania.
This study has broader implications for understanding the interaction between public opinion and online platforms, as well as exploring the diverse public perspectives that arise from the individualized character of digital news feeds. The results emphasize the significant role that these platforms play in shaping public discourse, aligning with the core principle of the Agenda-Setting Theory that media hold a central position in shaping the public agenda.

Key words: Online News, Public Opinion, Agenda-Setting Theory.

INTRODUCTION

1.1 The Influence of Online News on the Formation of the Public Agenda

In today's society, the digital domain has experienced the emergence of online news platforms as powerful mediums via which individuals obtain information about their immediate surroundings and subsequently develop their viewpoints. The objective of this study is to investigate the influence of prominent digital news outlets on the formation of public opinion, with a specific focus on the Albanian context. The main aim is to get a thorough comprehension of the various topics and issues emphasized on digital news platforms, along with their relevance to the broader populace. A comprehensive examination and categorization of topics will be undertaken in order to identify what topics possess the potential to stimulate a diverse array of perspectives in public discourse. A comprehensive research study was undertaken to identify and select the most prominent online news platforms in Albania. The process encompassed the collection and examination of data related to website traffic, user engagement, and credibility. The objective of this research is to gain an understanding of the efficacy and constraints of these factors within this specific media setting.

Hypothesis: The present study proposes that three large online news portals in Albania exert a significant impact on the public agenda and public opinion by strategically emphasizing particular themes and issues. Research Question: To what extent do online news portals in Albania shape the public agenda, and what are the predominant issues that garner the highest media coverage?

1.2 Methodology

The primary aim of this study is to comprehend the impact of online news portals in Albania on the shaping of the public agenda and to examine the relationship between the themes emphasized in the media and the concerns perceived as significant by the general public. To achieve this purpose, a comprehensive methodology has been employed, integrating both qualitative and quantitative research methodologies. This study uses content analysis methodologies to discover and categorize noteworthy themes and issues within the digital news landscape of Albania. A thorough examination entails considering elements such as the relevance of the issue, the scope of its coverage, and the organization of its content. The news portals selected for analysis, utilizing their Alexa.com rankings as a criterion, consist of Balkanweb.com, Panorama.com, and Syri.net. A total of 200 participants were chosen as the sample size for participation in the questionnaire. The data collection method employed was a Google Form, with the aim of investigating the correlation between the topics considered significant by web portals and the general public's perception of their importance. The examination spans a duration of one month, commencing on the 15th of July and concluding on the 15th of August 2023. During this period, the subjects and titles included on these platforms have been thoroughly documented by manual methods. The data acquired through online media monitoring is juxtaposed with the insights collected from the questionnaire to ascertain the disparities in agenda framing.

2. Literature Review

The agenda-setting hypothesis, originally proposed by McCombs and Shaw in the 1970s, has become a well-recognized and influential theoretical framework in the realm of mass communication. The notion asserts that the media does not exercise direct control over individuals' cognitive processes but rather shapes the topics that individuals engage with, thus providing the foundation for public discourse. Over the course of its existence, this specific concept has been applied in diverse fields, including the investigation of the relationship between online news platforms and public attitudes. The proliferation of digital news platforms has resulted in a substantial shift in the global media landscape during the past two decades. The contemporary phenomenon has generated renewed academic interest in understanding the impact of these platforms on shaping public opinion, specifically with regard to McCombs and Shaw's Agenda-Setting Theory (1972). The ensuing research on agenda-setting has primarily built upon the methodological framework established by McCombs and Shaw. The researchers' seminal study investigated the correlation between the level of media attention and public apprehension through a comparative examination of media content and survey data. The underlying premise of this technique was predicated on the notion that the audience exhibited a sustained and unwavering level of involvement with the news media (McCombs, 1981). Nonetheless, the extent of individuals' exposure to these media messages also influences the extent of the agenda-setting effect they experience (Wanta & Ghanem, 2007). The Agenda-Setting Theory, a seminal concept in media studies, asserts that the media plays a crucial role in shaping public opinion by influencing the salience of certain issues rather than directly manipulating individuals' thoughts. This theory has served as a fundamental framework for numerous scholarly investigations.

2.1 The Influence of Digital Media on Agenda-Setting

The advent of digital news outlets has brought forth complexity within the theoretical framework pertaining to the agenda-setting theory. Neuman et al. (1992) claim that the digitization of news content presents viewers with an expanded array of choices, hence potentially enhancing the breadth of concerns that the public considers relevant. In places such as Albania, where conventional media has historically been concentrated and occasionally subject to government intervention, the rise of autonomous online platforms offers a new avenue for public discourse. Tufekci and Wilson (2012) argue that digital platforms have the ability to serve as alternative narratives to mainstream news, hence exerting unique influences on public attitudes when compared to traditional media outlets. The phenomenon of customizing news feeds has attracted considerable interest as a result of the algorithms employed by numerous digital news platforms. Shehata and Strömbäck (2018) did a comparative analysis to investigate the influence of conventional and digital media on public opinion. While traditional media continues to exert a significant influence, the rapid and extensive proliferation of digital platforms often amplifies specific problems, modifying the instant perception of the general population. The emergence of the digital era calls for a reassessment of the operational dynamics of agenda-setting theory in the present context. Meraz and Papacharissi (2013) posit that a reciprocal relationship exists between the media's agenda and the public's interests, wherein users possess the ability to shape their news consumption by engaging in activities such as liking, sharing, and commenting.

2.2 The Impact of Online News on Public Opinion

The emergence of online news outlets has had a profound impact on the media industry, leading to considerable alterations in its organizational structure and operations. According to Takeshita (2006), there is a prevailing belief among experts that internet news platforms, with their interactive and real-time features, have a greater potential to make a significant impact on the agenda as compared to traditional media. According to the findings of the 2022 Information Technology (ICT) Survey conducted by INSTAT, a significant majority of individuals between the ages of 16 and 74 engage in Internet usage, accounting for 82.6% of the population. Among this group, a substantial proportion, specifically 91.6%, utilize the Internet on many occasions during the day. The widespread availability of internet connectivity and the emergence of social media platforms have exerted a substantial impact on the manner in which people residing in Albania engage with conventional and digital media. According to data published by the Union of Journalists in 2020, there are a significant number of online publications, exceeding 800, within the country. These outlets span a wide array of formats, including traditional media websites, multimedia platforms, and blogs. Nevertheless, it is imperative to underscore the present lack of comprehensive statistics regarding their audience reach and adherence to editorial standards. However, there is an increasing inclination towards utilizing this medium as a method for acquiring news and entertainment information. The aforementioned phenomenon is also propelled by the extensive utilization of smartphones and cost-effective mobile data plans, resulting in a significant surge in the consumption of online media content over the past few years.

The utilization of agenda-setting theory has demonstrated its worth in comprehending the manner in which online news outlets exert an impact on public opinion. The research undertaken by McCombs, Shaw, and Weaver in 2014 has provided evidence of the significant impact that online media platforms have in influencing and directing public attention. The research conducted by Althaus and Tewksbury (2002) has revealed a significant association between the topics extensively addressed by online news sources and the themes viewed as significant by the broader public. Several academic

studies provide additional evidence to support the idea that online news has the potential to exert a greater influence on the public agenda. This is attributed to its unique features, including its ability to deliver news in real-time, tailor content to individual preferences, facilitate user engagement, and incorporate multiple modes of communication (Boczkowski, 2004; Neuman, Guggenheim, Mo Jang, & Bae, 2014).

According to Harder, Sevenans, and Van Aelst (2017), there is an ongoing scholarly discussion over the continued significance of traditional media sources in their capacity as agenda-setters. The prevailing consensus is that these sources have the capacity to exert influence not only on public sentiment but also on the news curation process within online platforms. Public opinion fragmentation is a phenomenon characterized by the division and diversification of society's views and attitudes on many subjects. The concept of fragmentation is defined by the presence of multiple and often conflicting perspectives within a specific population. Academic scholars have also raised concerns over the potential influence of online news on exacerbating the fragmentation of public opinion. The issue at hand is derived from the vast quantity of news content accessible on the internet and the capacity of individuals to tailor their news consumption according to their specific preferences (Sunstein, 2001). This phenomenon has the potential to restrict the range of prevalent concerns that can be freely discussed by the general public, thereby modifying the influence of internet news in determining the agenda.

3. Results and Discussion

Based on the available data pertaining to Balkanweb.com, Panorama.com, and Syri.net, it can be assumed that Syri.net exhibits a greater range of news coverage, with a particular emphasis on economy, crime and corruption, tourism, and regional and international affairs. Balkanweb.com demonstrates a very equitable allocation, with its most prominent ratings in the domains of politics and governance, alongside tourism. Panorama.com exhibits notable proficiency in the domains of politics and governance as well as socio-cultural issues, yet it attains comparatively lower ratings in the realms of education and health.

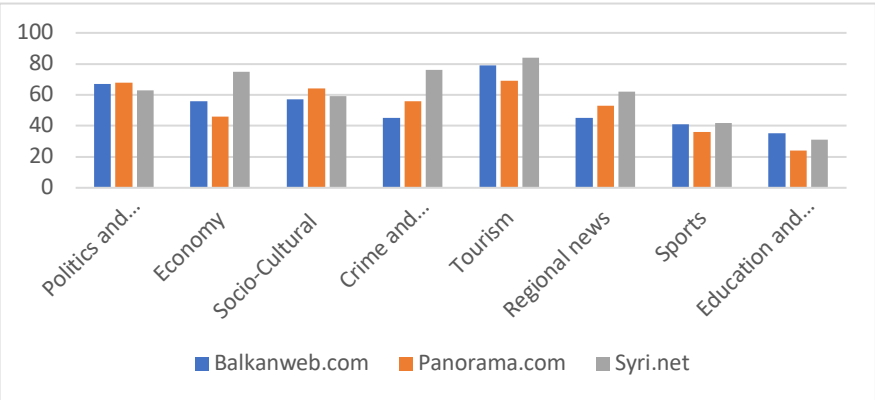

Figure nr 1. The issue ranking

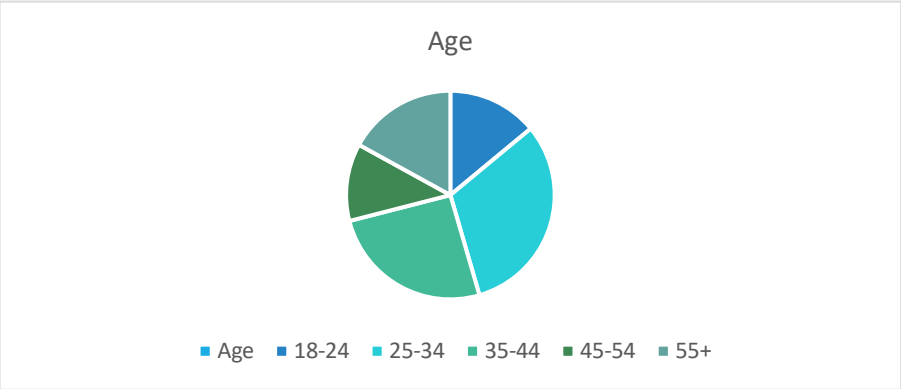

Figure 2. The classification of respondent by age

57% of the participants were between the ages of 25 and 44, who overwhelmingly accepted the questionnaire. The demographic cohorts of individuals aged 18–24 and 45–54 exhibited the lowest levels of representation, collectively comprising 26% of the sample. Nevertheless, it is worth noting that those aged 55 and above were also well represented in the sample, suggesting that the questionnaire's popularity extends beyond the young adult demographic to encompass a broader age range.

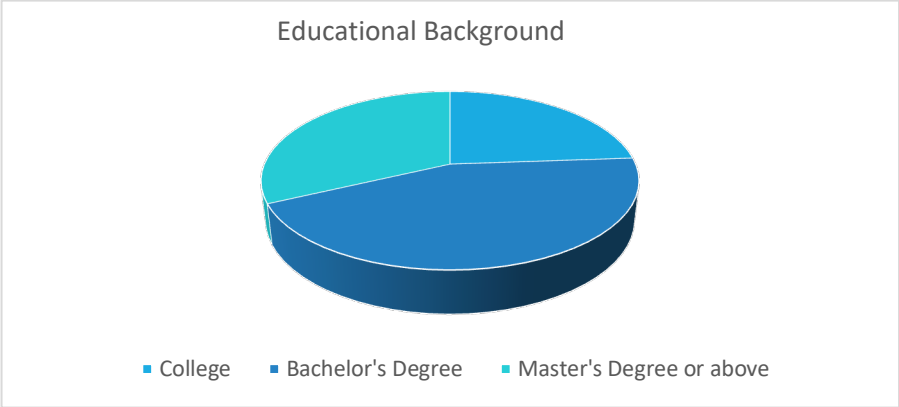

Figure 3. The educational background of respondent

The predominant category within the sample comprises persons holding a bachelor's degree, accounting for around 46% of the total population. The subsequent significant demographic comprises individuals who have obtained a Master's Degree or a higher level of education, accounting for slightly more than 33% of the overall population. The group characterized by partial college education but without a degree exhibits the least significant presence, constituting approximately 25% of the overall population.

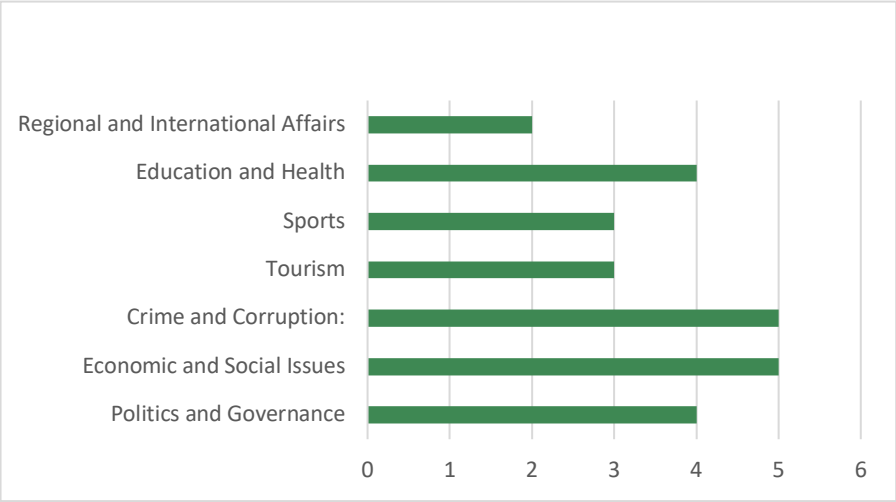

Figure nr 4. Importance of News Topics

The results suggest that a significant portion of the audience exhibits a primary interest in matters that have direct and immediate implications for their personal lives. These matters encompass economic challenges, societal well-being, and problems pertaining to integrity and safety. There is a notable level of enthusiasm surrounding more expansive socioeconomic subjects, including governance, education, and health. Conversely, subjects pertaining to entertainment and leisure, such as sports, as well as global concerns, are of comparatively modest to diminished importance. These preferences can function as guiding principles for the selection and prioritization of material on the news website.

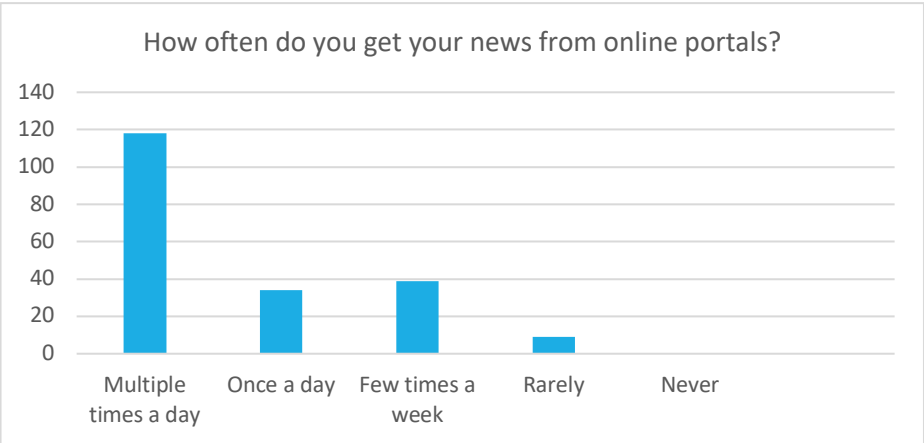

Figure nr 5. Online access

The statistics reported in the study demonstrate that a substantial majority of the participants depend on internet portals as their main source of news. The demographic under consideration demonstrates a noteworthy level of importance attributed to online news portals. Specifically, a substantial 76% of individuals within this group report engaging with online news on a daily basis, with none indicating a complete absence of such behavior.

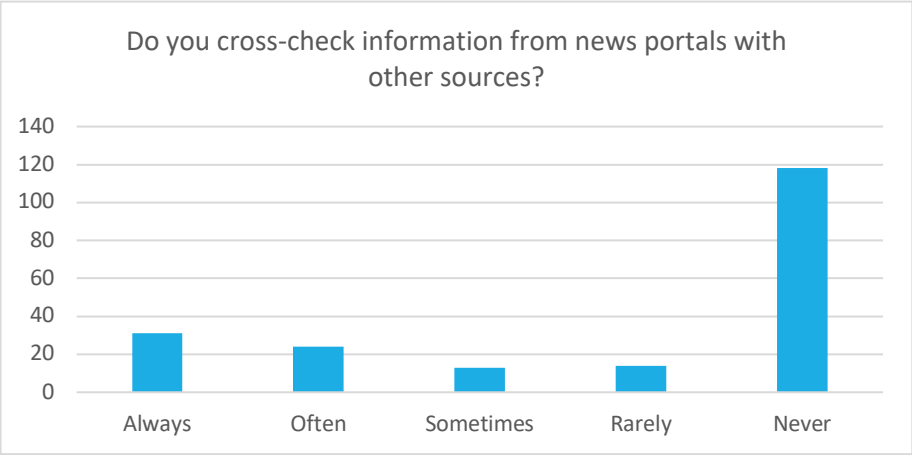

Figure 6. The level of trust in internet news sources.

A substantial percentage of individuals exhibit a notable level of trust or complacency in their inclination to accept information from news sources without engaging in the process of confirming its truth. A minority of the participants, specifically less than 33%, demonstrate the practice of cross-verifying news from many sources, either on a frequent or occasional basis. Based on the available statistical data, it can be inferred that a substantial segment of the population stands to gain considerable advantages from educational programs or motivational efforts focused on increasing the practice of cross-referencing information.

Conclusion

This research highlights the considerable influence exerted by online news platforms in shaping public opinion in Albania, providing further evidence for the Agenda-Setting theory within the contemporary landscape of digital media. An analysis of three online news portals indicates a noticeable association between the thematic focus of these platforms and the perceived significance of certain subjects among the wider audience. The findings underscore the significant role that these platforms fulfill in shaping public discourse, in line with the underlying assumption of the Agenda-Setting Theory that the media has a pivotal position in shaping the public agenda. The extensive range of topics addressed, particularly by Syri.net, reflects the diverse concerns considered significant by the wider populace, embracing both economic difficulties and broader socio-economic matters. The examination of demographic data reveals a significant dependence on the consumption of internet news, particularly among the educated population between the ages of 25 and 44. The findings of the poll indicate that a substantial majority, comprising 76% of the participants, reported engaging with internet news on a daily basis. Nevertheless, there is a prevalent inclination among the majority whereby they exhibit a reluctance to partake in the verification of facts, thus showing a vulnerability to the dissemination of inaccurate or deceptive information. The present study serves as a significant contribution to the current academic dialogue concerning internet media and its influence on public sentiment. This highlights the importance of advocating for improved digital literacy and cultivating critical thinking abilities among various populations. Located within the ever-evolving media environment of Albania, the findings obtained from this research have the capacity to make a valuable contribution to future scholarly inquiries and policy endeavors that seek to enhance democratic discourse and civic engagement in the digital sphere.

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SUSTAINABLE DEVELOPMENT THROUGH CLUSTER-BASED BUSINESS PARTNERSHIPS

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Abstract

Sustainability is one of the most critical social, economic and environmental challenge, making sustainable development one of the most important priorities and instruments of the global politics. Sustainability is often identified only in an environmental context, but its social and economic pillars are equally significant as they are closely related to each other. The role of economic entities has become crucial in solving social problems, and socially responsible behaviour has become an expectation, as they continually increase the social, economic and environmental impact on the lives of individuals and the society. Due to the constant change in the global economy, the interconnectedness and interdependence of the world's actors has increased dramatically. States and international organizations recognized that sustainability is based on a stakeholder approach, i.e. cooperation between different areas is necessary as traditional sources of competitiveness are no longer sustainable. Consequently, one of the most effective organisational frameworks for sustainable development can be achieved through network structures based on a cluster approach. Clusters have become one of the most important tools of state policy, making it possible to simultaneously achieve individual and collective, social, economic and environmental benefits. The aim of this research is to investigate the role of clusters in promoting sustainable development and to analyse the relationship between them. There appears to be a positive connection between clusters and sustainability, as clusters contribute directly and indirectly to achieve the Sustainable Development Goals. In addition to the central role of sustainable development in global politics, this research is also motivated and crucial due to the growing importance of clustering.

Keywords: sustainable development, sustainable development goals, cluster policy, corporate cooperation.

A PROVINCIAL STUDY ON THE IMPACT OF FOREIGN DIRECT INVESTMENT (FDI) ON HUMAN HEALTH IN VIETNAM

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Abstract

This study aims to assess the impact of foreign direct investment (FDI) on human health in Vietnam by using provincial data for the period 2015-2018, collected from the General Statistics Office of Vietnam. Health is proxied by average life expectancy (LE) and infant mortality rate (IMR). By using fixed effect and random effect of panel data model, the research findings indicate that FDI has a negative impact on IMR and a positive impact on LE, indicating strong evidence that FDI is beneficial for health. Moreover, provinces with higher levels of Gross Regional Domestic Products (GRDP) exhibit a greater influence of FDI on health. Health is also influenced by factors such as population growth and high school graduation rates. Based on these results, it is recommended that the government and local authorities promote policies to attract FDI and enhance attention and favorable conditions for capital inflows into the healthcare sector. This can be achieved by developing the private healthcare system to improve the health of the Vietnamese population.

Keywords: Foreign direct investment, human health, Vietnam, panel data.

Introduction

Foreign Direct Investment (FDI) plays a crucial role in economic growth. One of the Vietnam's objectives for the period 2021-2030 is to attract more foreign investment flow into the economy (Pham & Vu, 2022). From the past until now, there have been numerous research topics on the relationship between FDI and economic growth in Vietnam, such as studies on the impact of FDI on economic growth in Vietnam such as Nguyen et al. (2006), Luong & Doan (2012) or the relationship between trade openness, FDI, and economic growth in Vietnam (Pham & Nguyen, 2017; Nguyen et al., 2017). Besides the positive aspects that FDI brings, such as providing capital, technology, and expanding production scale, creating new production capabilities, and enhancing the competitiveness of domestic enterprises in the process of economic integration, FDI also has many negative impacts on various economic, political, social, environmental aspects. To the best knowledge of the authors, there has not been any research conducted on the relationship between FDI and human health in Vietnam. On a global scale, there have been quite a few studies on the relationship between FDI and population health. In general, there are various conclusions, but most studies show that FDI has a positive impact on health (Alam et al., 2016; Golkhandan, 2017; Okafor and Ihayere, 2019; Immurana, 2020). However, there are also conflicting opinions in other studies on this issue. Herzer

and Nunnenkamp (2012) concluded that FDI generally has a negative impact on health in developing economies. Nam and Ryu (2023) also concluded that economic growth can be stimulated by FDI, but FDI itself does not improve human development. It can be seen that there are still many contradictions among research findings on the relationship between FDI and health. Furthermore, previous studies have mainly been conducted in different countries and regions around the world such as Pakistan (Alam et al., 2016), 85 low- and middle-income countries (LMIC) (Burns et al., 2017), 25 developing countries (Golkhandan, 2017), 39 African countries (Immurana, 2020), and the Association of Southeast Asian Nations (Nam and Ryu, 2023), but not in Vietnam. Therefore, the authors have chosen the topic "A provincial-level study on the impact of foreign direct investment (FDI) on human health in Vietnam" to analyze the influence of FDI on the health of the Vietnamese people and recommend appropriate policies to improve health indicators. The study conducted at the provincial and central city level provides a more detailed view of the current situation of FDI and its impact on health at the provincial level, including the association with the characteristics and specific variables of each province in FDI utilization.

Methodology

The model is represented as follows:

$$\text{Health} = f(\text{FDI, Other Independent Variables})$$

The paper employs fixed effect and random effect models. Human health is proxied by two measurements: life expectancy at birth (LE) and infant mortality rate (IMR), the rate of deaths of children under 1 year old.

The variable FDI is measured in various dimensions, either as the cumulative total FDI (FDI) or as FDI measured as a ratio to the GRDP of provinces and municipalities (FDI_ratio). Moreover, the impact of FDI on human health in provinces and municipalities may be influenced by the income scale of these regions. Therefore, the authors have additionally introduced the variable FDI*GRDP (measured as the product of FDI and GRDP) to provide a deeper insight into the varying scale-dependent effects on GRDP.

Other dependent variables are Natural population growth rate (POP), Literacy rate of population aged 15 and above (P15), High school graduation rate of provinces (PTTH) and Health expenditure budget (HSP).

Database

These variables using in this research are based on studies conducted by different authors in various countries around the world (table 1)

Table 1: *Dependent and Independent Variables used in the Model*

Variable	Variable Name	Studies using the Variable
LE	Life expectancy from birth	Herzer and Nagel (2015) Immurana (2020) Burns et al. (2017) Herzer and Nunnenkamp (2012)
IMR	Infant mortality rate	Herzer and Nagel (2015) Burns et al. (2017) Immurana (2020)
FDI	Foreign Direct Investment	Alam and colleagues (2016)
FDI_ratio	Ratio of Foreign Direct Investment to total output at the local level	Herzer and Nagel (2015) Burns and colleagues (2017) Herzer and Nunenkamp (2012) Immurana (2020)
FDIGRDP	Product of total investment and total per capita output at the local level	
POP	Natural population growth rate	Herzer and Nagel (2015)
P15	Literacy rate of population aged 15 and above	
PTTH	High school graduation rate of provinces	Siddiqi and colleagues (2015) Kaplan and colleagues (2014)
HSP	Health expenditure budget	Sun and colleagues (2017) Shetty and Shetty (2014)

The model is applied to 63 provinces/cities in Vietnam during the period from 2015 to 2018. The data on dependent and independent variables for each province/city were compiled by the authors from the Vietnam Statistical Yearbook over several years. The data used in the model are in panel data format, with 63 provinces/cities (ID = 63) and 4 years of observation (t = 4), resulting in a total of 252 observations (N = 252) in the model.

Table 2: *Description of the variables used in the model*

Variable	obs	Mean	Std.dev	Min	Max
IMR	252	15.9908	7.361865	7.4	41.9
LE	252	73.04076	2.321819	67.3	76.6
FDI	252	4936.219	8694.376	0.2	45293.4
FDI_ratio	252	1.629573	8.135472	0.30466	61.93748
FDIGDP	252	1.19e+09	4.84e+09	8315.42	4.10e+10
POP	252	8.917269	3.585418	0.1	18
P15	252	93.0852	6.751182	59.2	98.8
PTTH	252	95.13995	3.915021	77.26	99.87
HSP	252	758.5404	556.6698	163	3619

Results and Discussion

Column (1) of the study investigates the annual impact of FDI on IMR, incorporating additional variables such as POP, PTTH, HSP, and P15. The results indicate that the coefficient of the annual FDI variable on IMR is negative and statistically significant. Thus, the result concludes that FDI has a negative impact on the Infant Mortality Rate (IMR), meaning that IMR decreases as foreign direct investment increases.

Table 3: *Results of the regression model with the dependent variable IMR*

Variables	(1)	(2)	(3)
FDI	-0,000377* (0,0000165)	-0,000321* (0,0000199)	-
FDIGRDP	-	$-7.93e^{-12}$* ($9.55e^{-12}$)	-
FDI_ratio	-	-	-0,006943 (0,0063896)
POP	0,0386894* (0,0105721)	0,0431804* (0,0102986)	0,0355717* (0,0107796)
PTTH	-0,0561854* (0,006728)	-0,0559277* (0,0069633)	- 0,0564071* (0,0069192)
HSP	-0,0000407 (0,0002227)	-0,0001118 (0,0002198)	-0,0002268 (0,0002329)
P15	-0,0422522 (0,0298626)	-0,0412567 (0,0300203)	-0,0492556 (0,0316419)
Prob > F	0,0000	0,0000	0,0000
Sigma_u Sigma_e rho	6,9595403 0,20275196 0,99915199	6.9599734 0.2025283 0.99915396	7,0376534 0,19999103 0,99919311
Number of observations Number of provinces/cities	252 63		
Note: SE statistic in parentheses (); * (**) indicates statistically significant values at the 5% (10%) level.			

In column (2), both FDIGRDP and FDI show negative coefficients with statistical significance at the 5% level. This suggests that the impact of FDI on human health varies among provinces in Vietnam. Provinces with higher average per capita GRDP experience a larger influence of FDI on human health, reflected in a greater reduction in the child mortality rate. FDI has a more positive impact on health in provinces with higher GRDP, indicating a higher absorption capacity for FDI and the transformation of its positive aspects in provinces with higher GRDP.

Column (3) substitutes the FDI measurement with the FDI ratio. The coefficient remains negative, but the result is not statistically significant at the 5% level.

Table 4: *Results of the regression model execution with the dependent variable LE*

Variables	(1)	(2)	(3)

FDI	0,0000363* (8,32e-6)	0,0000275* (6,72e-6)	-
FDIGRDP	-	5,34e-12 * (5,48e-12)	-
FDI_ratio	-	-	-0,0009011 (0,0032451)
POP	- 0,0189435* (0,0070059)	- 0,0226213* (0,0057426)	- 0,0229769* (0,0073157)
PTTH	0,0200294* (0,0042466)	0,019192* (0,0042485)	0,0210916* (0,0050445)
HSP	- 0,0001359 (0,0001501)	- 0,0000461 (0,000136)	0,0000173 (0,0001505)
P15	0,0188092 (0,0144483)	0,0171199 (0,0139108)	0,0179483 (0,0142084)
Prob > F	0,0000	0,0000	0,0000
Sigma_u Sigma_e rho	2,0440229 0,1516796 0,99452357	2,0670173 0,15104758 0,99468839	2,1915103 0,15710093 0,99488737
Number of observations Number of provinces/cities	252 63		
Note: SE statistic in parentheses (); * (**) indicates statistically significant values at the 5% (10%) level.			

Table 4 shows the positive impact of FDI on life expectancy and statistically significant at 5% level of significance. FDI and FDIGRDP have positive and statistically significant effects on life expectancy in column (2). FDI has a positive impact on public health, and this impact increases in provinces with higher average GRDP scales.

Conclusions

FDI has a positive impact on average life expectancy and negative impact on the infant mortality rate in provinces. FDI positively influences the health quality of the population. A province with strong foreign investment can enhance the health and living standards of its residents. It can be understood that regions with robust investment inflows also experience increased income for the population, leading to an improvement in the quality of life. This, in turn, indirectly affects healthcare awareness and attention. Moreover, substantial foreign investment also drives the overall economic development, resulting in improvements in infrastructure, including healthcare facilities and services.

This is the first research in Vietnam on the impact of FDI on human health, although there are still limitations in clarifying the influence of GRDP on the absorption rate of FDI within the province and weaknesses in the Infant Mortality Rate (IMR). Nevertheless, the results from this connection serve as a foundation and a premise for more in-depth studies in the future, laying the groundwork for policies to attract FDI and gradually enhance the quality of life for the people in Vietnam.

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THE ROLE OF THE HIGH INSPECTOR OF JUSTICE IN JUSTICE INSTITUTIONS OF ALBANIA

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Abstract

This paper focuses on the role of the High Inspector of Justice as an innovation of justice reform. Special attention is paid to the study not only on the powers of the High Inspector of Justice in Albania, but also to the independence and accountability of the exercise of the powers of the High Inspector of Justice. As a body responsible for disciplinary violations of magistrates of any level, members of the High Judicial Council, members of the High Prosecution Council and the General Prosecutor, this body tends to balance the expectations of the exercise of its activity in the eyes of the legislator and perception of the public.

The paper aims to enumerate the factors that led to the need for the creation of a single body that would create a more efficient system that would further promote the accountability of the magistrates' system through accountability. The liability or disciplinary system must first of all play a preventive role through the identification of any problems with the functioning or not of the justice system, as well as the approval of recommendations for their improvement. This control system should never serve as a means of pressure on the work performance of magistrates, but as an important tool to measure the efficiency and quality of their work performance, professionalism or as a help to increase the quality of decision-making of magistrates.

The author, as one of the first founders of the institution, through the activity and experience certified by the bodies to which the law has given these powers, tends to reflect the findings and recommendations that will have to be taken into account in the function of the disciplinary responsibility of the magistrates as a basic condition for Albania's membership in the European Union.

Keywords: High Inspector of Justice, disciplinary violations, magistrate, disciplinary responsibility and accountability.

1. The High Justice Inspector, the beginnings as a new constitutional body

With the justice reform, the constitutional changes brought the addition of Article 147/d, of the Constitution of the Republic of Albania, which provided for the creation of a new constitutional body, the High Justice Inspector, defining the procedures for the election of this body, the powers, the subjects to whom the disciplinary investigation undertaken by him extends. In this way, it is defined at the constitutional level:

- the criteria that must be met by the candidate to be appointed High Justice Inspector [1],

- the '*quorum*' of qualified majority that must be reached in the Assembly for its election[2],

- the body that performs the verification of legal conditions and the evaluation of the professional and ethical criteria of the candidate for High Justice Inspector, which also ranks the candidates on the basis of professional merit[3],

- the duration of the exercise of the mandate[4],

- the procedure for discharging the High Justice Inspector[5] and,

- the body determined for his dismissal[6],

All the above-mentioned criteria constitute a constitutional guarantee on the independence of the High Justice Inspector in the exercise of the powers provided by the Constitution and the law, as well as in the exercise of these powers with high professional and moral integrity of the High Justice Inspector [7] .

The Constitution of the Republic of Albania, as the basic act at the top of the pyramid of legal norms, in Article 147/d, has defined the competences of the High Justice Inspector. Specifically, it is foreseen that:

1. The High Justice Inspector is responsible for verifying complaints, initiating investigations into violations and initiating disciplinary proceedings against judges and prosecutors of all levels, members of the High Judicial Council, members of the High Prosecutorial Council and the General Prosecutor, according to the procedure defined by law.

2. The High Justice Inspector is also responsible for the institutional inspection of courts and prosecution offices.

According to the constitutional provision of point 1 of article 147/d, the High Justice Inspector is the authority responsible for the verification, investigation and initiation of the disciplinary procedure for these subjects:

- Judges of all levels, including judges of Special Courts and the Supreme Court. The latter, as an innovation of the justice reform in 2016, were included in the circle of judges of all levels, including

[1] Prominent lawyer with no less than 15 years of experience in the profession, with high moral and professional integrity, no political functions in the public administration, or leadership positions in a political party during the last 10 years before running for office.

[2] Specifically, a quorum of 3/5 of the Assembly must be reached.

[3] Judicial Appointments Council.

[4] With a defined duration of nine years.

[5] The investigative commission established by the Assembly.

[6] Constitutional Court.

[7] See Commentary 'On the constitutional reform in the justice system - 2016, publication of the Institute for Public & Legal Studies, pg. 267

for the effect of accountability before the same disciplinary investigative body[8] and the same disciplinary procedural body[9]. The analysis of the Justice System has highlighted as one of the issues considered problematic the non-inclusion of the members of the Supreme Court under the jurisdiction of the High Council of Justice in terms of the issues of the disciplinary process[10].

This category does not include judges of the Constitutional Court, for whom a special procedure is provided[11].

- Prosecutors of all levels

Within the exercise of the functional activity of the High Justice Inspector, are the prosecutors of all levels including the prosecutors of the Special Prosecution office and those of the General Prosecution office.

- Members of the High Judicial Council

It is worth mentioning that in the functional sphere of activity of the High Justice Inspector , the activity of all members of the Council, six judicial members and five non-judicial members is included[12], while the disciplinary procedural body is the Constitutional Court[13].

- Members of the High Prosecutorial Council

The disciplinary investigation activity of the High Justice Inspector includes the activity of all members of the Council, six prosecutor members and five non-prosecutor members[14], while the disciplinary procedural body in this case is also the Constitutional Court[15].

- The General Prosecutor is subject to the disciplinary investigation of the High Justice Inspector , as well as prosecutors of all levels. The General Prosecutor, as an innovation of the reform in justice in 2016, was included in the circle of prosecutors for accountability before the same disciplinary investigative body[16], while the disciplinary procedural body in this case is also the Constitutional Court[17].

[8] Article 147/d point 1 of the Constitution

[9] Article 147/a, point 1, letter 'b', of the Constitution

[10] See Justice System Analysis June 2015, p. 118-119

[11] Article 128 of the Constitution, amended by Law No. 76/2016, dated 22.07.2016

[12] Article 147 of the Constitution

[13] Article 147/c point 2 of the Constitution

[14] Article 149 of the Constitution

[15] Article 149/c point 2 of the Constitution

[16] Article 147/d point 1 of the Constitution

[17] Article 149/c point 2, I of the Constitution

- Member magistrates in the exercise of activity as a member of the Judicial Appointments Council [18].

As it results from the legal provisions, the Judicial Appointments Council also consists of magistrates, who are chosen by lot for a period of one year. Their activity as members of the Judicial Appointments Council is subject to the scope of the High Justice Inspector and they bear disciplinary responsibility according to law no. 96/2016 'For judges and prosecutors in the Republic of Albania', despite the fact that it is this same body that evaluates this constitutional body in order to submit it to parliamentary procedures.

2. The High Justice Inspector under the lens of inspection activity, In addition also to the legal and functional aspects, has also other important competences .

According to this article: The High Justice Inspector is also responsible for the institutional inspection of courts and prosecution offices.

Specifically, Law no. 115/2016 'On the governing bodies of the justice system', issued in implementation of the constitutional regulation, in its article 194 point 4, has provided that 'Institutional and thematic inspections are carried out on every aspect of the work of the courts, the judicial administration, prosecution offices and prosecution administration'.

Such competence is related to issues rregarding the administration of justice and the role of the High Justice Inspector in this process. For example: periodic thematic inspection for the practice and reasons for the replacement of prosecutors, referring to Article 49/6 of Law no. 97/2016 dated 'On the organization and functioning of the prosecution in the Republic of Albania', or on the assignment of cases to prosecutors (Article 53 point 6 of the same law), or the procedures for dividing cases by lot in the court, referring to Article 25 point 4 of the law no. 98/2016 'On the organization of judicial power in the Republic of Albania', are inspections that have been conducted or are currently being conducted by the High Justice Inspector [19].

It should be emphasized that the thematic inspections are not a 'punitive' instrument in the hands of the High Justice Inspector, but an instrument that serves to unify the administrative practice of the judicial system or the prosecution in order to implement in the specific case, the principle of random assignment by lottery of the prosecutor and the judge, to prevent the possibility of appointing the prosecutor and the judge beyond the legal, transparent and random procedures, and also serving as an indication for the verification or investigation of the activity of the magistrate, whether he is a leader[20].

3. The factors that led to the creation of the High Justice Inspector

The past experiences related to the verification of the activity of the magistrates, were a good but not exhaustive model, which brought the necessity of creating an independent body set up at the condition level that will have the responsibility in the focus of its activity disciplinary of the *'protagonist actors'*

[18] Law no. 115/2016 'On the governing bodies of the justice system' Amended, Article 141 point 2 thereof.

[19] www.ild.al/thematic inspections

[20] Law no. 115/2016 'On the governing bodies of the justice system', amended, article 194 point 3 thereof

of the system. In this context, we briefly list below a series of factors that brought about the need for the creation of the High Justice Inspector. These factors consist of:

a- Avoiding overlaps in the exercise of the function for disciplinary proceedings of judges and prosecutors between different institutions For judges: Verification of disciplinary violations of judges of the first instance and of appeal was the competence of the Inspectorate at the former High Council of Justice[21] and the Ministry of Justice[22]. The separation of the roles of the Minister of Justice and the Inspectorate at the former High Council of Justice, not clearly regulated in the law, seemed problematic, in guaranteeing the independence of the judge but also in the efficiency of the accountability system[23]. The relationship between these two institutions has been the subject of constitutional control as far as other aspects of good governance are concerned. The Constitutional Court, with decision no. 11, dated 27.05.2004, rejected the request of the United Colleges of the Supreme Court for the repeal as unconstitutional of article 6, point 9 of law no. 8678, dated 14.05.2001 'On the organization and functioning of the Ministry of Justice' reasoning: *'Confronting the disputed provisions with the concepts of the Constitution, the Constitutional Court finds that in these provisions there is no question of control over decision-making (over the way of solving the case, the administration of evidence evaluation), but for inspections related to the administration of justice and judicial services'.*

The Constitutional Court, although rejected the request of the United Colleges of the Supreme Court, in its decision stated: *'The existence of two inspectorates that seem to duplicate each other, the definition and clear definition of the notions 'inspection', 'control ', 'verification', avoiding overlapping of powers between two inspectorates and two institutions (Ministry of Justice and High Council of Justice) related to the administration of justice and services as well as the establishment of clear limits on control in courts and judges are some of the issues that in the general framework of improving the legislation need study and review by the relevant bodies* ."

The role of the Inspectorate at the former Ministry of Justice was presented as problematic and not in accordance with the recommendations of international organizations, with constitutional principles and the efficiency of the role of the Ministry of Justice[24].

For prosecutors: Disciplinary proceedings for prosecutors were carried out mainly by order of the General Prosecutor, or with the recommendation of the Prosecutorial Council. But in any case, the disciplinary measure was determined by the General Prosecutor and the dismissal was made by the President of the Republic based on the proposal of the General Prosecutor.

Both powers of verification and proceeding were held by the same body, i.e. the General Prosecutor. This led to the creation of an '*inquisitorial*' system where the body to proceed was simultaneously the body to judge. There was legal ambiguity on the inspection role of the Minister of Justice in relation to the Prosecutor's Office[25]. External control is carried out through inspection by the Minister of

[21] Law no. 8811, dated 17.05.2001 'On the organization and functioning of the High Council of Justice', amended, repealed
[22] Law no. 8678, dated 14.05.2001 'On the organization and functioning of the Ministry of Justice', amended

[23] Justice System Analysis, June 2015

[24] Analysis of the Justice System, June 2015, pg 62

[25] Analysis of the Justice System, page 133

Justice, for issues of legality and procedural problems [26]. This control has been considered inappropriate, not only because in some cases it has been proven to be politically motivated, but also because this inspection could not get to the bottom of the case and control important aspects related to freedom and human rights (compliance with investigation, detention, etc.) deadlines, which were actually subject to court control and inspection by the prosecutorial council, which was also the internal control of the prosecutors' activity[27]. The findings from the Ministry of Justice inspection were reported to the Prosecutorial Council in the form of a recommendation, and it was the General Prosecutor who decided on it.

b- Avoiding inappropriate intervention of the executive in the disciplinary process of the magistrate.

Although the verification of disciplinary violations for judges was carried out both by the Inspectorate at the former High Council of Justice and by the Minister of Justice, in any case the request for disciplinary proceedings was the exclusive competence of the Minister of Justice. Such competence in one hand alone created a premise for arbitrariness in the disciplinary proceedings of judges, as it created the possibility of blocking the proceedings according to his will[28].

c- The creation of an independent institution at the constitutional level which would guarantee the implementation of the same standards in the identification of disciplinary responsibility for judges and prosecutors of all levels.

Before the justice reform of 2016, disciplinary violations for prosecutors were verified by the General Prosecutor and mainly on the basis of reporting by heads of prosecution offices, while verification on the basis of complaints was not foreseen[29]. This did not exclude the possibility to submit complaints to the heads of prosecutions, who did not necessarily forward them to the competent body.

Behaviors that were foreseen as disciplinary violations for magistrates were regulated in different laws according to the duty exercised, judge or prosecutor. For judges, disciplinary violations were foreseen in the law no. 9877, dated 18.2.2008 'On the organization of judicial power in the Republic of Albania'[30], while for prosecutors in law no. 8737, dated 12.2.2001 'On the organization and functioning of the prosecution in the Republic of Albania', amended[31].

The procedure for inspecting magistrates and inspection bodies were also different. For judges, the inspection procedure was regulated in law no. 8811 dated 17.05.2001 'On the organization and functioning of the High Council of Justice, amended and in the Regulation 'On the organization and functioning of the High Council of Justice" and was carried out by the Inspectorate organized under the jurisdiction of the High Council of Justice, a procedure which as analyzed above, there were also doubts about the inspection procedures by the Ministry of Justice from its own inspection department.

[26] Law no. 8737, dated 12.2.2001 'On the organization and functioning of the prosecution in the Republic of Albania', amended, Article 56

[27] Law no. 8737, dated 12.2.2001 'On the organization and functioning of the prosecution in the Republic of Albania', amended, Article 32

[28] Law no. 8811 dated 17.05.2001 'On the organization and functioning of the High Council of Justice', article 31 point 3, repealed

[29] Law no. 8737, dated 12.2.2001 'On the organization and functioning of the prosecution in the Republic of Albania', amended

[30] Article 32 of the law

[31] Article 32 and Article 56 of the law

For prosecutors, the inspection procedure was regulated in law no. no. 8737, dated 12.2.2001 'On the organization of the prosecution office in the Republic of Albania', amended and carried out by the General Prosecutor with his own inspection department, while the inspection of the activities of prosecutors was also carried out by the Ministry of Justice through his own department .

Likewise, the bodies that assigned disciplinary measures to magistrates were different. For judges, disciplinary measures were determined by the High Council of Justice, while for prosecutors disciplinary measures were assigned by the Prosecutor General , with the exception of the measure of dismissal from office, which was assigned by the President of the Republic on the basis of the proposal of the General Prosecutor[32].

d- Clear separation of the disciplinary investigation process from disciplinary proceedings.

Earlier, the High Council of Justice, in fact, functioned both as a (prosecutor) body that verified the violation through its own Inspectorate, and as a body that assigned disciplinary measures (as a court). The *inquisitorial system* was the same for the General Prosecutor who verified the disciplinary violation himself and also assigned the disciplinary measure (as a court).

The innovation brought by the legislator in the creation of a single body at the constitutional level, the High Justice Inspector with exclusive competence for the disciplinary investigation of judges and prosecutors, while it also provided at the constitutional level, the competence of disciplinary proceedings by each of the Councils (High Judicial Council or the High Prosecutorial Council depending on the function exercised by the magistrate in question). So in short, if he is a prosecutor, the disciplinary proceedings will be carried out by the High Prosecutorial Council and if he is a judge, the proceedings will be carried out by the High Judicial Council.

In the event that a request for disciplinary proceedings is submitted for a judge and a prosecutor for the same facts or circumstances and it is assessed by the Councils that the proceedings can be joined, the proceedings for both magistrates are carried out simultaneously with a joint meeting of both Councils. The rules for this procedure of a special nature are determined by an act approved by both Councils.

The existence of a single disciplinary investigative body also means that judges and prosecutors must be subject to the highest ethical and professional requirements stemming from the function they exercise, in order to maintain their authority and increase the level of public trust in them, according to the Constitution and the law.

e-The concentration of the disciplinary investigation function in one institution also serves to economize human and financial resources, as well as to simplify the system.

The role of a hierarchical body, the only one of its kind at the constitutional level, brings a simplification of the system of disciplinary responsibility by economizing and 'saving' in this way not only human resources but also from a financial point of view, as an institution with budgetary independence .

[32] Law no. 8737, dated 12.2.2001 'On the organization and functioning of the prosecution in the Republic of Albania' Amended, Article 33

4. Problems encountered at the time of the creation of the High Justice Inspector related to the high volume of work, lack of infrastructure and human resources

As a new constitutional body, the High Justice Inspector encountered problems ranging from human resources to the premises where the independent institution would be located.

First, there were delays in establishing the institutions according to the deadlines provided for in the Constitution, such as the High Judicial Council and High Justice Inspector. The Judicial Appointments Council of 2017 and 2018 with a mandate of 1 year, in the capacity of the body charged by the Constitution[33] and the law[34] with the process of verifying the legal conditions and evaluating the professional and moral criteria of the candidate for the High Justice Inspector did not carry out any process for choosing High Justice Inspector. Consequently, contrary to what was stipulated in the law, the High Justice Inspector began its activity on February 1, 2020, at a time when the Constitution in its transitional provisions provided for the establishment first of the High Justice Inspector and then of the Councils, or at least the simultaneous establishment theirs [35]. The high Judicial Council started working in December 2018[36], while the High Justice Inspector only on February 1, 2020[37].

This factual and legal situation led to the absence for a period of 2 years of the institutions that were charged by law to identify the disciplinary responsibility of magistrates, since until the creation of the High Judicial Council, based on the transitional provisions, the Inspectorate at the former exercised its own disciplinary investigation activity – Hight Council of Justice[38].

With the creation of the Office of the High Justice Inspector , the inspection activity at the High Council of Justice, the Ministry of Justice and the Prosecutor General 's Office, and all complaints submitted, regardless of the stage in which they were in verification, investigative processes, ceased to develop or proceedings, initiated by the previous competent bodies (High Counsil of Justice, Prosecutor General, Ministry of Justice, or High Judicial Council), were transferred to the only body created by the reform for this purpose, High Justice Inspector [39].

This brought a large and immediate volume of backlog work, adding to which the flow of complaints submitted to the High Justice Inspector with its creation by the public and institutions as a result of the high expectations that the public had towards of this new Institution, which also affected the large increase in the volume of work, led to the fact that in December of the first year of High Justice

[33] Law no. 8737, dated 12.2.2001 'On the organization and Article 149/d of the Constitution of the Republic of Albania
[34] Law no. 115/2016 'On governing bodies of the justice system' amended, Article 201
[35] According to the definition in article 179 point 5 of the Constitution, the High Judicial Council is created within eight months from the entry into force of this law (of the Constitution), while according to the definition in point 179 point 9 of this article, the High Justice Inspector is appointed Within 6 months from the entry into force of the Constitutional amendments.
[36] www.klgj.al, with decision no. 4 date 20.12.2018 High Judicial Council announced the establishment of the Council
[37] www.ild.al High Justice Inspector was elected by Assembly Decision no. 2/2020
[38] Law no. 96/2016 'On the status of judges and prosecutors in the Republic of Albania' Amended, Article 165 thereof.
[39] Law no. 115/2016 'On the governing bodies of the justice system' Amended, transitional provisions, Article 147 item 11 thereof.

Inspector 's work, 2020, it recorded the number of 3054 complaints submitted, while 2870 remained for treatment[40].

In 2021, this figure resulted in an increase with 1,257 new complaints submitted, reaching a total of 4,127 practices, treated for this year 1,257 practices, while 2,678 remained for treatment[41].

In 2022, it turned out that 789 new complaints were submitted, going to 3467 complaints in process, of which 1715 were handled, while 1752 practices remain to be handled for the calendar year 2023[42].

Second, the very delay in establishing the High Justice Inspector led to a shortage of inspectors. The approved structure provided for 26 inspectors[43]. Only 1 magistrate inspector of the judge profile, with long experience in the field of inspection at the former Inspectorate of High Council of Justice, was commanded by the High Judicial Counsil at the High Justice Inspector office . This inspector served alone for a period of 1 year, coping all the volume of work.

On the other hand, High Justice Inspector, with a pronounced lack of infrastructure and organic, and during the pandemic in the first year of its creation, only with the inspector on duty undertook a thematic inspection, from which disciplinary procedures of an essential nature were produced for the treatment of disciplinary violation for 3 magistrates: 2 judges and 1 prosecutor, who were dismissed with the disciplinary measure 'dismissal'[44]. In total for 2020, despite the pronounced lack of human resources [45]and infrastructure[46], the High Justice Inspector with the only inspector, in addition to the complaints handled and verified, started 8 disciplinary investigations, of which 6 were initiated by ex- officio High Justice Inspector, while it was completed and presented request for disciplinary proceedings for half of them, 4 of which 3 before the High Judicial Council and 1 before the High Prosecutorial Council [47].

8 more inspectors joined the High Justice Inspector Office in 2021, of which 4 magistrates and prosecutors and 4 non-magistrates, the procedure of appointing them, turned out to be long in time 11-12 months. In 2021, the staff with inspectors was reduced to 8 (a magistrate inspector was suspended due to the decision of the KPK) from 26, with 30% of the staff on duty, while in 2022, 4 non-magistrate inspectors were added. The increased organic created an immediate impact in reducing the back-log significantly, carrying 1752 complaints for treatment for 2023, about 50% of the total volume of practices that turned out to be for treatment in 2022.

[40] www.ild.al/sq/category/raporte Annual work report for 2020

[41] www.ild.al/sq/category/raporte Annual work report for 2021

[42] www.ild.al/sq/category/raporte Annual work report for 2022

[43] www./ild.al, structure

[44] Decision no, 1 date 30.05.2022; decision no. 2 dated 31.05.2022 and decision no. 3 dated 07.12.2022 of the Special Appeal Board

[45] www.ild.al/sq/category/raporte Annual work report for 2020 Retrenchments of auxiliary staff began in March 2020 and were finalized in September 2020 with assistant inspectors and other administrative staff.

[46] It was only in September 2020 that the ILD started operating in the designated building, earlier the High Justice Inspector was a guest in the High Judicial Council building.

[47] www.ild.al/sq/category/raporte Annual work report for 2020

Meanwhile, High Justice Inspector also carried out thematic inspections for the year 2021 and 2022, completing 3 of them, while 5 thematic inspections are in process "on going", of which 4 were undertaken in implementation of the annual inspection plan.

5. Problems encountered on the evidence of disciplinary responsibility

While the law no. 96/2016 entered into force on 22.11.2016, the disciplinary violations of magistrates which were listed in this law, were abolited by the decision of the Constitutional Court with no. 34/2017. As a result, a legal vacuum of disciplinary violations provided for in the law was created in this period until 22.09.2019, when law no. 48/2019 'On some additions and changes to law no. 96/2016 'On the status of judges and prosecutors in the Republic of Albania'.

It seems that the factor regarding the delay in the creation of the High Justice Inspector and the abolition of disciplinary violations by the Constitutional Court also created the perception of the lack of accountability of magistrates in relation to their direct professional activity, while the magistrates' attention was focused on the process of transitional re-evaluation of judges and prosecutors, a process which in fact resulted in the departure of a significant number of magistrates.

In this legal but also factual context, the High Justice Inspector at the beginning faced with complaints or indictments referring to disciplinary violations of magistrates precisely even in the period of legal vacuum. Consequently, disciplinary investigations and disciplinary proceedings undertaken for disciplinary violations committed by magistrates in this period referred to the direct application of constitutional norms.

Based on the principle of the hierarchy of acts provided for in Article 116 of the Constitution of the Republic of Albania, the criterion of admissibility on the prediction of the disciplinary violation according to the law of the time when it was committed, by the High Justice Inspector was carried out in direct application of the highest normative act, and specifically:

- for judges, article 140 point 2 letter 'a' of the Constitution of the Republic of Albania, which expressly provides that: *'The judge is dismissed by the High Judicial Council when: a) commits serious professional or ethical violations that discredit the position and figure of the prosecutor during the exercise of duty*',

- for prosecutors, article 148/d, point 2, letter 'a' of the Constitution of the Republic of Albania, which expressly provides that: *'The prosecutor is dismissed by the High Prosecutorial Council when: a) commits serious professional or ethical violations that the position and figure of the prosecutor during the exercise of his duty'*.

In 4 cases of disciplinary jurisdiction, reviewed by the Appeal Chamber, in which the High Justice Inspector requested the dismissal of magistrates in direct application of constitutional norms, the Appeal Chamber assessed that the lack of legal provisions cannot lead to the lack of exercising control over the activities of magistrates by the body provided by law and on the other hand, it cannot be used by the magistrate as a reason not to fulfill his function in an orderly manner or to commit professional violations of a nature that discredit the position and image of the prosecutor during the exercise of his duty[48].

[48] Decision 1 dated 30.05.2022 for the disciplinary proceedings of the magistrate prosecutor B.M., decision no. 2 dated 31.05.2022 for the disciplinary proceedings against the magistrate judge E.H., decision no. 3 dated 07.12.2022 for the

The list of disciplinary violations provided for in the law, which is long and not exhaustive, on the one hand seems to influence the increased vigilance of the magistrate for responsibility in the exercise of the function and increased diligence both during the exercise of the function and outside of it. On the other hand, this list seems to violate the independence of the magistrate in the exercise of his function.

The activity exercised until now by the High Justice Inspector in the evidence of disciplinary responsibility for certain cases certified by the Councils or by the Appeal Chamber seems to have had a positive effect on the activity of the magistrates in dealing with cases of the same nature. also reflected in indicators such as lack of complaints on these issues.

6. Recommendations

- Legal changes with immediate effect, in order to make more attractive for judges to be appointed as inspectors, especially from those of the judge profile, who in their daily work as judges are also controllers of the prosecutor's investigative work. These changes, which would reflect the career development of the magistrate, would bring not only applications to the open calls that the High Judicial Council opens (in all open calls there is no requests from judges to be appointed as inspectors), but also to the possibility of recruiting candidates quality from among the judges.

- Salaries and benefits of the magistrate commanded in the High Justice Inspector Office should be in line with the status of a judge of the Supreme Court, enjoying the same benefits as the inspecting body. The defined status of the inspector with the status of a judge of the Supreme Court seems to be formal and related to the criteria of command[49], while during the exercise of the duty he does not benefit from the same treatment in relation to the status he enjoys[50].

- Increasing the quality in the recruitment of inspectors, whether magistrates or non-magistrates, with a direct impact on increasing the quality of the investigative and inspection activity of the Office of the High Justice Inspector .

- Legal changes in order to shorten the time needed to carry out the recruitment procedures of non-magistrate inspectors as well as the command procedures for magistrate inspectors, in order to recruit additional inspectors for increased efficiency[51];

disciplinary proceedings against the magistrate judge M.K., and decision no. 1 date 20.02.2023 for the disciplinary proceedings against the magistrate prosecutor Sh.K.,

[49] The magistrate, who is commanded as an inspector, is considered a magistrate appointed to the Supreme Court, article 55 point 4 of the law no. 96/2016.

[50] Magistrate inspectors of the Office of the High Inspector of Justice benefit from the salary and benefits of the judge of the Appeal Court, article 210 point 1 of the law no. 115/2016

[51] The time needed for the appointments of non-magistrate inspectors as well as for the appointments of magistrate inspectors has been relatively long in duration, about 1 year

- Legal changes in function of the deburocratization of intern administrative procedures, taking into account the fact that the High Justice Inspector is a hierarchical and monocratic body[52].

- Legal changes in order to simplify the procedures and find a balance between the independence of the inspector in handling the case and the hierarchical control that the head of the Office exercises over the handled case. The legal changes in this direction are carried out with the aim of unifying the positions of the body of inspectors and their own offices, keeping in mind that the ILD is a hierarchical and monocratic body.

- High Inspector of Justice on its own must also take care of the disciplinary investigation policy that the body of inspectors carries out, ensuring not only control but also the balance of the two constitutional principles: independence and responsibility. The High Inspector of Justice, as the highest hierarchical body within the body of inspectors of the Office, but also the body that has the constitutional obligation to carry out verifications and disciplinary investigations for magistrates, must carry out its constitutional activity, guaranteeing the independence of the magistrate in the exercise of his duties and from on the other hand, to guarantee an administrative control that this exercise of life duties according to the law, with the consequences of disciplinary responsibility according to the law for the magistrate.

- Possible changes in the internal regulatory acts of the Office of the High Justice Inspector in order to speed up internal working processes, with a focus on reducing workload.

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READER RESPONSES TO POETRY IN THE UPPER-INTERMEDIATE AND ADVANCED CLASSROOM SETTING. (A PROPOSAL)

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Abstract

The aim of this proposed qualitative study is to investigate the reader responses to Foreign Language (FL)learning (English) poetry in upper-intermediate and advanced FL (English) classroom. The researchers are interested whether the background knowledge of FL (English) figurative language and culture promote poetry understanding by upper-intermediate and advanced FL learners. The participants will be approximately 30 students of English as a Foreign Language in the Department of English Philology, Uzhhorod National University, Ukraine. The participants will be involved in a qualitative study that will regard their reader-responses to FL poetry. The methodology will include several instruments: a questionnaire, a discussion, and an individual interview, to measure the reader-responses and the process of FL (English) poetry perception.
FL poetry in the language classroom is usually regarded as a 'communicative task', or the task of meaning construction. The aesthetic value of poetry, incorporated into reading curriculum only as a vocabulary-enhancing, comprehension-oriented task, is seldom under consideration. However, reader-response approach to teaching FL poetry could prove to be an essential tool for learning FL culture, for stimulating the students' imagination, critical and creative thinking. Reader-responses reflect the way the students perceive the poetry, its aesthetic and cultural information.
The results of the study may show whether poetry reading in FL (English) classroom is a justified technique to promote reader-responses. The use of reader-response methodology may further the interests of the students towards the target literature and literature in general.

Keywords: Foreign Language (FL) learning, a qualitative study, reader-responses to FL poetry, target literature.

Introduction

The use of literature has a long history in FL learning. Literary readings are often a source of motivation, enjoyment and personal involvement (McGillis, 1996; Hanauer, 2001). One of the most exciting literary genres to teach is poetry. As A. Mitchell pointed out, "poetry stimulates critical thinking, generates creative thinking, celebrates diversity, makes meaningful linkages to other content areas, and promotes expressive writing" (Mitchell 2002, p. 152).

One of the most common uses of poetry in FL environment is to expand the vocabulary of the students who are at upper-intermediate and advanced stage of learning a FL. In his article *"The magic of folktales for teaching English and culture"* P. Price considers poetry as a tool that promotes

vocabulary acquisition and cultural knowledge (Price, 2000). Another commonly described use of poetry in the FL classroom is to assess the students' comprehension of a poem (Hanauer, 2001).

Statement of the Problem

Poetry is viewed by most scholars and practitioners who incorporate it into their FL teaching and research, as a reading task that requires meaning construction and a problem-solving attitude (Roebuck, 1998). However, the aesthetic value of poetry, a quality that can greatly influence the reader, is taken into account only as a secondary feature. Advanced learners of FL, who could appreciate poetry for the poetry's aesthetic value, rarely have this opportunity (Hanauer, 2001; Mattix, 2002).

The research of FL reading has not focused extensively on reader responses (Angell, 1994). Reading of creative literature and poetry, in particular, is mostly viewed by researchers and practitioners as the activity whose main goal is not to concentrate on the process of perception of a literary piece, but to assure the literal comprehension of text as a unit of information.

Some researchers are concerned that the language of a literary text full of linguistic, cultural and other peculiarities will intimidate the student and lessen his or her ability to enjoy the literary elements of the story (Akyel & Yalcin, 1990; Davis, 1989). However, the adoption of the reader-response approach which "takes into account students' personal responses to the text, allows literature to be relevant to students' lives" (Liaw 2001, p. 36) may serve as the pedagogical procedure that promotes both linguistic learning and individualized understanding of the text (ibid).

Reader-response approaches to poetry in the FL classroom are not commonly used in FL instruction. Instead, poetry tends to be regarded as a '*communicative task*', a piece of reading that requires '*meaning construction*'. However, reader-response approaches to FL poetry in the classroom could enhance the learning process by personally involving the students and giving them the opportunity to express themselves.

Purpose of study

The purpose of this study proposes to investigate the learner-responses to unedited English poetry in the FL (English) classroom, eliciting the role of cultural awareness and the background knowledge of literary conventions as factors that may influence the perception of the poems by upper-intermediate and advanced FL learners. In general terms, the study will be built around the following research questions: what is the process of perception of FL (English) poetry by upper-intermediate and advanced FL learners? What is the role of cultural awareness and background knowledge (figurative proficiency) in responding to FL poetry?

As its theoretical framework, this study will adopt reader-response literary theory, reader-response research in NL, and theory and research in FL reading. The study will focus on the features of the theoretical approaches and the empirical studies relevant to the analysis of the responses to literature. The areas defined as the theoretical framework of the study will be briefly outlined below.

Review of the Literature

The history of the theory of literature records the shifts of emphasis. In different times, the emphasis has been placed on the text, on the author, and on the reader. However, the reader was always the most neglected and taken for granted element of the triangle.

The importance of acknowledging the role of the reader was emphasized by L. M. Rosenblatt, one of the first theorists to focus on the issues of reader-responses. In her book "*The reader, the text, the poem: The transactional theory of literary work"* (1978), Rosenblatt defines reading as the process of transacting with the texts. The term "***text***" designates a set or series of signs interpretable as linguistic symbols", (Rosenblatt 1978, p. 11), whereas the term "***poem***" is rather viewed as an "event in time…it is not an object or an ideal entity. It happens during a coming-together, a co penetration, of a reader and a text" (ibid., p. 12). The reader brings into the "text" his or her own past experiences and present state of mind, and thus the "poem" is created. Reader-responses are individual and multidimensional.

Reader-response criticism appeared as the opposition to the literary movement known as the New Criticism, which proclaimed the poem and the "*results of the poem*" to be two separate issues (Wimsatt & Beardsley, 1954). Reader-response critics, on the contrary, state that "a poem cannot be understood apart from its results" (Tompkins, 1980, p.ix).

The scholars who regard the problem of reading from the point of view of the reader focus less on the textual elements and more on the readers' responses (Davis & Womack, 2002). Among the five theoretical perspectives which serve to explain the reasons for differences in the readers' responses (textual theories, experiential theories, psychological theories, social theories, and cultural theories), the framework of ***textual theories*** was chosen for the present study, in particular, phenomenological theories of response. The first of these phenomenological viewpoints was developed by Poulet, who was a proponent of the "passive" role of the reader, stating that "because of the strange invasion of my thoughts by the thoughts of another, I am a self who is granted the experience of thinking thoughts foreign to him. I am the subject of thinking thoughts other than my own" (cited in Beach, 1993, p.19) W. Iser, a phenomenologist, introduced the idea of gap-filling, regarding the text as a set of incomplete instructions to be completed by the reader (Iser, 1980, p. 54). "The reader fills in the gaps by employing such strategies as predicting outcomes or constructing characters." (Iser, 1980, p. 54)

Semiotic textual theories also approach the issue of reading. An essential aspect of semiotic theory is the concept of intertextuality, introduced by Barthes. Intertextuality is viewed by more traditional scholars as the author's use of derivative material from other texts (Beach, 1993), while response theorists Julia Kristeva, Umberto Eco and others focus more on the reader's own creation of intertextual links *(*ibid.).

Scholarly approaches to FL reading include two main perspectives, which regard the problem of reading either from the point of view of the text (text-driven research), or from the point of view of the reader (reader-driven research). Some scholars believe that the students should focus their attention on the comprehension of the text as well as its constitutive parts, such as, for example, literary techniques. The text is regarded as a "constructed object" (Beach, 1993), or a "puzzle," "a problem" that has to be solved.

For instance, D. Hanauer in his study "*The task of poetry reading and second language learning"* (2001) viewed poetry reading as a close reading, a construction task that involves high levels of close consideration, analysis and elaboration of textual meaning (Hanauer, 2001, p. 295). His study

described the way poetry is read and understood by FL learners. The researcher emphasized that "meaning is primary," and that poetry is a "communication task to solve" (ibid.). A group of advanced EFL learners were involved in pair discussions over the poem they read. The researcher used a coding system to classify the students' responses, defining nine categories: noticing, questioning, interactive hypothesis, re-statement of interactive hypothesis, counter-statement of interactive hypothesis, elaborative statement of interactive hypothesis, integrative interpretive statement, presentation of world knowledge, and general statement. All of the categories but the last focus on the meaning construction.

This classification prompted M. Mattix to argue that D. I. Hanauer did not take into account the aesthetic value of poetry, defining poetry only as a "communicative task," and thus committed a methodological error (Mattix, 2002) by omitting an important dimension of the experience of reading poetry. This researcher stated that in the study conducted by D. Hanauer, the aesthetic aspects of the poetry reading have been stripped away in order to meet the definition of a task in the second language learning classroom as primarily a meaning construction activity (Mattrix 2002, p. 518).

The two major types of reading strategies identified by L. M. Rosenblatt (1978), *efferent* reading and *aesthetic* reading, may serve as a theoretical framework able to explain the two most frequent kinds of poetry reading in the classroom, and FL classroom in particular. By efferent reading, L. M. Rosenblatt means a kind of a non-aesthetic reading the purpose of which is to obtain information, a reading that "carries something away" from the text (1978). "In non-aesthetic reading, the reader's attention is focused primarily on what will remain as the residue after the reading - the information to be acquired, the logical solution to a problem, the actions to be carried out" (Rosenblatt, 1978, p. 24-25). Aesthetic reading presupposes that the reader concentrates on the experience of reading, "living through during his relationship with the particular text" (ibid).

Literary reading often requires not only *literal*, but also *figurative* language proficiency. J. Charteris-Black (2002, p. 106) stated that literal meanings are typically referential, while figurative ones are usually expressive. This researcher classified metaphor, metonymy and idiomatic expressions as the units of figurative language. The notion of metaphor assumes a distinction between primary, literal senses and secondary figurative ones. Figurative speech of the target language often constitutes a challenge to FL learners, because figurative expressions in one language may have a conceptual basis and/or linguistic form different from those of another language. FL learners may resort to the NL conceptual basis when processing unfamiliar FL figurative language (Charteris-Black, 2002, p. 104). On the other hand, the knowledge of FL figurative language can facilitate the literary reading for the FL learners (Charteris-Black, 2002).

Reading literature and poetry in the FL classroom, as it seems, often shifts to an efferent mode, when the readers only retrieve the information without interpretive insights into the different aspects of literary meaning. Some researchers mention that comprehension is a primary and necessary precondition for further interpretive reading (Davis, 1989), and it is mostly the advanced learners of the FL who can appreciate the "literary world" (ibid).

A. Akyel & E. Yalcin stated that the FL students should be proficient in the FL to be able to really enjoy the readings (1990). Otherwise, they cannot fully comprehend the texts. This leads to misreading. J. Davis (1989) proposed at least 4 components "of understanding a literary text", where the term "understanding" covers more than just literal comprehension. It includes (1) decoding of the literal meaning of words, (2) awareness of historical and cultural references, (3) understanding of the

sets of conventions for the reading literature, and, finally, (4) the ability to recreate and reconstruct the text. If the FL teacher employs reader-response activities, the students do not stay on the level of decoding, but recreate and reconstruct the text (Davis, 1989), "live through it" (Rosenblatt, 1978). Also, they use their cultural background "to interpret texts and construct meaning (Liaw, 2001, p. 37).

Teaching poetry in the FL classroom is a potentially challenging task (Beach, 1993; Luce, 1992). The experience of the reader plays a part in literature reading. Poetry, as any genre, has its formal structure and conventional devices. It is characterized by specific vocabulary usually classified as "bookish" or "elevated," meter, and sometimes rhymes. As R. Beach stated in his book "*A teacher's introduction to reader- response theories"*, students with extensive reading backgrounds are more likely to interpret the poems and poets' uses of conventional devices than those students with less extensive backgrounds (Beach, 1993, p.45). For example, the research says that students with extensive reading backgrounds were better at perceiving the symbolic function of the poems' titles (ibid).

Literary reading often requires not only *literal*, but also *figurative* language proficiency. J. Charteris-Black (2002, p. 106) stated that "literal meanings are typically referential, while figurative ones are usually expressive". This researcher classified metaphor, metonymy and idiomatic expressions as the units of figurative language. The notion of metaphor assumes a distinction between primary, literal senses and secondary figurative ones. Figurative speech of the target language often constitutes a challenge to FL learners, because figurative expressions in one language may have a conceptual basis and/or linguistic form different from those of another language. FL learners may "resort to the NL conceptual basis when processing unfamiliar FL figurative language" (Charteris-Black, 2002, p. 104). On the other hand, the knowledge of FL figurative language can facilitate the literary reading for the FL learners (Charteris-Black, 2002).

Cultural awareness of the readers may be an important factor in poetry perception (Liaw, 2001). In her study "*Exploring literary responses in an EFL classroom"*, M-L. Liaw employed a reader-response approach to teaching English reading. The students, non-English-majoring freshmen, read five American short stories. The researcher collected the students' reading journals, and scheduled individual interviews. The analyses of the journals showed that the participants were able to go beyond the mere comprehension of the texts, and to "actively construct meaning through complex transactions with the text" (Liaw, 2001, p. 35). The interviews, according to the researcher, revealed that the overall student attitude towards the use of the reader-response approach is positive. Liaw concluded that literature, if taught in a reader-response manner, is not only a tool for successful learning of grammar, syntax and vocabulary, but also "a form of cultural understanding that enhances the experience of reading in a foreign language' (Liaw, 2001, p. 35).

In the studies described above, the readings performed by the students were a part of the curriculum, and therefore were not only an individual activity. The students read at home, preparing their home task, and discussed the stories in class. Each of the two modes – public versus private reading – will be discussed below.

The literature is read not only "privately", individually, but also "publicly", in a social context of the classroom (Angell, 1994). What is the "normal" situation of reading, for example, a poem? E. R. Kintgen (1983) proposed that it is only the readers who can answer this question. The readers are "free to choose when and where to read the poem, to return to it as frequently as they want… and to use any resources they feel necessary" (Kingten, 1983, p.28). This kind of reading promotes

"transaction" (Rosenblatt, 1978) of the reader and the poem. A number of studies have shown that "the ways of responding to literature are influenced by the instructional environment" (Angell, 1994), and less able readers seem to be provided with less opportunity than better readers (Applebee, 1989). Poetry reading becomes a social event that takes place in the classroom. Such a setting promotes the interaction of a reader with other readers.

The potential of both public reading and private reading should be taken into account when designing a study of the students' literary responses. On the one hand, the classroom provides a necessary social context that may be beneficial because of the student-teacher and student-student interaction and generating new ideas. On the other hand, the readers who work privately with the text may feel more comfortable, especially if the researcher's instruments include individual interviews or journal writing. These readers will have better chances to be heard than they would be in the classroom environment with its dynamics, where it is not always the better readers who are the most outspoken.

Research questions

1. What role does the student's self-reported cultural awareness play in promoting a response to a poem in a foreign language?
2. To what degree does the knowledge of literary conventions facilitate literary understanding and response?
3. What is the process of perception of English poetry by non-native learners of English?

Texts:

The students will read two texts: one by W. Shakespeare, and one by T.S. Eliot. The criteria for selection of these particular texts were as follows:

1. All two poets are reputable, famous authors whose poetry reflects the best features of English creative writing.
2. The texts are philosophical, contemplative pieces of poetry. It is hoped that the texts will evoke reader-responses, as well culturally educate the participants.

The texts will be referred to as 'texts', except when reporting the students' perception and responses. According to L. Rosenblatt (1978), the term 'text' denotes a set of linguistic signs, and it becomes a 'poem' only when the reader interacts, or, rather, transacts with it.

Method and data collection

Qualitative analysis will be the most appropriate method for evaluating individualized outcomes when a common activity for all students results in different outcomes for different students "… depending on how they approached the experience, what their unique needs were, and which part of the activity they found most stimulating" (Patton 1990). This method would be most appropriate, because the small number of participants will not make the quantitative study feasible. Also, qualitative methodology would allow for in-depth analysis of the data. Such analysis will be greatly needed, because the researchers will be focusing on the issue of poetry perception.

As the instruments, the researchers will use the questionnaire, individual interviews, a mini-test of figurative language units, and one class discussion. At the beginning of the semester (the second

week), the students will be given a questionnaire that contains both Likert scale questions and open-ended questions to elicit their attitudes towards poetry, as well as to collect data about their cultural experience with English poetry in particular. This questionnaire will provide answers to the first research question of the study (the role of self-reported cultural awareness).

In the third week of the semester, the students will be given the texts for individual readings. The students will read the poems at home. This will allow them to choose the place for their reading activity, and to use the resources they wish to use. The resources that students may rely upon (dictionaries, encyclopedias, other) will be discussed during individual interviews. It is hoped that such "private" reading will promote deeper transaction (Rosenblatt, 1978) with the text and generate individual reader-responses.

The class discussion will be scheduled on the ninth week of classes as a regular class period, during which the class teacher will encourage the students to express their ideas about the texts (poems) and to share opinions. The researcher will observe the class period and record it. At the beginning of the class period, the students will be asked provide a written definition of English figurative language units drawn from the texts. The answers will allow the researcher to make assumptions about the level of the students' English figurative language proficiency, and whether the background knowledge of the figurative language helps the students to better understand and respond to a poem. It is assumed that this mini-test of the figurative units comprehension, combined with the class discussion, will provide the researcher with the answers to the second research question (the role of background knowledge in the process of generating reader-responses), and, partly, to the first (the role of culture) and the third (the process of perception).

Individual interviews will be scheduled during the eleventh, twelfth, thirteenth and fourteenth weeks of classes. The interviews will be recorded. The researchers will ask the students about the process of their perception of the poems. To elicit the readers' responses to a poem, the researcher will ask open-ended questions without suggesting her own ready answers. The interviews will be recorded. The answers will not be evaluated as correct or incorrect (Patton 1990), assuming that it is an individual perception that the researcher is interested in. It is hoped that this instrument will prove to be indispensable for deeper insights into the nature and process of the students' perception of English poems (the third research question).

Results and limitations

The results of the study may show whether poetry reading in FL English classroom is a justified technique to promote reader-responses. The use of reader-response methodology may further the interests of the students towards the target literature and literature in general.

However, the study involves not a large number of participants; therefore the results of it cannot be considered generalizable. This is one of the limitations of the study. Also, the selection of the texts, no matter how impartial the researcher tried to be, is still an arbitrary matter. The process and the outcome of the selecting process are influenced by the researcher's personal likings. Some readers may not have preferred these particular texts and/or authors. It is assumed that the choice of the text affects the willingness of the reader to respond to the text. If the learners did not like the texts, they may have felt no emotional connection with them. Thus, the aesthetic value of the text would have had less impact on the readers.

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THE EFFECT OF BACTERIAL AGENTS ISOLATED FROM RAM SEMEN ON SPERMATOLOGICAL PARAMETERS

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Abstract

A detailed andrological examination was performed due to the presence of blood in the semen of 2 out of 4 rams housed in the Firat University Agriculture and Livestock Research and Application Center during the breeding season. Ejaculates were collected by using an artificial vagen under aseptic conditions. A certain part of the collected samples was used for the evaluation of spermatological parameters and microbiological analysis respectively. Samples taken from the animals were diluted 1:1 with Tris-egg yolk extender for spermatological analysis. Computer-assisted semen analysis systems were used to evaluate sperm motility and speed spermatozoa ratio. Total and progressive motility values and rapid spermatozoa rates were significantly lower in rams with blood in their semen compared to those without blood. Dead-live spermatozoa ratios and mitochondrial activity were determined by flow cytometry. It was observed that the proportions of viable spermatozoa with active mitochondria values decreased in rams with blood in their semen. Semen samples taken from all animals were inoculated onto MacConkey agar and blood agar enriched with 5% defibrinated sheep blood and incubated at 37 °C for 24-48 h under aerobic conditions. Samples taken from asymptomatic rams showed no growth on agar plates. *Staphylococcus aureus* was detected in 2 of the isolates, *Enterococcus faecalis* in 1, *Bacillus* spp. in 1, and *Pseudomonas aeruginosa* in 2 isolates. After the antimicrobial susceptibility test, based on the distribution of inhibition zone diameters, the most effective antibiotic combination was trimethoprim/sulfamethoxazole. According to the antibiogram results, antibiotic and supportive treatment were performed on the rams. After the treatment, spermatological and microbiological analysis were repeated in the semen samples taken from the rams. As a result of the analysis, it was determined that the decreased spermatological parameter values improved and no growth was shown from the semen on agar plates in terms of microbiological aspects.

Keywords: Ram, Semen, Spermatological Parameters, Microbiological Analysis.

INTRODUCTION

Turkey's general conditions such as climate, vegetation, land properties, traditions and habits of the society and the economic structure of the country help sheep breeding to become more widespread (Karaca et al., 2003). Besides being one of the potential production resources that fill the deficiency of animal-based protein such as red meat and milk, sheep breeding is also an industry economically important where many products such as fleece are obtained. In addition, it has an important position in terms of requiring less capital and investment and contributes to the evaluation of the potential labour force (Şahinli, 2011; Karaman et al., 2012).

Sheep are seasonally polyestrous and the season related to the duration of daylight is the most important factor affecting reproduction. Reproductive activities begin in the seasons when days begin to shorten in both the Southern and Northern Hemispheres. This feature ensures that it occurs at the beginning of spring and summer to ensure the life of the lactating ewe and offspring (Foster et al., 1989).

Ram's sensitivity to daylight is different from sheep's. The sexual activity of some ram breeds continues throughout the year, and when the cyclic activity starts in an ewe, the sexual activity of a ram needs to be high. While ewes in anoestrus can ovulate within a few days after hormonal stimulation due to the presence of large-diameter follicles, rams require approximately 45 days to complete the spermatogenesis period (Rosa and Bryant, 2003; Gündoğan et al., 2003).

Reproduction can be achieved by natural mating or artificial insemination. The first biotechnological study on reproduction and improvement in farm animals is artificial insemination. The common usage of artificial insemination has enabled the development of many related technologies. These technologies include semen freezing and sex determination, alternative practices in estrus regulation, embryo production, culture, freezing and transfer and cloning (Foote, 2002).

Semen was collected from 4 rams kept in the Firat University Agriculture and Livestock Research and Application Center and used for breeding during the breeding season. The farm veterinary practitioner observed that there was a small amount of blood in some of the semen taken, but it increased in subsequent samples and eventually completely bloody semen was seen. A detailed andrological examination was performed on the rams transferred to Firat University Animal Reproduction and Artificial Insemination Clinic. Ejaculates were collected by using an artificial vagina under aseptic conditions. A certain part of the collected samples was used for the evaluation of spermatological parameters and microbiological analysis respectively. Following the antibiogram results, antibiotic and supportive treatment were performed.

This study aimed to determine the presence of bacteria in the semen of rams that were asymptomatic in terms of generalized infection symptoms and produced bloody semen, evaluate the possible effects of relevant bacterial factors on spermatological parameters, provide treatment for bacterial factors and evaluate the effectiveness of the treatment.

MATERIALS AND METHODS

With the breeding season; 2 years old and 55-60 kg 4 rams, started to use for natural breeding and artificial insemination. Blood was observed in the semen of two of the four rams. In this situation, all of the rams were transferred to Firat University Animal Hospital.

There were no pathological findings found in the physical and andrological examinations of the rams that did not show clinical symptoms.

Semen Collection and Dilution

Semen was collected individually from each of the rams, which were previously accustomed to giving semen via artificial vagina in Firat University Agriculture and Livestock Research and Application Center by adhering to aseptic rules.

Tris-egg yolk extender which contains 3.63 g Tris (hydroxymethyl aminomethane, Sigma Aldrich®, CAS No: 77-86-1), 0.50 g D-glucose (Merck®, CAS No: 50-99-7) 1.99 g citric acid (Sigma Aldrich®, CAS No: 77 – 92 - 9) and with 15% concentration egg-yolk was prepared for dilution. Some of the samples taken were processed for microbiological analysis, and the rest were diluted with Tris-egg yolk at a ratio of 1:1.

Motility and Kinematic Parameters

Motility and kinematic parameters were analysed by a computer-assisted sperm analyser (CASA, ISASv1, Proiser). Semen samples were further diluted with Tris buffer solution [Tris (hydroxymethyl) aminomethane 3.63 g + glucose 0.50 g + citric acid 1.99 g + distilled water 100 ml] in an Eppendorf tube at 38 °C. For the analysis, 3.5 µl of extra diluted samples with Tris buffer were dropped onto a special slide (Spermtrack 20 µm) and placed on the heated stage of the phase-contrast microscope (Nikon, Tokyo, Japan) connected to the CASA system. Motility ratios and kinematic parameters [VCL: Curvi Linear Velocity (µm/s); VSL: Straight Line Velocity (µm/s); VAP: Average Path Velocity (µm/s); LIN: Linearity (%); STR: Straightness (%), WOB: Wobble (%); ALH: Amplitude Lateral Head (µm); BCF: Beat Cross Frequency (Hz)] were recorded. The speed range of the CASA, which was adjusted for rams by the manufacturer, was static < 10 µm/s < slow < 45 µm/s < medium < 75 µm/s < rapid. The particle size range of the CASA was 15–70 µm (Özer-Kaya et al., 2021).

Concentration

Fresh semen was diluted 1:200. After placing 3 µl of the diluted samples on the slide and covering the coverslip, the concentration was determined using the concentration module with a phase-contrast microscope connected to the CASA system. (Özer-Kaya et al., 2021).

Plasma Membrane Integrity/Hypo-Osmotic Swelling (HOS) Test

100 µl of the semen samples were diluted with 400 µl of Tris buffer solution at 38 °C. Then, 50 µl were taken from the mixture of Tris buffer-semen samples and mixed with 500 µl of hypotonic solution (0.49 g citric acid + 0.9 g fructose + 100 ml distilled water) and incubated in an incubator at 38 °C for 60 min. After incubation, 30 µl were taken from the mixture and 200 spermatozoa were examined at 40× magnification of the phase-contrast microscope. The ratio of intact spermatozoa with swollen and curved tails was expressed as a percentage (Söderquist et al., 1997).

Abnormal Spermatozoa Ratio

Smears were done using 75 µl of Tris buffer-semen mixture prepared for the HOS test, and they were dried in air for 5-10 min. Commercial Diff-Quick rapid staining set was used for staining. For this purpose, as recommended by the manufacturer, the smears were stained by immersing them in the related solutions of the staining set for 30 s, 20 s and 30 s, respectively. The stained smears were washed with distilled water for approximately one minute and air-dried. The smears were then examined using 60× magnification of the phase-contrast microscope. A total of 200 spermatozoa

were examined in each smear and the ratio of spermatozoa having abnormal shapes (head and tail) was expressed as a percentage (Sönmez and Demirci, 2004).

Dead-Alive Spermatozoa Ratio

For analysis by flow cytometry, the Live/Dead Sperm Viability (SYBR–14 / PI, Molecular Probe: L7011 Invitrogen, Carlsbad, Canada) commercial kit was used. All procedures were carried out under dark conditions at 38 °C. 10 µl of samples were diluted with 980 µl phosphate-buffered saline down to 1 x 10^6 sperm/ml and incubated with 5 µl PI and 5 µl SYBR-14. The tubes were kept at 38 °C for at least 60 min. in dark conditions. Alive sperm ratio was expressed as a percentage (Figure 1) (Alvarez et al., 2012).

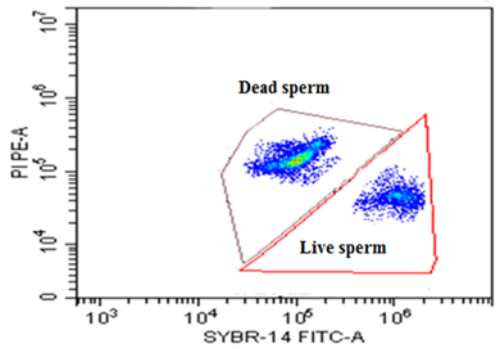

Figure 1. Evaluation of dead and live spermatozoa by flow cytometry.

Acrosomal Integrity

For analysis by flow cytometry, the Lectin – PNA (peanut agglutinin) (Alexa Fluor® 488 (PNA-Alexa 488, L21409, Invitrogen, Paisley, England) commercial kit was used. All procedures were carried out under dark conditions at 38 °C. 10 µl of samples were diluted with 982 µl phosphate-buffered saline down to 1 x 10^6 sperm/ml and incubated with 5 µl PI and 5 µl Lectin - PNA. The tubes were kept at 38 °C for at least 60 min. in dark conditions after vortexing. Acrosomal integrity ratios are divided into four groups intact-alive (PNA- PI-), intact-dead (PNA- PI+), damaged-dead (PNA+ PI+) and damaged-live (PNA+ PI-) respectively and expressed as percentages (Figure 2) (Standerholen et al., 2014).

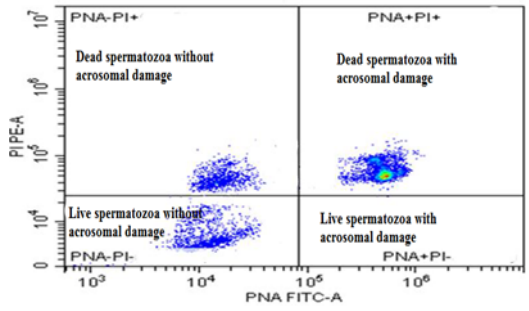

Figure 2. Evaluation of acrosomal integrity by flow cytometry.

Mitochondrial Membrane Potential

To determine the mitochondrial membrane potential, 5.5', 6.6'-tetrachloro-1.1',3.3'-tetraethyl-benzimi-dazolyl-carbocyanine iodide and Propidium Iodide [JC-1/PI (Invitrogen, T3168, Carlsbad, Canada)] were used. 10 µl of samples were diluted with 985 µl phosphate-buffered saline down to 1 x 10^6 sperm/ml and incubated with 2.5 µl PI and 2.5 µl JC-1. The tubes were kept at 38 °C for at least 60 min. in dark conditions after vortexing. Analysis results were expressed as a percentage, including high and low mitochondrial membrane potential (Figure 3) (İnanç et al., 2018).

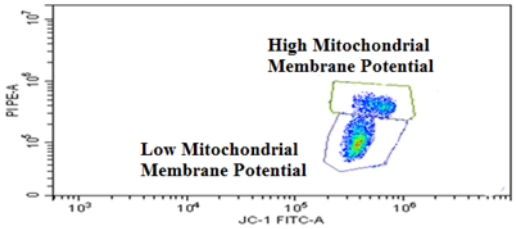

Figure 3. Evaluation of mitochondrial membrane potential by flow cytometry.

Bacterial Isolation and Antibiotic Susceptibility Test

4 ram semen (2 bloody and 2 clear) taken with an artificial vagen under aseptic conditions were sent to Firat University Microbiology Department for diagnosis and treatment. Samples inoculated onto MacConkey agar and blood agar base enriched with 5% defibrinated sheep blood and incubated at 37 °C for 24-48 h under aerobic conditions. The obtained isolates were evaluated according to their morphological and biochemical characteristics by Gram staining. Antibiotic susceptibility testing was performed using the Kirby-Bauer disc diffusion method. Briefly, Mueller Hinton agar (Oxoid) (MHA) was prepared at pH 7.4 and autoclaved at a temperature of 121 °C, with a pressure of 15 lb/inch^2 for 15 min. After sterilizing, the media was allowed to cool to 50 °C and 15 ml was poured into petri dishes. After the sterility test, plates were kept at +4 °C until used. Stock bacterial cultures inoculated into Nutrient Broth (Merck) and incubated in aerobic conditions at 37 °C in a shaking incubator overnight. 1 ml aliquot was streaked onto blood agar with a single colony method. Bacteria were diluted in 1 ml of sterile 0.9% saline down to 1.5 x 10^8 cfu/ml, McFarland 0.5 standard with 600 nm absorbance. Bacterial suspensions were swabbed on the top of the solid media. Different antibiotic-loaded discs were placed on the surface of the medium and left for 30 min. at room temperature for the diffusion of the antibiotics (Watts, 1999). For antibiotic susceptibility testing; sulfamethoxazole/trimethoprim (25 µg/disc), ampicillin/sulbactam (20 µg/disc), amoxicillin/clavulanic acid (30 µg/disc), gentamicin (10 µg/disc) and danofloxacin (5 µg/disc) were used respectively.

RESULTS

Ram semens which sent to the microbiology laboratory, 2 were bloody and 2 were clear. As a result of the cultivation of bloody semen samples, 6 isolates were obtained. *Staphylococcus aureus* was detected in 2 of the isolates, *Enterococcus faecalis* in 1, *Bacillus* spp. in 1, and *Pseudomonas aeruginosa* in 2 isolates respectively. Samples taken from asymptomatic rams showed no growth on agar plates.

After the antimicrobial susceptibility test, based on the distribution of inhibition zone diameters, the most effective antibiotic combination was sulfamethoxazole/trimethoprim (25 µg/disc). Sulfamethoxazole/trimethoprim combination was applied to both rams with and without blood

detected in their semen for treatment and preventive purposes, respectively. Primoxal (Alke®, Turkey) Injectable Solution containing sulfamethoxazole/trimethoprim combination at a dose of 1 ml/15 kg was administered to each ram intramuscularly (IM) in an amount of 4 ml for 1 week.

As a supportive treatment, 3 ml of Nervit (Vetaş®, Turkey) Injectable Solution containing vitamins B1 and B6 was administered IM daily to each ram. Additionally, Ascorvet (Vetaş®, Turkey) Injectable Solution containing vitamin C was administered to each ram via IM at a daily dose of 2 ml for 3 weeks. A successful treatment protocol has been established for rams with clinical symptoms. Three weeks after antibiotic treatment, semen samples taken from the same rams were checked for microbial growth. No growth was shown in agar plates.

Pre- and post-treatment parameters of all rams are summarized in the tables below.

Table 1. Total and Progressive Motility Values Before and After the Treatment (%)

Semen	Ram ID	Treatment	Total Motility	Progressive Motility
With Blood	1	Before	41,1	23,3
		After	65,6	49,1
	2	Before	37,2	22,8
		After	74,6	48,6
Without Blood	3	Before	84,2	51,1
		After	79,1	49,9
	4	Before	83,2	60,6
		After	84,9	58,5

After treatment, it was determined that there was an improvement in the total and progressive motility values of the rams with blood detected in their semen (Table 1).

Table 2. Velocity Values of Spermatozoa Before and After the Treatment (%)

Semen	Ram ID	Treatment	Rapid	Medium	Slow	Static
With Blood	1	Before	22,7	4,9	13,5	58,9
		After	61,2	0,7	3,7	34,4
	2	Before	22,8	5,8	8,6	62,8
		After	62,8	5,4	6,4	25,4
Without Blood	3	Before	72,1	9,9	2,2	15,8
		After	59	11,1	9	20,9
	4	Before	73,7	8,6	0,9	16,8
		After	74,8	5,9	4,2	15,1

It was determined that the treatment helped increase spermatozoa speed (Table 2).

Table 3. Kinematic Parameter Values Before and After the Treatment

Semen	Ram ID	Treatment	VCL (µm/s)	VSL (µm/s)	VAP (µm/s)	LIN (%)	STR (%)	WOB (%)	ALH (µm)	BCF (Hertz)
With Blood	1	Before	82,7	48,4	51,3	58,5	94,2	61,2	3,9	11,2
		After	189,1	150,8	168,7	79,8	89,4	89,2	3,3	9,8
	2	Before	107,3	69,4	74,3	64,7	93,3	69,3	3,2	11,2
		After	174	126,9	144,2	72,9	88	82,8	3,5	8,9
Without Blood	3	Before	127,6	58	71,5	45,4	81,1	56	4,1	10,8
		After	123,8	75,4	88,8	60,9	85	71,7	3,5	9,7
	4	Before	105,9	59,5	67,4	56,2	88,3	63,6	3,1	12,2
		After	159,6	125,6	138,9	78,7	90,4	87	2,9	9

Table 4. Concentration Values Before and After the Treatment

Semen	Ram ID	Treatment	Concentration ($x10^6$)
With Blood	1	Before	3669
		After	3980
	2	Before	2982
		After	2683
Without Blood	3	Before	3570
		After	3346
	4	Before	3304
		After	3348

No significant differences were observed in the concentration values of the rams with the treatment (Table 4).

Table 5. HOS Test Values Before and After Treatment (%)

Semen	Ram ID	Treatment	HOS
With Blood	1	Before	28
		After	37
	2	Before	45,5
		After	57
Without Blood	3	Before	74,5
		After	74
	4	Before	66
		After	61

Treatment had a positive effect on the HOS test values of the rams in which blood was detected in their semen (Table 5).

Table 6. Abnormal Spermatozoa Rates (%) Before and After Treatment

Semen	Ram ID	Treatment	Head	Tail	Total
With Blood	1	Before	6,5	6	12,5
		After	2,5	0,5	3
	2	Before	8,5	4	12,5
		After	2,5	1	3,5
Without Blood	3	Before	1,5	0,5	2
		After	2	1,5	3,5
	4	Before	1,5	0,5	2
		After	1,5	1	2,5

It was observed that the treatment had a positive effect on the abnormal spermatozoa rates of rams in which blood was detected in their semen (Table 6).

Table 7. Dead-Live Spermatozoa Ratios and Acrosomal Damage (%) Before and After Treatment

Semen	Ram ID	Treatment	Live Spermatozoa Rate	Dead Spermatozoa Rate	Acrosomal Damage
With Blood	1	Before	23,75	75,6	34,43
		After	69,57	30,02	24,96
	2	Before	69,82	29,49	12,51
		After	73,78	24,14	2,76
Without Blood	3	Before	88,13	11,44	2,62
		After	76,33	23,01	1,46
	4	Before	84,52	14,86	3,26
		After	89,7	9,96	1,08

After the treatment, it was determined that the live spermatozoa rates increased, especially in rams with blood in their semen (Table 7).

Table 8. Mitochondrial Membrane Potential (%) Before and After Treatment

Semen	Ram ID	Treatment	High Mitochondrial Membrane Potential	Low Mitochondrial Membrane Potential
With Blood	1	Before	28,84	69,31
		After	70,3	20,53
	2	Before	56,9	37,64
		After	74,85	4,87
Without Blood	3	Before	75,28	11,8
		After	82,7	7,56
	4	Before	29,72	64
		After	80,23	7,25

The treatment supported the high mitochondrial membrane potential of the rams. (Table 8).

DISCUSSION

Although it is generally accepted that many factors such as nutrition, age, season and heat stress affect semen quality in rams; The condition of bacteriospermia is an issue that is often not noticed but should be taken seriously in any procedure performed with semen and is attracting more and more attention in reproductive technologies. The presence of bacteria isolated from bloody semen in rams in this study supports this hypothesis. The isolates we obtained were *Staphylococcus aureus*, *Enterococcus feacalis*, *Bacillus* spp. and *Pseudomonas aeruginosa* are pathogens that can cause infection in semen. On the contrary, *E. coli*, which is considered a uropathogenic that can significantly affect spermatozoa viability and fertilization potential in vivo and in vitro, was isolated in many studies (Eini et al., 2021) but not in our study. The data we obtained revealed that sperm motility decreased with the increasing presence of bacteria in bloody semen. However, healthy animal and human semen contain many saprophytic bacteria. Ejaculated semen is not free of bacterial flora. Some of these bacteria (e.g. *Pseudomonas aeruginosa*) may act as opportunistic pathogens and pose a potential risk to the inseminated female. In our study, antibiotic treatment was applied due to the isolation of *P. aeruginosa*, which threatens the reproductive health of rams, and bacterial growth was prevented. Comparably, in another study, it was observed that the most pathogenic microorganisms obtained from bull semen were *P. aeruginosa*, Streptococcus spp., *Staphylococcus* spp., *Proteus* spp. and *Bacillus* spp., respectively (Bonet et al., 2018). Similar species were isolated from the rams in our study.

CONCLUSION

Antibiotic treatment was applied to the rams after blood was observed in the semen of 2 of the 4 rams used for breeding during the breeding season. Spermatological and microbiological analyses were repeated on the semen samples taken from the rams after the treatment. As a result of the analysis, it was determined that the decreasing spermatological parameter values improved and no bacterial growth was observed from the samples.

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PREVALENCE OF DIPYLIDIUM CANINUM IN PET DOGS IN BELGRADE AREA IN PERIOD 2020-2021

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Abstract

Dipylidium caninum occurs worldwide in animals, such as dogs and cats, as well as in humans and is one of the most common tapeworm. The adult worm is 15-50 cm long and 2-4 mm wide. The first proglottids are narrow and trapezoidal, and the other ones have the shape of a melon or cucumber seed. Gravid proglottids containing the worm's microscopic eggs are either passed in the definitive host's feces or may leave their host spontaneously. In development, this tapeworm has a intermediate host - the flea. Flea larvae in the surrounding environment ingested the egg of this tapeworm and the larval infective forms develop in it. The cysticercoid larva remains viable, but is not infective to carnivores until the flea hatches to an adult and begins feeding on a host. When a dog bites a flea, these larvae reach the intestines, where they develop into adult tapeworms. Tapeworm infection usually does not cause pathology in the dog or cat, and most pets show no adverse reaction to infection other than increased appetite. The bulk of infections are asymptomatic and the infections that do result in symptoms are generally mildly so. Pets' behavior may reflect the presence of anal discomfort and itching, or pruritus. This could result in the 'butt-scooching" across the floor, grass or carpeting. It may be accompanied by slight gastrointestinal disturbances, as this is the region where the worms inhabit. In the aim of evaluating the intestinal parasites fauna of pet dogs from Belgrade area, in period 2020-2021 we examined fecal samples of 367 pet animals. All animals had clinical symptoms that indicated parasitic infections (weight loss, stunted growth, swelling of the stomach in puppies, foul-smelling diarrhea; feces with blood, with findings of swallowing, etc.). During our examination presence of *Dypillidium caninum* was established in 37.07%.

Keywords: pet dogs, *Dipylidium caninum*, epidemiology, Belgrade.

CHEMICAL, PHYSICAL AND BIOLOGICAL ANALYSIS OF RIVER WATER AND SEDIMENT; SITNICA, IBRI, TREPÇA AND DRENICA - CORRELATION WITH EU STANDARDS - FOR SURFACE WATERS

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Abstract

Hazardous waste in water and sediment is a big problem facing developing countries, including our country. The research has highlighted the concentration of heavy metals in the water and sediment of the rivers; Sitnica, Trepça, Ibri and Drenica. Chemical analyzes of water and sediment are essential to determine the level of trace elements in these ecosystems. The water and sediment concentration level were used to determine the Health Risk Index (HRI) for the exposed population. Trace elements were determined in water and sediment using the ICP-OES method. The samples were collected in September/ 2023, at eight different sampling points. Concentration (maximum value) for: Cr (0.079 mg/l), Zn (0.084 mg/l), Mn (0.097 mg/l) Fe (0.305 mg/l) Ni (0.107 mg/l) Pb (0.101 mg /l) and Cu (0.052 mg/l) in all sampling points, such as: (M1-M2, Sitnica river), (M3-M4, Trepça river), (M5-M6, Ibri river) and (M7- M8, Drenica river) and it turned out that most of the heavy metals were below the recommended US-EPA and WHO standards. But the concentration (maximum value) for: Fe>Ni and Pb, at all sample points were found to be above the recommended norms of US-EPA and WHO. All these chemical elements, (their concentration in water and sediment) originate from urban and industrial sources, around the researched areas. From the statistical analysis, a very significant positive relationship of Fe and Ni with Pb was found, originating mainly from the minerals and manufacturing industries around these rivers.

Keywords: Rivers, pollution, heavy metals, urban and industrial discharges.

BPA'S (BISFENOL A) ENDOCRINE INSTRUCTIONAL CHEMICAL EXPOSURE AND IMPACTS

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Abstract

Since Bisphenol A (BPA) is one of the most widely produced compounds in the world, it has attracted a lot of attention from researchers during the past 20 years. Important plastics like infant bottles, water bottles, and food storage containers all started out as precursors to BPA. BPA is rapidly and continuously absorbed by both humans and animals. It is very impossible to avoid exposure due to its extensive use. Studies on BPA exposure have identified a number of distinct molecular pathways. BPA can affect the oxidation-reduction balance, cause DNA damage and epigenetic alterations, mitochondrial malfunction, and receptor-mediated effects. Due to its capacity to imitate estrogens in the human body and interact with estrogen receptors, BPA is also known as xenoestrogen. According to numerous studies, BPA competes with estrogen for binding to the estrogen receptors a and p (ERa and ERp) and modifies the expression of genes that respond to estrogen. Numerous endocrine problems, including male and female infertility, early puberty, hormone-dependent malignancies including breast and prostate cancer, and numerous metabolic disorders like polycystic ovary syndrome (PCOS), have been proven to be affected by it. This study briefly looked at whether BPA exposure came about directly or indirectly.

Key words: BPA, Estrogen, Xenoestrogen.

Introduction

Due to its huge scale of production globally, BPA has become one of the most investigated endocrine disrupting chemicals (EDCs) over the past 20 years (Saal and Vanderberg, 2021). Endocrine disrupting substances include industrial pollutants including BPA, octylphenols, and nonylphenols (Rocha et al., 2016). BPA exposure is quick and ongoing in both humans and animals (Abraham et al., 2020). According to Le Corre et al. (2015), global BPA manufacturing surged from 1 million tons in the 1980s to over 2.2 million tons in 2009 and 3.6 million tons of BPA-derived compounds in 2015. BPA has been classified as an EDC by the World Health Organization (WHO) because it has harmful effects on the endocrine system.

Important plastics like infant bottles, water bottles, and food storage containers all started out as precursors to BPA. It can be discovered anywhere, including on the packaging of food, cosmetics, cash register receipts, and medical supplies (Corrales et al., 2015). Due to its extensive usage, it is nearly impossible to come up with an adequate defense. According to Jalal et al. (2018), BPA is a threat to both people and wildlife and has been found in sewage, tap water, soil, dust, and the air.

Chemical Structure of BPA

The molecule known as bisphenol A (BPA) (2,2-bis(4-hydroxyphenyl) propane) is created when acetone and phenol condense (Naomi et al., 2022). It has two hydroxyphenyl groups that are classified as diphenylmethane and are produced from bisphenols. It is extremely soluble in organic solvents but insoluble in water. BPA is more easily released when exposed to extremely hot conditions. It is the most commonly used element, particularly for making products using plastic (Matuszczak et al., 2019).

Biological Mechanisms of BPA

Due to its capacity to imitate estrogens in the human body and interact with estrogen receptors, BPA is also known as xenoestrogen (Wehbe et al., 2020). The similarity between the phenol groups present in estrogen and those found in BPA is thought to be the cause of this. The synthetic substance can disrupt and enhance estrogenic pathways because of this resemblance. BPA's affinity for estrogen receptors (ER) like ER and ER makes this possible (Matuszczak et al., 2019). According to Anna and Paromita (2020), BPA is a known endocrine disruptor that can mimic or block receptors and change hormone concentrations and metabolism.

Due to its chemical resemblance to synthetic estrogen, BPA is a diphenylmethane derivative with two hydroxyphenyl groups (Khan et al., 2021). According to numerous studies, BPA competes with estrogen for binding to the estrogen receptors a and p (ERa and ERp) and modifies the expression of genes that respond to estrogen (Paris et al. 2002; Lee et al. 2012). The metabolic and endocrine systems are adversely affected by it (Mukhopadhyay et al., 2022). Numerous endocrine problems, including male and female infertility, early puberty, hormone-dependent malignancies including breast and prostate cancer, and numerous metabolic disorders like polycystic ovary syndrome (PCOS), have been proven to be affected by it. Required et al., 2015).

BPA Exposure

BPA is mass produced all over the world despite being known to be hazardous to the environment (Cao et al., 2011). Its widespread use is a result of its capacity to improve the toughness and clarity of plastic and synthetic products, making it the perfect material for everyday consumer goods like food and liquid storage containers, cosmetic and personal care product packaging, as well as medical, dental, and sporting equipment (Geens et al., 2012; Lassen et al., 2011; Lee and Peart, 2000; Liao and Kannan, 2013; Ozaki et al., 2004; Vandenberg et al.

Environmental toxins are being produced and polluted at an increasing rate, which exposes everyone to hazardous chemicals that harm most creatures' development, growth, reproduction, and physiology (Flint et al., 2012; Mizell and Romig, 1997; Ondi et al., 2017; Vandenberg et al., 2007). Studies on BPA exposure have identified a number of distinct molecular pathways. BPA can affect the oxidation-reduction balance, cause DNA damage and epigenetic alterations, mitochondrial malfunction, and receptor-mediated effects. Rezg ve ark. (2014); Gassman, 2017; Rochester, 2013).

BPA exposure poses a serious risk to health since it can interfere with endocrine signaling pathways and result in a number of disorders even at extremely low concentrations (den Braver-Sewradj et al., 2020). Diet is the main method of exposure to BPA since it seeps into food from plastic (Nguyen et al., 2022). Heat, contact with acidic or basic substances, and repeated use all cause leakage to rise (Nguyen et al., 2022). It should come as no surprise that BPA has consistently been found in a range

of biological samples, including urine, serum, follicular fluid, amniotic fluid, and placental tissue (Vandenberg et al., 2007).

BPA Tendency and Metabolism

BPA can be absorbed via the skin and may be a relevant internal exposure, according to in vitro and in vivo studies (Mielke et al., 2011). In their investigations, Marquet et al. (2011) shown that BPA is digested very little, if at all, when it travels through the skin. BPA typically builds up in organs and tissues include the placenta, lungs, kidney, and liver (Yang et al., 2018). In these associated tissues, the enzyme -glucuronidase was discovered in extremely high amounts (Genuis et al., 2012).

Both in vivo and in vitro methods have been extensively used to study the metabolism of BPA. It has been shown in studies that BPA induces mitochondrial malfunction, alterations in cell signaling pathways, and the induction of death. BPA alters redox equilibrium by boosting oxidative mediators and lowering antioxidant enzymes (Meli et al., 2020).

Epigenetic effects—those produced by mechanisms including DNA methylation and imprinting, histone modifications, and non-coding RNAs—occur without a change in the nucleotide sequence of the DNA.(2018) Barouki et al. It is widely known that BPA, one of the bisphenols, affects DNA methylation via altering the expression level and activity of DNA methyltransferases (DNMTs) (Doshi et al., 2011).

The cytoarchitecture of the seminiferous epithelium in male rats is disrupted by BPA exposure from the prenatal stage to sexual maturity, which affects the production of junctional proteins necessary for the development of the blood-testicular barrier (Fiorini et al., 2011; Chianese et al., 2018). There has been a disruption in the functional communication between Sertoli cells and germ cells, and cell damage has been noticed, particularly in the post-meiotic stages. (2018) Chionese et al.

The progression of spermatogenesis and the generation of high-quality gametes depend on the proper balance of proliferation, differentiation, and apoptosis. BPA creates an aberrant proliferative condition that leads to a high rate of meiotic cell death by increasing the amount of germ cells that enter meiosis (Xie et al., 2016; Cianese et al., 2018; Zhang et al., 2013). Chromosome abnormalities are another effect (Sasaki et al., 2010; Chinese et al., 2018).

BPA can build up in biological tissues once it enters the body and have long-term impacts on health (Nunez et al., 2001). It can escape the placental barrier by being released into biological fluids like urine or breast milk and then go to the fetus (Calafat et al., 2008; Mercogliano and Santonicola, 2018; Dualde et al., 2019; Mrck et al., 2010; Corbel et al., 2014).

Conclusion

BPA can interfere with steroid signaling, impairing growth and development and damaging tissues by inducing oxidative stress. By influencing neurogenesis, synaptic plasticity, and postnatal brain maturation, it has a detrimental effect on brain development and functions (Santoro et al., 2019). BPA can disrupt oxidative homeostasis through direct or indirect mechanisms, including elevated oxidative mediators and depressed antioxidant enzymes, identification of mitochondrial dysfunction, modification of cell signaling pathways, and induction of apoptosis (Wang et al., 2019; Tavakkoli et al., 2020). BPA is a metabolic and endocrine disrupting chemical. In summary, BPA exposure has a

significant impact on a variety of physiological processes depending on the dose, exposure routes, exposure time, and life stage.

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FOOD QUALITY AND SAFETY

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Abstract

This study aimed to identify consumers' knowledge about the quality and safety of food products. The quality and safety of food are the main concern of consumers, so it is very important to know about the safety of food and the quality of food products to avoid serious problems that we can encounter from food products because the consequences of unsafe food bring great consequences and can be serious. Food safety is important as it helps protect the consumer from the risk of foodborne illness.

One of the factors that influence the choice of a food product is the price as an element or determinant of a quality product. Knowing the importance of food safety and food product quality, such a study should be done first.

Therefore, the purpose of this paper is to identify consumers' knowledge about the quality and safety of food products. The methodology of this study is the quantitative method.

The sample of the selection of participants was random, where the data of this paper were collected through direct interviewing by means of a structured (printed) questionnaire. The sample size consisted of 100 citizens of the Republic of Kosovo in 3 different cities (Prizren, Pristina, Ferizaj). The questionnaire consisted of two sections. The first section contained questions aimed at basic data on the respondents (age, gender, place of residence). The second section focused on citizens' perception of food quality and safety. These data were then analyzed and interpreted through the analysis method and the SPSS program.

The results of this study show that a significant part of the respondents 35% think they have knowledge regarding the topic of food safety and 60% of the respondents think that the price plays a role in determining a quality product and being for sure.

Key words: food safety, food, quality, food product, consumers.

DEVELOPMENT AND VALIDATION OF A QUESTIONNAIRE FOR ASSESSMENT OF HOSPITAL RISKS AND SAFETY MEASURES IN THE NURSES.

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Abstract

WHO estimated the global burden of diseases from occupational exposure to be 40% worldwide. There are thousands of occupational injuries each year, which affect 374 million workers. Over two million people worldwide die of occupational injuries and work-related diseases. According to the International Labor Organization, the most common accidents prevailing in health settings include blood spillage, falling, needle pricks, infections and psychosocial hazards.

The aim of the study was to develop a questionnaire to assess workplace safety and safety measures in nurses.

The questionnaire was designed based on the recommendations of the questionnaire design process. Guidelines on occupational hazards in the health sector by WHO, ILO, NIOSH, as well as other similar studies obtained from the review of the literature, which were translated into Albanian and adapted to the legal and regulatory aspects of hospital safety in Albania. The pilot study was carried out after explaining to all the participants that this questionnaire is distributed only for research purposes and its analysis will help us to understand the current situation and how to efficiently allow safety and health at work. Their participation was voluntary. The pilot study was done on 20 nurses in three wards surgical, reanimation, operating room of the hospital center Xhaferr Kongoli, Elbasan. The questionnaire consists of 59 questions with 5 sections and was distributed through Google Form in the period April-May 2023. The administration of the questionnaire took approximately fourteen (14) days to collect the results. The data were analyzed with the SPSS program and Chronbach Alpha and Item-total Correlation were measured.

After processing the data, the questionnaire was considered valid for use after some of the vague and inappropriate questions were modified. Some typographical errors were identified and corrected based on the results of the pilot study.

Key word: hospital risks, nurses, safety measures, questionnaire.

INTRODUCTION

Hospital is one of the most hazardous place to work. Among the health care workers, nurses are more prone to work related injuries as they provide direct patient care and are the largest workforce in any health care organization. Many nurses accept musculoskeletal pain as a part of their job. Exposures

to work related hazards, which includes needle stick injuries, contact with infectious patients and physical injuries during handling and transfer of patient, increase job demands, violence and stress and are numerous each year.

Occupational health and safety issues are important indicators of Quality and Risk management. It is important to ensure safety of workers so that it is not affected by work place environment. It is also considered as the social responsibility and should be integrated as an important element of managerial development processes. This is one of the core element for sustainable development and success of health care organization. The goal is to improve patient care from healthy workforce. The risk encountered in nursing profession is varied, some are present since its inception and some are quite evident in recent years due to the advancement in Health Care System.

In hospital, the hazards faced by health care workers can be broadly categorized as physical, chemical, biological and psychological. Chemical hazards are medications, solutions, gases, vapors, aerosols, and particulate matter that is potentially toxic or irritating to the body system. Moreover, environmental hazards are elements that can cause or potentiate accidents, injuries, strains, or discomfort such as damaged equipment. Psychosocial hazards are factors that can cause stressor interpersonal issues among the worker.

Therefore, the most ideal approach to protect nurses from workplace hazards is to identify and manage them and take reasonable safety measures to prevent their potential to harm, control workplace hazards and eliminate or decrease the risk. Occupational health hazards have a harmful effect on the individual's health and safety as well as organizational effectiveness, while occupational safety describes a comprehensive concept for the protection of workforce from health risks in the workplace, which results from the job-related activity, biological, chemical and physical effects.

Most of the injured workers generally report negative experiences with the workers compensation system. Many literatures reveal that many workers fail to report work related injuries due to various reasons like fear, pain is an ordinary consequence of the work they do, lack of management support, aging, and the fear of losing jobs. Even though the insurance company of the organization is supposed to pay for the medical care of the person suffering from work related injuries, many individual use their own health insurance or seek private assistance from their own family doctor.

Many strategies used to reduce work-related hazards. Hand washing and personal protective equipment is the most important measures to safeguard nurses that continuously in contact with patients that make them liable to occupational hazards, predominantly in developing countries where occupational safety control rules and principles remain a challenge to implement. Hand washing and use of personal protective equipment is ordered by the Occupational Safety and Health Administration for healthcare workers to prevent infection with blood borne. Establishing guidelines and preventive strategies to reduce occupational health hazards and maintain safety among nurses is an essential part to achievesecurity and welfare in the workplace and as a result good quality of patient care and safety. The primary step to do that is assessing the work-related hazards and its contributing factors among nurses then developed preventive strategies.

The objective of this study was development and validation of Albanian questionnaire for assessment of hospital risks and safety measures in the nurses. This tool aims to identify knowledge, perception and practices related to hospital safety, the prevalence of accidents at work including exposure to physical, chemical, psycho-social and biological risk as well as diseases diagnosed during hospital activity.

METHODOLOGY:

The development and validation of the questionnaire were done following a standard methodology which included literature review, indepth-interviews and Focussed Group Discussions (FGDs) to generate items followed by expert validation, pilot testing and a cross-sectional survey to establish validity and reliability. The study was approved by the Institutional Ethics Committee.

The questionnaire was designed based on the recommendations of the questionnaire design process. Guidelines on occupational hazards in the health sector by WHO, ILO, NIOSH, as well as other similar studies obtained from the review of the literature, which were translated into Albanian and adapted to the legal and regulatory aspects of hospital safety in Albania. The pilot study was carried out after explaining to all the participants that this questionnaire is distributed only for research purposes and its analysis will help us to understand the current situation and how to efficiently allow safety and health at work. Their participation was voluntary. The pilot study was done on 20 nurses in three wards surgical, reanimation, operating room of the Hospital Center "Xhaferr Kongoli", Elbasan.

Study objectives, methods of achievement of informed consent and the description of the various sections of the questionnaire were actively presented during a meeting day in the hospital setting. The nurses were given the link to access the online questionnaire by email and they were invited to complete it. Participation in the completion of questionnaire was on a voluntary basis, nurses can complete the questionnaire at the same time using their mobile phone device or once at home.

Questionnaire

The questionnaire consists of 57 questions with 5 sections and was distributed through Google Form and was available on online platform from April 1 to May 30, 2023. Nurses can complete the questionnaire even at a time delayed from the date of submission the project in the period April-May 2023.

The first section contains information related to socio-demographic data such as gender, age, job position, department where you work, marital status, educational level, work experience, work shifts, working hours (nine questions). The following sections contain, respectively, information on level of knowledge (eight questions), practices related to the use of protective measures, if they use them and are they immune to hospital risks (nine questions), the level of perception regarding predisposing factors that contribute to hospital accidents (four questions), nurses' attitudes towards hospital risks by evaluating them with three alternatives agree, undecided and disagree (five questions), accidental exposures and specification of the type of damage, measures taken after exposure (twenty questions), if they are affected by any disease due to their work (two questions). The questionnaire was available on the Google Docs online platform. To complete the survey, nurses had to click on an informed consent form and then they could answer the questionnaire in each section. Most of the questions had only one correct answer, others could have more than one answer. Inclusion criteria are the nurses who work in the surgical, reanimation, operating room wards. The exclusion criteria are for administrative nursing staff, assistant nurses students in hospital practices.

Statistical analysis

The statistical analysis was carried out using SPSS 25.0. The data were analyzed with the SPSS program and Chronbach Alpha and Item-total Correlation were measured. Pre-test responses were desirable and content modification was not necessary. After processing the data, the questionnaire

was considered valid for use after some of the vague and inappropriate questions were modified. It consisted of 59 questions and after the pilot test it was deemed necessary to remove two questions and the questionnaire remained with 57 questions. Some typographical errors were identified and corrected based on the results of the pilot study. The Item Total Correlation of the questionnaire was 0,35, showing a good correlation of questions. Cronbach's Alpha of the survey was 0,78, making the questionnaire reliable and valid to use.

RESULT

The pilot study was done on 20 nurses in three wards surgical, reanimation, operating room of the Hospital Center "Xhaferr Kongoli", Elbasan. In this study 75% women and 25% men. The average age of the sample was 44.3 years. The education of the participants was categorized as Bachelor degree 40% and Master degree 60%.Regarding years of experience, the study group had approximately 10 years of experience (figure 1).

Gender-	15(75%) female, 5(25%) male
Age-	44.3 years
Education-	8(40%) Bachelor`s degree
	12(60%) Master's degree
Years of experience-	approximately 10 years

Figure 1. Social-Demographics Data

Table 1. Questionnaire for assessment of hospital risks and safety measures in the nursing staff

Sections	**Crrected Item-total correlation**	**Coefficient Alpha of Cronbach**
A	**0.35**	**0.78**
B	0.46	0.77
C	0.53	0.78
D	0.18	0.78
E	0.25	0.78

A satisfactory agreement between experts indicated good content validity. Face validity was established through expert opinion and pilot testing. Cronbach's alpha coefficient was found to be 0.78 making the questionnaire reliable and valid to use and Item Total Correlation of the questionnaire was 0,35, showing a good correlation of questions (table 1).

DISCUSSION

Zaboli et al. (2011) surveyed personnel's knowledge of risk, risk management, organizing, policies and procedures for risk management, and place of risk management in hospitals. They highlighted the necessity of risk management for the qualitative development of treatment services and creating a safe environment for the personnel and patients.

Training and education are essential methods to prevent occupational hazards in nurse care. Nurses need to be trained on the hazards in their workplace, how to identify them, and how to control them. They also need to be educated on the proper use of personal protective equipment (PPE) and other control measures. Training and education can be provided through various methods, such as classroom training, on-the-job training, and online training. In conclusion, preventing occupational hazards in nurse care requires a comprehensive approach that involves hazard identification, risk assessment, hazard control, training and education, and workplace inspections. By implementing these methods, employers can create a safe and healthy workplace for nurses, reduce the risk of injuries and illnesses, and improve productivity and profitability.

CONCLUSION

The questionnaire "Assessment of hospital risks and safety measures in the nurses" will be used for :

1. Assessment of knowledge and perception of nursing staff regarding risks professional
2. Evidence of attitudes towards security practice
3. Evidence of exposures professional in the workplace
4. Identification of risk factors and protective measures used for prevention of possible exposures.

The questionnarie can be used in other studies to ensure a clear overview of hospital risks and the design of new preventive strategies. Some of the results we expect from this questionnaire are:

- Improving the knowledge of the medical staff regarding safety measures and prevention hazards
- Reduction of cases exposed to hospital risks
- The approval and implementation of a program by the Ministry of Health related to the risks in hospital facilities for nurses, to identify and prevent health and safety risks.
- Ensuring a healthy and safe environment for the medical staff and the patient.

Conflicts of Interest: The authors declare no conflict of interes

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SUSTAINABLE NURSING MANAGEMENT OF THE FUTURE: A LITERATURE REVIEW

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Abstract

Dialogue, inclusion, networking and sustainable development are all effective approaches in healthcare management. The objective of the research was to review published original scientific papers and reviewing scientific articles on the healthcare management in the future.

Literature review method was used. Data was obtained from the databases PabMed, Google Scholar, CINAHL using the following phrases: management change, leadership education, the future of healthcare management, inclusion and integration in management, communication, sustainable management. The criteria for the selection of literature were limited in terms of content and time, namely to the full availability of scientific and professional texts in English and to publications in 2020 and 2021. The acquired data was processed using qualitative content analysis.

11 sources selected from a total of 211 texts were included in the final analysis. 38 codes were identified. Based on the analysed contents, the category of Healthcare Management of the Future was divided into 5 subcategories, i.e.: requirements for management changes, leadership training, the future of healthcare management, the leader of the future, effective communication.

Future healthcare management requires changes in the organization and implementation of healthcare in order to create a stimulating and friendly environment with the goal of holistic patient care. Management must be based on continuous education of all participants in health teams, cooperation between the academic and clinical environments, networking, and prioritization of sustainable development. Successful management is characterized by the ability to adapt to change, understanding people's responses, culture, and finding appropriate responses and solutions.

Key words: management, healthcare, leadership training, leadership skills, sustainable management.

AN ORIGINAL SOLUTION TO A DELICATE ISSUE

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Abstract
From 2005 to 2022, 22 operations to narrow the pulmonary artery were performed in the departments of cardiac surgery of the Tashkent Pediatric Medical Institute, the Samarkand branch of pediatric surgery of the Tashkent Specialized Scientific and Practical Medical Center of Pediatrics and the Termez branch of the Tashkent Medical Academy on the basis of the Utan Polvon clinic. Surgeries were performed in children with congenital heart defects (CHDs) and high pulmonary hypertension (HPH). according to the method of cardiac surgeon Madiev R.Z. Of these, 1 patient was operated on with a diagnosis of a complete form of patent atrioventricular canal 1 patient was diagnosed with a single ventricle of the heart and transposition of the great vessels without pulmonary artery stenosis. The remaining 20 patients were operated on for ventricular septal defects (VSDs). The age of the patients ranged from 8 months to 14 years. There were 2 male children and 20 female children. The operations were performed on a "beating heart." Sick children had HPH of degrees IIIA and IIIB, as well as functional class II-III and III according to NYHA. The physical condition of all patients was severe, the latter being due to changes in the cardiorespiratory system. A comprehensive examination was carried out without the use of cardiac probing and angiography. To diagnose the defect, determine indications for surgery and postoperative monitoring, transthoracic D-EchoCG was used in the hands of an experienced specialist. The patients underwent dosed narrowing of the pulmonary artery according to the technique of cardiac surgeon R.Z. Madiev. Our technique differs from the traditionally used method in that we perform precise dosed narrowing of the pulmonary artery to normal values, regardless of the child's age. The essence of our method is the correction of volumetric blood flow in the lungs, which leads to an effective reduction in systolic pressure in the pulmonary artery system. The technique is based on the use of mathematical formulas and a special table proposed by Kirkling (2003), which determines the diameters of normal heart valves depending on the patient's body area. During the operation, we perform three mathematical steps to narrow the pulmonary artery: First, we determine the surface area of the body of the sick child using the following formula: BSA = √ AxB/3600 (m2), where A = the height of the sick child in cm, B = the body weight of the sick child in kg (first step). After obtaining BSA(m2), using Kirkling's nomogram (2003), we determine the proper diameter of the pulmonary artery in a sick child in mm required for narrowing (second step). Here we need to understand that the resulting diameter of the pulmonary artery according to the Kirkling nomogram is both the normal diameter of the pulmonary artery of a healthy child and the diameter of the pulmonary artery we need for narrowing in a sick child with the same body area (second step). Next,

we calculate the length of the braid (Lb) in mm, which narrows the pulmonary artery of a sick child to normal values with the same body surface. To do this, we use the formula known in mathematics for calculating the circumference: 2 x Pi (3.14) x R (mm), where R is the radius of the pulmonary artery of a healthy child according to the nomogram. It is clear that the length of the tape (Lb) in mm is equal to the perimeter of the pulmonary artery (Pla) in mm (third step). Thus, dosed narrowing of the pulmonary artery (DNPA) according to the method of cardiac surgeon R.Z. Madiev, based on a mathematical approach, by correcting the minute volume of blood flow in the pulmonary circulation, effectively reduces HPH in children with VSD. In this case, there is no need to use intraoperative tensiometry, it is possible to significantly reduce the "medication burden" for patients after surgery, as well as the dependence on specific therapy for HPH before the second final stage of correction of the defect.

Key words: Congenital heart defects (CHDs) , ventricular septal defects (VSDs) in children, high pulmonary hypertension (HPH), dosed narrowing of the pulmonary artery (DNPA) trunk according to the method of cardiac surgeon R.Z. Madiev, mathematical approach.

INTRODUCTION

The five most common congenital heart defects cover 75% of all CHDs. And these five include large VSDs. They make up 16-20% of all newborns with congenital heart disease [6,7].
HPH is a serious complication of large VSDs in children [1-5, 10, 15/11/18-21,24]. At the same time, physiological factors that reduce pulmonary vascular resistance, such as an increase in the number of functioning capillaries and the release of nitric oxide by the endothelium of the pulmonary vessels (EDRF factor) are clearly insufficient to reduce the degree of pulmonary hypertension, especially in large VSDs[9].
It has been proven that children with large VSDs early develop lesions of the pulmonary vessels - HPH, which is why they may be inoperable from an early age. Therefore, such patients need to be operated on early - before the development of severe irreversible structural changes in the pulmonary vessels [6,7].
In modern cardiac surgery, the main trend has become early radical surgery in this category of sick children - VSDs repair [2-8].
However, due to some objective and subjective factors, some sick children turn out to be candidates for surgery to narrow the pulmonary artery not only for isolated VSDs, but also for complex congenital heart defects with increased pulmonary blood flow[18,20]. Such moments include delayed diagnosis; delays in operations in some cardiac surgery departments due to problems with anesthesia and resuscitation care; the desire to gain weight in sick children to reduce postoperative complications, primarily perfusion complications; as well as mothers' fear of the risk of surgery and, as a result, missing the optimal time for primary radical correction of VSD complicated by HPH.
Consequently, the operation of constriction (narrowing) of the pulmonary artery as the first stage of correction of VSDs complicated by HPH. has not lost its importance. This operation allows you to reduce the degree of pulmonary hypertension and stop the progression of structural changes in the arterial vessels of the lungs, prevents the inevitable death in the case of the natural course of the defect, and also allows you to subsequently carry out the second stage of the operation - plastic surgery of the VSDs and obtain the same favorable result as with the primary radical correction vice.
Moreover, in some cases, an operation to narrow the pulmonary artery, undertaken as a chance to save the child, can lead to regression of morphological changes in the vessels of the lungs with VSD,

complicated by HPH and Eisenmenger syndrome [10].
It is a well-known fact that the surgical technique directly affects its result.
There are few methods for narrowing the pulmonary artery used by cardiac surgeons in the world [8]. An analysis of the available literature indicates that cardiac surgeons mainly use one method - narrowing of the PA, depending on the degree of decrease in systolic blood pressure above the narrowing site on the PA under the control of invasive monitoring. However, this method has its drawbacks - the degree of pressure reduction in the PA during this procedure and after surgery depends on systemic hemodynamics and the effect of cardiac drugs on the cardiovascular system. In addition, the experience we have accumulated in the use of this method allows us to conclude that the degree of reduction in systolic pressure in the PA during PA narrowing to a certain extent is empirical.
Many years of practical experience and scientific and practical internships at the Berlin Cardiology Center of the Federal Republic of Germany in the period from 2005 to 2011 under the guidance of my teacher - Professor V.V. Alexi-Meskhishvili allowed me to develop a new method of narrowing (narrowing) of the pulmonary artery during HPH in patients with congenital heart disease [13,14,16,22,23].
The method is based on a different approach to the problem: the pulmonary artery is narrowed to standard values in order to normalize the minute volume of blood flow in the pulmonary circulation and, consequently, reduce systolic pressure in the pulmonary artery. Calculations are made using mathematical formulas.

PURPOSE OF THE STUDY

To determine the advantages and evaluate the effectiveness of the dosed narrowing of the pulmonary artery (DNPA) by the method of cardiac surgeon R. Z. Madiev in sick children with VSDs complicated by HPH.

MATERIAL AND METHODS OF RESEARCH

From 2005 to 2022, 22 operations to narrow the pulmonary artery trunk in children with congenital defects were performed in the departments of cardiac surgery of the Tashkent Pediatric Medical Institute, the Samarkand branch of pediatric surgery of the Tashkent Specialized Scientific and Practical Medical Center of Pediatrics and the Utanpolvon clinic of the Termez branch of the Tashkent Medical Academy. hearts using our own method. Of these, 1 patient was operated on with a diagnosis of a complete form of patent atrioventricular canal, 1 patient was diagnosed with a single ventricle of the heart and transposition of the great vessels without pulmonary artery stenosis. In both cases there was HPH. The remaining 20 patients were operated on for VSDs, also complicated by HPH. The age of the patients ranged from 8 months to 14 years. Of these, there were 2 male children and 20 female children. The operations were performed on a “beating heart.” All patients had stage IIIA and IIIB HPH, as well as functional class II-III and III according to NYHA. Patients with Eisenmenger syndrome were not operated on.
The condition of the patients was serious in all cases. The examination of patients was comprehensive and did not include probing of the heart cavities and angiography. The main research method for determining indications for surgery and postoperative monitoring was D-EchoCG. All patients underwent DNPA according to the technique of cardiac surgeon R.Z. Madiev.
When developing this method, we took into account the fact that under normal conditions the minute volume of the pulmonary circulation is always equal to the minute volume of the systemic

circulation. Consequently, when the pulmonary artery narrows to normal values, systolic pressure in the pulmonary circulation should also decrease to normal values.

The method consists of precise dosed narrowing of the pulmonary artery to normal values, regardless of the child's age. The method is based on the use of mathematical formulas and a special table proposed by Kirkling [22], which determines the diameters of normal heart valves depending on the patient's body area.

To narrow the pulmonary artery using our method, it is necessary to take three mathematical steps: **First step.** First, we determine the surface area of the body of the sick child using the following formula: BSA = √ AxB/3600 (m2), where A = height of the sick child in cm, B = body weight of the sick child in kg. This formula was developed by American biostatistician John Mosteller and was published in 1987 [23]. It is distinguished by its accuracy and simplicity. **Second step**. After obtaining BSA (m2), we determine the proper diameter of the pulmonary artery in a sick child (mm) required for narrowing, using Kirkling's nomogram [22]. Here you need to understand that the resulting diameter of the pulmonary artery is at the same time the diameter of the pulmonary artery of a healthy child with the same body area (Table No. 1).

Diameteres (mm) of Normal Cardiac Valves* (Table No. 1).

BSA (m^2)	Mitral		Tricuspid		Aortic		Pulmonary	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
0,25	11,4	9,8-13,0	13,4	11,8-15,0	7,2	6,2-8,2	8,4	7,3-9,6
0,30	12,5	10,9-14,2	14,9	13,3-16,5	8,1	7,1-9,1	9,3	8,2-10,5
0,35	13,5	11,9-15,2	16,2	14,5-17,8	8,8	7,8-9,8	10,1	8,9-11,2
0,40	14,4	12,7-16,0	17,3	15,6-18,9	9,5	8,5-10,5	10,7	9,6-11,9
0,45	15,1	13,5-16,7	18,2	16,6-19,9	10,1	9,1-11,1	11,3	10,2-12,5
0,50	15,8	14,1-17,4	19,1	17,5-20,7	10,6	9,6-11,6	11,9	10,7-13,0
0,60	16,9	15,3-18,6	20,6	19,0-22,2	11,4	10,4-12,5	12,8	11,6-13,9
0,70	17,9	16,3-19,5	21,9	20,3-23,5	12,2	11,2-13,2	13,5	12,4-14,7
0,80	18,7	17,1-20,4	23,0	21,4-24,6	12,8	11,8-13,8	14,2	13,0-15,3
0,90	19,5	17,8-21,1	24,0	22,3-25,6	13,4	12,4-14,4	14,8	13,6-15,9
1,00	20,1	18,5-21,8	24,8	23,2-26,5	13,9	12,9-14,9	15,3	14,1-16,4
1,20	21,3	19,7-22,9	26,3	24,7-28,0	14,8	13,8-15,8	16,2	15,0-17,4
1,40	22,3	20,6-23,9	27,6	26,0-29,2	15,6	14,6-16,6	17,0	15,8-18,1
1,60	23,1	21,5-24,8	28,7	27,1-30,3	16,2	15,2-17,2	17,6	16,5-18,8
1,80	23,9	22,2-25,5	29,7	28,1-31,3	16,8	15,8-17,8	18,2	17,1-19,4
2,00	24,5	22,9-26,2	30,6	28,9-32,3	17,3	16,3-18,3	18,7	17,6-19,9

*Kirklin/Barratt-Boyes. Cardiac surgery. Third edition. - 2003. - Volume 1: 36.

Third step. We calculate the length of the braid (Lb., mm), which narrows the pulmonary artery of a sick child to normal values for such a surface of the body. We use the mathematical formula [16] to calculate the circumference: 2 x Pi (3.14) x R (mm), where R is the radius of the pulmonary artery of a healthy child. It is clear that the length of the braid = Lb (mm) = perimeter R_{PA} (mm).

RESULTS AND ITS DISCUSSION

In 25-50% of cases, large VSDs are complicated by pulmonary hypertension, and in approximately half of these cases, HPH. Radical correction of VSD with group IIIA-B HPH is accompanied by high morbidity and mortality [2-7].

In large VSDs, left-to-right shunting can account for 70% of the blood ejected by the left ventricle. A large discharge of blood from the left ventricle causes a decrease in the minute volume of the systemic circulation and a sharp increase in the minute volume of the pulmonary circulation. Severe pulmonary hypervolemia occurs.

However, the stabilization period cannot continue for a long time, since other compensation mechanisms are activated. The main one is the restructuring of the pulmonary vessels, operating under submaximal or maximum load under high pressure. In the early stages of the development of hemodynamic disorders, an increase in pressure in the vessels of the pulmonary circle begins with a reflex spasm of the pulmonary vessels, and then morphological changes occur in them. The restructuring begins with a thickening of the middle shell of small arteries, a decrease in their lumen, up to complete obliteration. At the same time, sclerosis of areas of other vessels occurs, i.e., a reduction of the vascular bed occurs. This process in some cases lasts for years, and sometimes develops at lightning speed.

A major role in the development of pulmonary hypertension in VSDs is played by the hydrodynamic factor of pressure transfer from the left ventricle to the pulmonary vessels, when, especially with high defects, the blood stream is sent directly to the PA and hemodynamic disturbances quickly progress. Pulmonary vascular resistance, increasing, reaches the values of peripheral vascular resistance, and then exceeds it. Pulmonary arterial pressure reaches the level of pressure in the systemic circle and then exceeds it. When the systolic pressure in the right ventricle is at rest 70% of the systolic pressure in the aorta or above this level, the discharge of blood begins to be cross-shaped, and then becomes reversed - from right to left (veno-arterial). The right ventricle experiences greater systolic overload and begins to hypertrophy. HPH of an acquired nature in this case corresponds to Eisenmenger syndrome.

Moreover, there is a direct relationship between the degree of pulmonary hypertension and the size of the defect. Large defects are considered to be defects from 1 cm or those that exceed half of the aortic mouth in size and they often lead to the development of HPH.

Sick children were subjected to thorough examination. During interpretation of the electrocardiogram, the degree of ventricular overload, the presence and severity of pulmonary hypertension were determined, and signs of arrhythmia and cardiac conduction disorders were determined. For obvious reasons, phonocardiography was not used. One of the main methods of examining patients before surgery and monitoring in the postoperative period was chest radiography. On radiographs, we determined the strengthening of the pulmonary pattern, expansion of the pulmonary artery trunk and its branches, and a significant increase in heart size (Fig. No. 1). Pulse oximetry was used to determine the degree of oxygen saturation in the blood - low levels were signs of serious problems with the cardiovascular system.



Rice. No. 1. X-ray in the anteroposterior projection of patient M., aged 6 years, December 2018, with a diagnosis of congenital heart disease. VSD (20.0 mm, perimembranous)

The main instrumental method of examining and monitoring patients was EchoCG and D-EchoCG. Echocardiographic signs of VSD with HPH in our observations were dilation of the PA trunk, right atrium and right ventricle, thickening of the wall of the right ventricle above normal (5-6 mm), increased pressure in the PA trunk and right ventricle (during Doppler study), change in the direction of discharge blood at the level of the VSD (cross-discharge or discharge from right to left), the appearance of insufficiency of the pulmonary valves and tricuspid valve.

It is clear that probing the right cavities of the heart makes it possible to detect increased pressure in the pulmonary artery and in the right ventricle, as well as increased oxygenation of venous blood. However, we did not use this method, taking into account the high diagnostic value of EchoCG and D-EchoCG and its non-invasiveness. For the same reasons, of course, they also did not use the method of cardiac catheterization - angiocardiography.

The degree of PH was assessed using EchoCG and D-EchoCG and compared with the classification of PH in congenital heart disease with increased pulmonary blood flow according to V.I. Burakovsky et al. (1975).
Indications for surgery in children with VSD were severe and progressive high pulmonary hypertension; persistent or recurrent NC, difficult to treat with medication; frequent respiratory diseases and malnutrition. In these cases, the risk of radical surgery was very high. The operation made it possible to reduce NK and survive the "critical" period. The main purpose of the narrowing was to reduce pressure in the pulmonary artery, reduce the amount of blood discharge through the VSD, as well as prevent postoperative right ventricular failure during the second stage of the operation - radical correction of the defect . We present the progress of the DNPA operation according to the method of R.Z. Madiev.

PROGRESS OF THE DNPA OPERATION ACCORDING TO R. Z. MADIEV'S METHOD:

Surgical access is standard. We perform an anterior thoracotomy on the left along the third intercostal space using a mini-access with a skin incision length of 5.0-6.0 cm.

We open the pericardium in front and parallel to the left phrenic nerve, about 6.0 cm long. We take the edges of the pericardium on holders. After forming a tunnel between the aorta and the pulmonary artery, we place a thick ligature (silk No. 8) between them and take its ends into a soft clamp. This stage is the most critical due to the risk of bleeding and arrhythmia.

Next, we take a pre-prepared thick silk braid about 5.0 mm wide and about 30.0 cm long. We place a sterile metal ruler under the braid. Next, assistants stretch the tape on both sides on a metal ruler. The surgeon makes a mark in the middle of the braid in the form of a knot with 5/0 (6/0) prolene. We will consider the mark to be the zero point. Next, stepping away from it to the right, at a pre-calculated distance we sew the braid with a "P"-shaped seam using a non-absorbable 2/0 (3/0) bond with a double-sided stabbing needle. We bring the tape to the surgical wound. The left edge of the braid is connected by stitching to the lateral end of the silk. Next, by carefully pulling up the medial (free) end of the silk ligature, we draw the braid under the PA. After this, we pass both etibond needles at the level of the mark through the braid.

Next, we tie the ends of the etibond together and begin to gradually tighten the knot to the end, under hemodynamic control. The braid wraps around the walls of the aircraft and it tapers to a pre-calculated diameter. In this case, the patient's blood pressure rises by at least 10 mmHg, and SaO2 usually does not fall below 94%. Hemodynamics remain stable.

After this, we tightly tie the etibond several times with the girth of both sides of the braid at the level of the etibond knots and cut at a distance of 1.5 cm from the knot. Next, we fix the band with interrupted sutures to the side wall of the pulmonary artery with 4/0 prolene to prevent slipping. During inspection - palpation of the PA trunk above the site of narrowing, we determine the appearance of pronounced systolic tremor.

We place rare sutures on the edges of the pericardium. We complete the operation as standard, leaving a drainage tube in the pleural cavity for active drainage. Cosmetic stitches on the skin.

In 19 out of 20 patients (95%) the operations were successful. By the time of discharge from the hospital, 19 out of 20 sick children became candidates for the final second stage of correction of

congenital heart disease. There was 1 death.

After operations, patients develop a distinct systolic murmur in the projection of the pulmonary artery, positive dynamics of the clinical manifestations of the defect are noted - shortness of breath and the frequency of inflammatory processes in the respiratory system decrease, exercise tolerance increases. The SaO2 indicator remains stable and is at least 96%. Moderate sinus tachycardia and tachypnea are observed for several days after surgery. In these cases, we use cardiac glycosides, oxygen therapy (at 2-4 L/min), as well as cardiac metabolic therapy to adapt the cardiorespiratory system to new hemodynamic conditions after narrowing of the pulmonary artery. There was no need to use catecholamines and dopamine. In the area of narrowing of the PA, according to D-EchoCG, a pronounced systolic pressure gradient (at least 30 mmHg) appears, indicating a sufficient reduction in pulmonary hypertension. In the immediate period after surgery, the direction of blood discharge to the VSD remains cross or a dominance of the left-right shunt with a slight pressure gradient is observed. All patients also have positive radiological signs - a decrease in hypervolemia and an enhanced pulmonary pattern in the pulmonary circulation, clearing of the pulmonary fields, especially in the hilar zones of the lungs. With the isolated application (only narrowing of the PA) of the technique in 19 children, unlike other authors, no mortality was observed. Moreover, the "medication burden" is definitely reduced while waiting for the second stage – radical correction of congenital heart disease, as well as dependence on specific therapy for HPH.

Two patients had complications. In the first case, a one-year-old child with VSD and HPH was on prolonged mechanical ventilation for a long time due to postoperative bilateral pneumonia. Of the concomitant diseases, grade 2-3 malnutrition was noted. She subsequently underwent a tracheostomy and was transferred to the ENT department of the clinic for further treatment.

In the second case, a sick child diagnosed with congenital heart disease. VSD (high, perimembranous, 10.0 mm in diameter) complicated by VLH also suffered from extreme III degree malnutrition. At the age of 1 year 4 months, the child's weight was only 6.3 kg. In the preoperative period, during repeated D-EchoCGs in different medical institutions, a "silent patent ductus arteriosus (PDA)" with a diameter of about 1.0 cm (huge for a sick child with low weight) was not diagnosed. Before admission to us, the patient did not receive cardiac therapy. The condition of the sick child upon admission was extremely severe. D-EchoCG indicated a VSD with HPH (discharge at the level of the defect was bilateral, acceleration of blood flow was noted on the PA trunk). Surgical access for the purpose of dosed narrowing of the PA was carried out from the anterior minithoracotomy on the left along the third intercostal space. During the audit, a "silent PDA" was discovered, which was located atypically - above the origin of the left subclavian artery from the aorta (in the projection of the location of the aortopulmonary window). With some technical difficulties, the PDA was ligated and additionally clipped. Next, a moderate narrowing of the LA was performed to 12 mm in diameter. However, from the very beginning of the operation, signs of acute heart failure (low blood pressure, sinus tachycardia, oliguria) were observed. After the main stage of the operation, the signs of acute heart failure intensified and did not respond to drug correction. In the postoperative period, intensive cardiac therapy was continued in the operating room. However, the cardiorespiratory system was unable to adapt to the new circulatory regime. 2 hours after the operation, an unfavorable outcome of the disease and the operation was stated against the background of acute heart failure.

CONCLUSION

In patients with VSDs complicated by HPH, it is necessary to carefully perform EchoCG and D-EchoCG examinations to exclude or confirm concomitant congenital heart defects, primarily "silent

PDA". If it is suspected, it is necessary to recommend multislice computed tomography in 3D mode or an angiographic study. In the case of a combination of a VSD and a large PDA, complicated by HPH, during the first stage of the operation, it is recommended to limit oneself to only ligation of the PDA without narrowing the PA.

DNPA according to the method of R.Z. Madieva differs from other methods in that during the operation a mathematical approach is used that accurately determines the length of the tapering band, regardless of the age of the sick child.

DNPA according to the method of cardiac surgeon R.Z. Madiev, based on a mathematical approach, allows you to effectively narrow the PA to its normal size, normalizes the minute volume of the small kg of blood circulation and reduces HPH in children with VSD. In this case, there is no need to use intraoperative tensiometry, it is possible to significantly reduce the "medication burden" for patients after surgery [2], as well as the dependence on specific therapy for HPH before the second final stage of correction of the defect.

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THE RHETORICAL IDEAL IN KAZAK LAW OF BIYS

Written within the framework of the project «Scientific concept of Kazakh rhetoric: rhetorical ideal, identity, argumentation and speech practice»

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Abstract

The topicality of the stated topic is determined by the study of cultural and national identity of Kazakh medieval law in the judicial practice of biys. The aim of the paper is to study the Kazakh rhetorical ideal in the aspect of such criteria as the ideal speaker and the ideal speech. The subject of analysis is the linguistic personality of the biy, speech influence techniques, the influence of Kazakh ethical ideas and norms of behaviour as a factor of "harmonising speech impact". The rhetorical ideal is analysed in connection with the national constants of Kazakh national and communicative consciousness. The object of study is the ways of creating the national world picture by Tole biy, as well as the ways of embodiment of national linguistic personality of the biy. It is shown the historical and cultural conditionality of effective communication between the biy and the listener. The reflexion of the biy is analysed with the help of stories about himself, his contemporaries, customs and manners of the people. The methods of the author's existential impact on the listener are considered. Thus, the varieties of cultural and national explications of value-speech dominants of the rhetorical ideal are generalised. The paper establishes the meaning and place of value concepts of the Kazakh people, shows the reflection of the national concept sphere through the transmission of symbols, mythological poetics, appeal to logical riddles, parallelisms, and allegory. The role of Kazakh legal proverbs characterising the norms of case law is highlighted. The paper applies the methods of non-rhetorical analysis, conditioned by the study of the situation of decision-making by the biy and its impact on the listener as a communicative act. The analysis of the biy's communicative strategy and the instruments of influence used by him in order to persuade in the objectivity and fairness of the decision, the sequence of speech actions produced by him includes the consideration of the speaker's intention, the implementation of the intention and the listener's recognition of the biy's intention. The comparative-historical, historical-typological, linguo-concept logical, linguo-cultural and linguo-pragmatic methods are also applied in the work. Theoretical and practical significance of the topic is determined by the study of legal rhetoric from the perspective of speech impact on the material of Kazakh steppe law with the help of rhetorical techniques that contribute to the education of patriotic consciousness and civil outlook on the basis of historical and cultural values and the mastery of student's effective speech culture.

Keywords: Kazakh steppe law, rhetorical ideal, cultural and national identity, national world picture, speaker, listener.

GENRE OF DIALOGUE-DISAGREEMENT IN ZHYRAU POETRY

Written within the framework of the project «Scientific concept of Kazakh rhetoric: rhetorical ideal, identity, argumentation and speech practice»

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Abstract

The article deals with the analysis of such a genre in the poetry of Asan Kaigy and Shalkiyiz zhyrau as an appeal to Khan. Three songs of Asan Kaigy's address to Khan Zhanibek and two tolgau (reflection) to Khan Temir by Shalkiyiz Zhyrau are analysed from the socio-historical point of view and in the aspect of cultural and national identity. The genre's metacommunicative function and the image of the message's addressee as a recipient are studied in the spirit of the modern praglinguistic approach. The subject of the study is the factors of communicative (terminal) discordance and the ways of excplicit and implicit expression from the author's position. The controversial situation and the speaker's conflictual communicative / speech strategy illuminates the reasons for the break-up of Zhyrau and Khan as a textual event of the poet's meta-communicative reflection. In accordance with G. Geisner's classification, the signs of phatic and rhetorical dialogue are revealed. The examples characterising Zhyrau's critical meta-position in relation to the event of communication and to the addressee of the speech are given. The impact of the poet on the addressee takes the character of explicit forms, while the implicit listener (the people) complements the image of the addressee and creates a second, but no less important image of the addressee and the recipient. This approach allows us to solve rhetorical and hermeneutical problems, which consist in analysing the impact of the poet on the emotions (feelings) and rational sphere (consciousness and thinking) of the recipient. Attention is also paid to the predisposition of communication: this is the appeal of zhyrau to the listeners - khan and the implied listener (people), interpretative dispositions of the optimal addressees of the message. The toposes of power, freedom, and conflict of understandings are systematised, because of which the conflict of institutional and particularistic values embodied by the Khan's power and the freedom of the Zhyrau as a private person and spokesperson of popular opinion, on the other hand, is shown. Such a point of view contributes to the study of the process of controlling Zhyrau by the consciousness

of his listener. The scientific novelty of the work is the implementation of the address-centered approach to the artistic text. The use of methods of linguistic pragmatics and linguodidactics, speech act theory, interpretive stylistics and philological hermeneutics present prospects for a transdisciplinary approach. The practical significance of the work is to update the educational process with new methods of analysing the artistic text and formation of linguoritorical competence of students.

Key words: zhyrau, appeal to Khan, cultural and national identity, metacommunicative reflexion.

INTRODUCTION

Medieval zhyrau poetry, which has its roots in the national worldview, serves as one of the examples of constructing the genre of dialogue-disagreement. It represents a dialogic text as an event of communication. For example, the poetry of Kazakh poets of the 16th century, such as Asan Kaigy and Shalkiiz zhyraus, reflects the historical events of the formation of the Kazakh Khanate, allowing us to describe the uniqueness of the Kazakh conceptual sphere. These talented zhyraus were able to portray significant historical events in their songs. This is evident, for instance, in Asan Kaigy's song addressed to Khan Zhanibek, one of the founders of the Kazakh Khanate, and in the songs of Shalkiiz zhyraus addressed to Temir Khan of the Golden Horde. According to historical records, Asan Kaigy, a social activist, philosopher, and poet, was a contemporary of several khans and served as an advisor to Khan Zhanibek. Shalkiiz was an advisor to the ruler of the Nogai Great Horde, Khan Temir. The renowned writer and scholar M. Magauin spoke about the role of this zhyraus: "Throughout his long life, he traveled across the Desht-i-Kipchak, known as the first akyn of his time; ...spent his entire life in struggle; did not yield to the rulers of his time, and did not deviate from what he considered right" (Magauin, 1984, p. 5).

The relevance of this topic is justified by the study of three songs – Asan KaIgy's addresses to Khan Zhanibek **“Ай, хан, мен айтпасам…” [Ai, khan, men aitpasam…]** and two tolgaus (a genre of contemplation) by Shalkiiz zhyrau addressed to Khan Temir, “**Би Темірге бірінші толғау” [Bi Temirge birinshi tolgau]** and **“Би Темірдің хаж сапарынан тоқтауға айтқаны” [Bi Temirdiñ khazh saparynan toqtauğa aıtqanı],** from a socio-historical perspective and in terms of cultural and national identity.

The objective of this work is to analyze the poet's impact on the emotional (feelings) and rational sphere (consciousness and thinking) of the recipient, on one hand, and to justify the influence on the genre of dialogue-disagreement, on the other. This objective required the resolution of the following tasks: 1) the investigation of predisposition to communication, i.e., the ways in which zhyraus appeal to their listeners – the Khan and the implied listener (the people) in relation to interpretational dispositions of optimal message recipients; 2) the synthesis of topoi of power, freedom, conflict of understanding, and, accordingly, the description of the conflict between institutional and particular values, symbolizing the authority of the Khan and the freedom of the zhyraus as individuals and representatives of public opinion; 3) the study of the process of managing the listener's consciousness by zhyraus; 4) the analysis of the conflict situation and the communicative-discursive strategy of the speaker; 5) the examination of the situation of rupture between the zhyraus and the Khan as a textual event of meta-communicative reflection by the poet. The subject of the study became the factors of communicative (terminal) disagreement and the ways of explicit and implicit expression of the author's consciousness.

MATERIALS AND METHODS

The methodological foundation of this article is based on the research of both foreign and domestic scholars, particularly the works of M. Babushkina, O. Bogatyreva, and G. Geisner, with a reliance on contemporary achievements in linguistic pragmatics, linguodidactics, typology of communicative/speech acts, hermeneutics, and the pragmatics of meta-communicative utterances. A review of the sources related to the research topic reveals several pertinent questions to be addressed in this report.

The choice of analyzing dialogic dissonance from the perspective of national identity highlights the importance of understanding the meta-communicative function of the genre and the image of the message's addressee. To address this task, the following directions in contemporary science appear promising. Firstly, it involves the examination of the national worldview from a literary perspective. The worldview in art presents an intriguing subject of study concerning a value system in which the "national" is intricately connected with individual-authorial, social, and existential (religious, existential, natural, etc.) aspects. The literary analysis of the national worldview is constructed around the interpretation of the text's movement "from the national linguistic worldview to ethnopoetics," allowing us to trace the process of transforming interconnected words into an artistic world image. As noted by the scholar, "in literary research, the national worldview can be primarily described through the identification of ethnic specificity within the artistic space and time, the fundamental structural elements of the artistic model of the world" (Kablukov, 2023, p. 165-166).

Secondly, the analysis of national color from the standpoint of linguistic representation becomes relevant in light of the connection between values and the features of linguistic and ethnocultural thinking. According to a scholar who studied this relationship, "Linguistic information about the value system reflects the mental peculiarities of a people and the uniqueness of the worldview of representatives of a particular national culture" (Agarba, 2023, p. 80). Applied to the linguistic-rhetorical examination of zhyrau songs as pragmatic expressions, this influence of folk ethical and spiritual values on a person's worldview constitutes the content of zhyrau songs. Thus, poets' notions about knowledge, behavior, actions, and righteous living "reflect the frequency of such value orientations as Word/Speech, Dignity/Honor, Family/Clan/Nation, the Ideal of a Ruler..., contributing to the description of the worldview" (Urazaeva, 2023, p. 203).

Thirdly, to describe the constants of Kazakh self-awareness, it is essential to consider the "catalog" of values that have shaped the national conceptual sphere. When analyzing the poetic system of zhyrau, K. Zhanabaev pays attention to "geographical and historical names, proper names, historical nicknames. According to him, "...a name is a special linguistic sign representing a condensed diachronic national-cultural text, the first keeper of the national-historical, cultural-domestic, religious consciousness of the analyzed period of literature"" (Zhanabaev, 2007, p. 153). In the songs, the names of khans such as Zhanibek, Temir, and the names of rivers like Edil and Zhaiyk are mentioned.

A separate set of questions should be focused on the communicative situation of dissonance as a textual event. Aristotle himself isolated the factor of communication effectiveness as clarity of speech: "If speech is not clear, it will not fulfill its purpose; ambiguous expressions should not be used unless the opposite is intentionally done" (Aristotle, 2000, p. 102). The development of ideas

from ancient poetics has shifted into the context of a "high-profile presentation," in relation to the control of communication, the meta-communicative function, and the image of the message's addressee. According to research, the meta-addressing function in communication characterizes communicative discord: "...in the rhetorical construction of the speaker with reproach, the message is directed directly at the interlocutor but is rhetorically addressed to a qualitatively different recipient" (Bogatyreva et al., 2015, URL). Applying the results obtained by the scholar allows us to identify in the dialogue of dissonance in zhyrau poetry the rule of exact correspondence of the addressee's image to the genre of communication, or the "conformist in the dialogue with pressure/opponent in the debate" as a key presupposition of constructive interpersonal speech interaction (Bogatyreva et al., 2015, URL). This contributes to the establishment of methods for constructing the genre of dialogue of dissonance in the context of meta-communicative reflection by the poet and its impact on the listener on the one hand, and the reasons for the disruption of communicative agreement with the Khan on the other.

In a pragma-linguistic dimension, the analysis of meta-communicative information (information about the specificity of a communicative event) is significant. The methods of implicit (aimed at an insightful recipient) and explicit expression of meta-communicative information attribute the status of a textual event to meta-communicative reflection.

The analysis of the ways in which zhyrau affects the listener contributes to the reconstruction of the national worldview as a result of zhyrau's reflection. In this regard, the works of Babushkina dedicated to meta-communication, meta-communicative function, and meta-communicative reflection are methodologically significant for us. The analysis of meta-communication as a "continuous sequence of exchanges of utterances that contribute to the establishment of positive relationships between communicants" (Babushkina, 2016, URL) signifies the role of feedback, indicating the recipient's reaction through their signal responses. Hence, the scholar defines meta-communication as a meta-text in the form of authorial comments.

In the communication system, the role of the illocutionary potential of a speech act is evident in the case of its misinterpretation by the listener. The presence of commentary on the message (its elements); any manifestation that clarifies the communicative intentions of the interacting subjects; phenomena that elucidate the content and form of various linguistic units constituting the process of interaction; and the phenomenon related to the overall organization of verbal interaction, regulating and controlling the communication process (Gurochkina, 2009, p. 53) becomes the basis for the systematization of explicit forms of illocution.

An important aspect in the study of the genre of dialogue is its typology. Such is the classification of the genre of dialogue developed by G. Geisner based on communicative function: factual dialogues, necessary for maintaining harmonious relationships between communicants; rhetorical dialogues, aimed at changing socio-economic existence; aesthetic dialogues, allowing the interpretation of reality; therapeutic dialogues, eliminating functional disturbances of communication subjects; and meta-communicative dialogues, enabling the reflection on communicative behavior (Geisner, 2011, p. 25). This classification is based on the idea that the function of reflection and interpretation correction corresponds to one of the five main classes of dialogue identified by G. Geisner.

In summary of the presented viewpoints, it is worth noting that the resolution of rhetorical and hermeneutic tasks, in conjunction with a pragma-linguistic approach, allows us to study the meta-

communicative function of the genre and the image of the message's addressee, their role in the construction of the genre of dialogic dissonance.

DISCUSSION

The Genre of Dialogic Dissonance from a Socio-Historical Perspective

In the repertoire of zhyrau, two genre forms prevail: improvisation of didactic content addressed to everyone and improvisation for a specific occasion, with a direct cause and recipient. Although Asan Kaigy predominantly favored the first form, his work "**Ай, хан, мен айтпасам, білмейсің…" [Ai, khan, men aıtpasam, bilmeyisiń…] ("Hey, Khan, if I don't tell, you won't know…")**, written in his old age, has a real historical context. The reason for such a message to the Khan was the poet's concern that the nomadic Kazakh people would lose their freedom due to "…the presence of Russian Imperial colonial outposts on the nomadic expanses of the Irtysh and the Russians' move to the Asian side of the Volga River leading to colonialism. Zhyrau urges Khan Zhanibek to leave Astrakhan and move the capital of the Khanate to the nomadic steppe…" (Kurmanova, 2022, p. 33). This "philosopher of the nomadic Nogai-Kazakh people" aimed to create a unified state from related tribes (Valikhanov, 1984, p. 287) and, in a sharp manner, called upon Khan Zhanibek to take political measures to form an independent state. In the message, it is evident how the poet is deeply concerned about national matters, and he is overwhelmed by anxiety for the future destiny of the people: "*Шабылып жатқан халқың бар, / Аймағын көздеп көрмейсің*" [Shabılıp jatqan xalqıñ bar, / Aimağın közdep körmeysiñ] ("*You have a people who are under attack, / You don't pay attention to what surrounds you*")[1]. However, the headstrong khan did not heed the advice of the elder, leading to a rupture between the khan and the poet. This message, full of drama and sharp criticism of the khan's policies, serves as evidence of the significant involvement of the zhyrau in the country's political life.

In the verses of Shalkiiz zhyrau, the worldview of a warrior-nomad is depicted, as well as concepts of honor, the duty of a person, and their beliefs. The thematic range of his lyrics is quite broad, but the most profound ideas expressed are found in two addresses by Shalkiiz to Khan Temir: **"Би Темірге бірінші толғау" [Bi Temirge bırınşı tolgau] ("The First Address to Bi Temir")** and **"Би Темірдің хаж сапарынан тоқтауға айтқаны" [Bi Temirdiń haj saparynan toqtauǵa aitqany] ("The Advice to Bi Temir to refrain from Pilgrimage")**. In the first address, while praising Temir, the poet expresses his resentment for the humiliation he suffered, whereas in the second discourse, he prophetically reflects on the fate of the entire people and dissuades the Khan from making a pilgrimage to Mecca. In these two addresses, the defiant nature of the highly gifted poet and the mighty figure of a noble warrior emerge vividly. His ostensibly panegyric verses serve not so much to praise the ruler as to reveal the image of zhyrau himself (Poetry of Zhyrau, 1987, p. 42).

Meta-communicative reflection of zhyrau as a factor in the construction of dialogic dissonance

Overall, the majority of Asan Kaigy's works are united by the idea of the unity of all Turkic tribes that make up the Kazakh Khanate. The constant needs of his people, feuds, and internal conflicts, questions of honor and the dignity of the nation - these are the central themes of zhyrau's philosophical reflections. In the song **"Ai, khan, if I don't tell, you won't know…"**, Asan Kaigy speaks about the

[1] The songs of the zhyrau are quoted from the edition: Bes gasyr zhyrlaidy / Compiled by M. Magauin and M. Baidildaev. Almaty: Zhazushy, 1989. Vol. 1. 256 p.
The cited pages are indicated in round brackets.

necessity of strengthening the Khan's authority, expressing his frustration with the Khan's inaction and his forgetfulness of his sacred duty to the people. Here, the six-fold repetition of the rhetorical question: "*Оны неге білмейсің?!" / "Мұны неге білмейсің?!*" *["Oni nege bilmeysiñ?!"/ "Muni nege bilmeysiñ?!"] ("Why don't you know about this?")* illustrates the request for clarification in the speech interaction to achieve a positive communicative effect. The recipient's inaction intensifies the poet's indignation and protest against the Khan's policies. In this case, we observe not just one "meta-communicative utterance" but a whole "meta-communicative speech act" (Babushkina, 2016, URL). Zhyrau attempts to organize the development of the communicative situation in his favor; it's a kind of meta-communicative commentary – a recommendation for behavior. He reproaches Khan Zhanibek for his inaction and concern for personal gain: "*Аймағын көзден көрмейсің. / Қымыз ішіп қызарып, / Мастанып, қызып терлейсің" [Aımağyn közdep körmeyisiń / Qymys ışıp qızarıp, / Mastanyp, qyzyp terleisiń] ("You don't see what surrounds you / Sipping kumys, blushing, / Getting drunk, sweating with excitement*"). As a true sage, the poet is concerned about the fate of the people: "*Шабылып жатқан халқың бар" [Shaılyp jatqan halqıñ bar] ("You have a people who have been attacked").*

In contrast to Asan's address to Khan Zhanibek, Shalkiiz's addresses extol the image of an ideal ruler. Shalkiiz's songs are closely tied to the time of the disintegration of Turkic states, and therefore, the central theme of his songs is calls for tribal unity and the necessity for warriors to remain steadfast. Researchers consider the song "The First Address to Bi Temir" as "maqtau" (a genre of praise song), and Temir as an embodiment of the ideal ruler. While Shalkiiz greatly admires Khan Temir, he still asserts his right to independent judgment. Addressing Temir as "*Сұлтан ием, сен менің" [Sultan iem, sen meniń] ("You are my master"),* zhyrau enthusiastically proclaims: "*Сен - алтынсың, мен - – пұлмын, / Сен - сұлтансың, мен – құлмын" [Sen - altynsyń, men – pulmyń, / Sen - sultansyń, men – qulmyn] ("You are gold, I am silver, / You are Sultan, I am a slave"*). The image of the sacred bird, sunqar ("*Сен – сұңқарсың, мен – құмын" [Sen – suñqarsıñ, men – qumıñ] – "You are a falcon, I am a swan"),* symbolizes freedom, which the poet considers the highest value in a person's life. The scholar notes: "He seeks to establish the high authority of the latter, attributing him, in ancient tradition, to the chosen ones of heaven. The divine election of the ruler in Shalkiiz is combined with a denial of the inheritance of nobility. He allows for both the birth of a worthless person from a great ancestor and a talented, bright personality from a commoner – "a beautiful stallion from a simple mare"" (Karenov, 2023, URL). In this discourse, which represents a kind of philosophical-aphoristic poetry, zhyrau divides people into "good" and "bad", presenting the moral code of a person: "*Ақылсыз достыдан / Ақылды дұшпан артық*" [*Aqylsıy dostydan / Aqyldy dushpan artyq] ("A foolish friend is worse / Than a wise enemy").*

In the address **"The Advice to Bi Temir to Refrain from Pilgrimage**," Shalkiiz predicts a dishonorable death and the demise of the people if Temir's unconsidered actions, such as his decision to make a pilgrimage to Mecca, are pursued. In it, instruction is interwoven with the glorification of the Khan and prophecy. Shalkiiz asks Bi Temir to renounce his Pilgrimage for the sake of the people: *"Етектеп жиған көп халқың, / Сұлтан ием, кімге асмар етерсің!" [Etektep jiğan köp halqyñ, / Sultan iem, kimge asmar etersiñ!] ("A gathered handful of numerous people, / My ruler, whom are you leaving for!"*). The poet portrays qualities of the ruler such as strength and wisdom, using symbols and comparisons: *"Боз сұңқарым өзіңсің!" [Boz suńqarım özińsiń!]* ("*You are my gray falcon!*").

Communicative Conflict as a Source of Dialogic Dissonance

M.D. Shaimerdenova, defining the historical role of zhyrau, notes: "…zhyrau were often found alongside the powerful of this world – rulers and khans, and they were not only improvisational poets, not only prophets, but also advisors to khans, tribal leaders of Turkic tribes, and military commanders. As sources testify, some of them came from the military aristocracy, prominent political figures, and most importantly, representatives of the entire people in the khan's court. Therefore, by occupying this niche within the people, zhyrau demonstrated to everyone, including the highest strata, that they feared nothing and no one" (Shameena, 2013, p. 133). In Asan's address **"Ай, хан, мен айтпасам, білмейсің…"** *[Ai, khan, men aitpasam, bilmeisiñ…,] you can find confirmation of this: "Without me, you won't know the truth, / And without the truth, the people will suffer / If you don't listen to me, / Then you'll easily lose everything"* (Kobyz i kopye, 2003, p. 69). The essence of the communicative conflict is that, as an advisor to Khan Zhanibek, zhyrau was aware of the threat to the people's safety: "*Шабылып жатқан халқың бар"* [Shabylyp jatqan halqyñ bar] ("You have a people who have been attacked"), "*Аңдып жүрген көп дұспан / Елге жау боп келеді" [Ańdyp júrgen kóp dúshpan / Elge jau bop keledi] ("Many enemies are watching (you) / These are enemies of the nation")*. Zhyrau advises, even demands, that the Khan fulfill his duty to the people. However, Khan Zhanibek's disregard for zhyrau's advice forces him to depart: "*Қош, аман бол, Жәнібек, / Енді мені көрмейсің!" [Qoşh, aman bol, Jańıbek, / Endi menı kórmeisiñ!] ("Farewell, Zhanibek, / You won't see me anymore!")*. This is the way in which the conflict is resolved in Asan's interpretation.

In Shalkiiz's messages, communicative conflict is less pronounced. "The gradation from Asan Kaigy, an uncompromising opponent of Khan Zhanibek (15th century), to Shalkiiz, a conscious supporter of national unity (16th century), determined the polarity of intonations – from protest to complete merging with the ruler" (Urazaeva, 2002, p. 156). In "**The First Address to Bi Temir**", we do not observe a sharp communicative conflict. Here, everything is built on contradiction: on the one hand, there is reverence for the ruler: "*Көп құлыңның бірімін" [Kóp qulyñńyń birímin] ("I am one of your many slaves"), "Арабы торым өзіңсің, / Жазылы, алтын, қол кескен" [Araby torym ózińsiń, / Jazıly, altyn, qol kesken] ("My bay stallion, you / A wide one, a golden one, with hands that carve")*. On the other hand, the poet repeatedly emphasizes that the ruler possesses the best qualities and has attained his current status only by the will of the Almighty: "*Терек емсе, мәңірі емми" [Terek etse, táńırı etti] ("If (the Almighty) made (you) a poplar, then He made (you) a poplar")*. As an advisor to Temir, Shalkiiz takes it upon himself to give instructions to the ruler. The next message by zhyrau, **"The Advice to Bi Temir to Refrain from",** from the perspective of reflecting communicative conflict and its resolution, is more intense compared to the first address. If the first address predominantly contains recommendations and advisory instructions, then in the second one, there are more accusations against the Khan due to his shortsighted policies and lack of concern for the people's fate: "*Атаңнан қалған көп халықты / Тек бір жардан құлаттың!"* [*Atańnan qalǵan kóp halyqty / Tek bır jardan qylattyń!] ("You have inherited a numerous people from your ancestors / Gave them a fall from the cliff!")*

The Image of the Addressee and the Methods of Influence by Zhyrau on the Listener

In the song **"Ai, khan, men aitpasam, bilmeyisin..."** Asan Kaigy criticizes the self-satisfaction of the Khan and creates such an image of him: "*Аймағын көздеп көрмейсің. / Қымыз ішіп қызарып, / Мастанып, қызып терлейсің…" [Aimaǵyn kózdep kórmeysiń. / Qymyz iship qyzaryp, / Mastanyp, qyzyp terleısiń...] ("You do not look around. / Sipping kumis, blushing, / Getting drunk, getting heated, then pouring sweat...*"). In doing so, the poet influences the emotional sphere of the audience. On the one hand, Zhyrau appears as an individual, a free person who enters into conflict with the Khan. On the other hand, by acting as a representative of the people and expressing the interests of

the common people, the poet manages the listener's consciousness: "*Шабылып жатқан халқың бар…" [Shabylyp jatqan halqyń bar…] ("You have a people who have been attacked...")*. Analyzing the meta-communicative function of language, scholars present it as "...a function that regulates the stages of communication in the phase of establishing contact, implementing the communication process, and breaking the contact..." (Babushkina, 2016, URL). Using this idea to analyze Asan's address allows us to establish at the beginning of the dialogue a "indirect encouragement to establish contact." The phase of establishing contact in zhyrau's address to Khan Zhanibek is the first lines of the song: "*Ай, Хан ием, мен айтпасам, білмейсің, / Айтқаныма көнбейсің" [Ai, Khan iem, men aıtpasam, bilmeisiń, / Aıtqanyma kónbeisiń] ("Hey, Khan, until I speak, you don't know, / I speak - you don't listen"), where there is already a lack of understand*ing between the communicants.

Conditionally, in the address, one can identify five semantic parts, each of which ends with a rhetorical phrase representing indirect encouragement to establish contact and expressing a question about the addressee's speech behavior: "*…Оны неге білмейсің?!" […Ony nege bilmeisiń?!] ("Why don't you know about this?!").* But at the same time, the expression "*Осыны Асан біледі…"* [Osyny Asan biledi…] ("Asan understands this...") demonstrates a conflict of understandings. The phase of implementing the communication process takes place in the subsequent semantic parts of the address when the poet first accuses the Khan of laziness and excessive ambitions, then appeals to Khan's customs and the commandments of ancestors that were violated by the addressee: "*Қатын алдың қарадан, / Айрылдың хандық жорадан, / Ел ұстайтын ұл таппас, / Айрылар ата мұрадан!" [Qatyn aldyñ qaradan, / Aıryldyñ handyq joradan, / El ustaityn ul tappas, / Aırylar ata mūradan!] ("You took a wife from the darkness, / You violated the customs of the Khans, / Will she give birth to a son capable of governing the people, / Having lost the heritage of the ancestors?").* Another level of implementing the communication process represents the parallelism of the images of the natural and social worlds, where the mongrel bird qúladyn (harrier) is correlated with the images of enemies ready to descend on the earth, and the killing of the noble swan will result in retribution for all enemies. In the final part of the song, when the problem of misunderstanding between the communicants in the dialogue-disagreement of Asan does not raise doubts, there is a "break in contact between the interlocutors" (Babushkina, 2016, URL). The desire to end the conversation is expressed by the addresser in the form of indirect encouragement: this is the author's rather sharp intention to stop the conversation and discuss something: "*Қош, аман бол, Жәнібек, / Енді мені көрмейсің!" [Qosh, aman bol, Zhanibek, / Endi meni kórmeisiń!] ("Goodbye, be well, Zhanibek, / Now you won't see me!")*. This way of resolving the conflict is also a kind of impact by the poet on the emotional sphere of both the implicit listener (the people) and the addressee, embodying the power of the Khan.

In the poem **"The First Message of Bi Temir"**, by Shalkiiz, there are also statements with imperative semantics: "*Есендікте малыңды бер де батыр жыл…" [Esendikte malyńdy ber de batyr jyl...] ("While you're alive and well, give cattle and gather warriors...")*, "*Жоғары қарап оқ атпа, / Жуық түсер қасыңа…" [Joǵary qarap oq atpa, / Juyq týser qasyńa...] ("When you look high, don't release the arrow, / It will land close to you...").* The direction of the communicative act in these examples is characterized as a rhetorical setting for conveying "I – you" relationships, as well as linguistic markedness: the use of the second person grammatical forms and imperative mood of the verb. In the poet's address to Khan Zhanibek, there are almost no meta-communicative statements with imperative semantics; only in the final part of the address does zhyrau influence the rational sphere of the recipient, giving specific advice on the need for the nomadic tribes to migrate: "*…Тіл алсаң, іздеп қоныс көр, / Желмая мініп жер шалсам, / Тапқан жерге ел көшір…" […Til alsań, izdep qonys kór, / Jelmaya mınıp jer şhalsam, / Tapqan jerge el kóshir…] ("If*

you heed my advice, find a nomadic land, / I will encircle all the lands on Jelmai, / Move the people to the found land…"). The beginning represents a meta-communicative contact-establishing part. In this phase of establishing contact, the poet creates an image of both the addresser, ready to serve his ruler ("*Көп құлыңның бірімін" [Kóp qulyńnyń birimin] / "I am one of many of your servants"),* and the addressee as an ideal ruler ("*Алп, алп басқан, алп басқан / Арабы торым өзіңсің..." [Alp, alp basqan, alp basqan / Araby torım ózińsiń..], "Бармай тапқан Қағбамсың!" [Barmai tapqan Qaǵbamsıń] / "Marching proudly, boldly, / My Arabian steed – it's you..." / "Indeed, my Kaaba – it's you!").* Further in the semantic parts of the address to Khan, the phase of implementing the communication process takes place, where the poet increasingly rebukes the addressee for violating the laws of steppe democracy, repeatedly emphasizing that all of Temir's merits are explained by divine will. All subsequent parts of this poem perform a meta-communicative contact-regulating function, as the dialogue addresser already organizes the development of the communicative situation in his favor, offering recommendations to the addressee on how to govern the people and choose friends. In these fragments, the meta-communicative commentary-recommendation is realized through the linguistic means of using imperative mood verbs: *бер, басың қос, оқ атпа, сөз айтпа [ber, basyń qos, oq atpa, sóz aıtpa] ("give, unite, don't shoot, don't speak").*

Bogatyreva notes the presence of "inversions" in the dialogue-disagreement – a paradoxical rearrangement in the hierarchy of "addresser-directedness" relationships (Bogatyreva et al., 2015, URL). Confirmation of this can be found in the second message of Shalkiiz, where, at first glance, the addresser appeals to the listener – the Khan, but at the same time implies another recipient to the ruler's enemies: "*Саған дұшпан - маған жау"* [Saǵan dúshpan - maǵan jaý] ("To you, they're enemies - to me, they're opponents"). More often than not, the implicit listener (the people) is assumed to be the recipient. The message contains many expressions that have become aphorisms, for example: *"Ақылсыз достыдан / Ақылды дұспан артықты" [Aqylsyz dostydan / Aqyldy dúshpan artyqty] ("A foolish friend / Is worse than a wise enemy"). Or: "Жығылғанды тұрғызсаң, / Жылағанды уатсаң, / Қисайғанды түзетсең, / Тәңірінің үйі бәйтолла" [Jaǵylǵandy tyrqızsań, / Jılaǵandy uatsań, / Qısaiǵandy týzetseń, / Tánırınıń uii baıtolla] ("If you lift the fallen, / Console the weeping, / Straighten the crooked, / The house of the Almighty is Kaaba").* This example confirms that the implicit listener (the people) complements the image of the addressee, creating a second, no less important image of the addressee and the recipient. These are the methods of zhyrau's influence on the emotional and rational spheres of the recipient.

CONCLUSION

The exploration of the genre of dialogue-disagreement in the poetry of Asan Kaigy and Shalkiiz the zhyrau as a factor of cultural and national identity is driven by contemporary approaches in scholarship. The analysis of the provided examples of phatic and rhetorical dialogue-disagreement demonstrates a paradoxical combination of a pronounced directionality of the communicative act/series of communicative acts, speech moves of the speaker towards the recipient with problematic addressedness as the source of communicative discord. The direction of the communicative act is characterized by linguistic markedness (the use of second-person grammatical forms) and a rhetorical inclination towards conveying "I – you" relationships. Addressedness in speech/communication is interpreted based on a particular kind of hermeneutic perspective of communication, linked to the construction of a holistic image (optimal/ideal) of the message's addressee. Examining the songs of the zhyrau from the perspective of terminal discord in dialogue-disagreement has allowed for a refinement of the concepts within the semantic field of 'addressedness.' The concept of the addressee

specifies the optimal recipient of the message. The concept of the recipient individualizes the recipients in the act of message reception. The addressedness of the text is determined by the representation of the addressee of the textual message developed in its rhetorical-hermeneutic program. The study of the zhyrau's work leads to an exploration of the culture of the people or nation, and their poetry is also a key to understanding the thinking of the Kazakh people. The analysis of the meta-communicative function of language, the image of the addressee, and the ways in which the poet influences the listener, representing new methods of the text, contributes to the formation of linguistic and rhetorical competence in students within the context of educational process renewal.

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ARMORY AND FINANCIAL SOURCES OF THE AZERBAIJANI QARA QOYUNLU ARMY

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Abstract

One of the important factors in the study of the reasons why the Qara Qoyunlu state, which has an important place in the history of Azerbaijani statehood, ruled over a large geographical area in a short time, is its army and military organization. The effectiveness of the army's offensive force and its capability to inflict a heavy blow on the enemy, of course, depended largely on its organization.

Qara Qoyunlu army's precise implementation of attack and defense tactics in the battle and the minimization of losses were directly related to the military equipment of the warriors. As recorded by the contemporary narrative sources, the Qara Qoyunlu rulers had armoury called *gurkhana* thereby they meet the military needs of army.

Large financial sources were required to equip the Qara Qoyunlu army with weapons and ammunition. Financial resources were based on the iqta system, which existed in all medieval and early modern Turko-Islamic states. During the Qara Qoyunlu period, the *iqta* already begun to transform into a *soyurghal* and a *tiyul*. The decrees by Jahanshah also confirm the existence of the iqta system during the Qara Qoyunlu rule.

During the Qara Qoyunlu rule, the *soyurghal* institute became one of the main forms of the land ownership. The holders of the s*oyurghal* had to be at the ruler's military or civil service. Jahanshah's firmans confirm the allocaton of the s*oyurghals* in return to the military service.

In Qara Qoyunlu state, the tiyul land ownership was also allocated in return to military service, and when needed, the holders of the tiyuls joined the service of the ruler.

The distribution of spoils of battle was one the important financial sources of the Qara Qoyunlu army.

Key words: Qara Qoyunlu state, armoury, soyurghal, tiyul.

RELATIONSHIP BETWEEN NET ERRORS AND OMMISIONS AND CORRUPTION

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Abstract

Net errors and omissions, which is one of the balance of payments accounts, has started to become interesting for researchers. One of the reasons behind this situation is that for some countries in some periods, the net error omission balance constitutes the whole or a very large proportion of the current account deficit. According to the balance of payments systematic, the current account balance should be equal to the sum of the capital and financial account. The balance of payments is a zero-sum structure. In this structure, the net error and omissions sub-item plays the role of balancing the elements such as unexplained accounting errors at the point of reaching zero-sum balance. The motivation of this paper arises from the question; do countries use illegal financial sources for compensating current account deficit? In order to achieve an idea about this question; the corruption perception index is added to the determinants of net errors and ommisions. The model is tes as; NEO= f(Capital, Current, Finance, CPI, Reserves) Reserves are added to the model also with the reason of its compensating usage for NEO. According to availability of the yearly data for the period 2002-2021 is used for 25 countries that have the highest net errors and ommisions volumes. OLS-Ordinary Least Square method has been chosen after completing diagnostic tests. According to the results, corruption has a positive impact on net errors and ommisions at 90% confidence interval. 1% increase in the corruption level creates 0,8% increase in the net errors and ommisions. This results proves that unfortunately, NEO is used to compensate current account deficit. Hence neo is not a transparent account, it triggers a corrupted structure. For this reason, the introduction of a rule not to exceed a certain percentage of the current account balance or the requirement for this account to be fully transparent is presented as a policy proposal.

Key words: Net errors and ommisions, Corruption, Balance of payments.

LIBRARY MANAGEMENT SYSTEMS IN UNIVERSITY LIBRARIES OF AZERBAIJAN: AN OVERVIEW AND ASSESSMENT

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Abstract

Library Management Systems (LMS) play a pivotal role in modernizing and enhancing the efficiency of library operations in higher education institutions. This research provides an overview and assessment of the utilization of Library Management Systems in the context of university libraries in Azerbaijan.

Azerbaijan, a country with a rich educational heritage, has witnessed significant advancements in its higher education sector over the past decade. As essential components of the academic ecosystem, university libraries have adapted to the changing landscape by integrating digital technologies and LMS into their daily operations. This study sheds light on the current state of LMS adoption, functionality, challenges, and future prospects within Azerbaijani university libraries.

The research encompasses a comprehensive analysis of LMS implementation in multiple universities across Azerbaijan. It explores these systems' key features and functionalities, ranging from cataloging and circulation to resource management and user services. Additionally, the study investigates how LMS has streamlined library operations, improved accessibility to resources, and enhanced user experience within the university libraries.

Furthermore, the challenges and barriers faced by Azerbaijan university libraries in adopting and utilizing LMS are examined. Issues such as budget constraints, staff training, and the integration of digital resources are analyzed to provide a holistic perspective on the existing hurdles.

In light of the findings, this research also outlines potential development prospects for LMS in Azerbaijani university libraries. It discusses strategies for overcoming current challenges and suggests optimizing LMS utilization for improved resource management and user engagement. The abstract concludes by emphasizing the significance of robust LMS implementation in enhancing the overall quality of education and research within Azerbaijani universities.

Ultimately, this research serves as a preliminary exploration into the world of Library Management Systems within the higher education landscape of Azerbaijan. It aims to initiate a broader dialogue on the role of technology in shaping the future of university libraries in the country and its implications for the academic community.

Keywords: management systems, OPAC, library, worldshare, University libraries.

Introduction

In higher education's dynamic and ever-evolving landscape, university libraries play a pivotal role in fostering knowledge dissemination, academic research, and intellectual growth. As learning institutions continue to embrace digital transformation and modernize their services, Library Management Systems (LMS) have emerged as essential tools to streamline library operations, enhance user experiences, and connect libraries with global networks. In this context, we embark on a journey to explore the utilization of Library Management Systems within the university libraries of Azerbaijan, delving into the unique experiences of Ada University Library and UNEC University Library, each guided by its distinctive LMS. These libraries stand as beacons of progress, reflecting the evolving nature of library technology and its profound impact on education and research in the region. This research will unravel the intricacies of their respective systems, assess their effectiveness, and shed light on the transformative power of innovative library technologies in the modern academic landscape.

I. Library Management Systems (LMS)

LMS are the backbone of modern libraries, enabling them to efficiently organize, access, and share their collections. In this context, we will explore the contrasting experiences of two prominent university libraries in Azerbaijan: Ada University Library, which utilizes OCLC's WorldShare Management System (WMS), and UNEC University Library, which relies on the Automated Library Information System of Azerbaijan (ALISA). These libraries serve as prime examples of how advanced LMS technologies have transformed the landscape of library services in the country.

II. Ada University Library and the WorldShare Management System (WMS):

University Library is a testament to contemporary library technology's transformational power. By adopting the WorldShare Management System (WMS), Ada University Library has significantly enhanced its cataloging workflows and overall library operations. Let's delve deeper into the key aspects of WMS that have shaped the library's functions:[1] [2]

Cataloging Excellence: Any library's cataloging system is the heart of any library. WMS empowers librarians at Ada University Library to catalog and classify materials with precision, utilizing standardized formats such as MARC records. This ensures the catalog's accuracy and consistency and facilitates seamless access to information for library patrons.[3]

Efficient Circulation Management: Borrowing and returning library materials have never been smoother. WMS streamlines circulation management by enabling librarians to track due dates, enforce policies, and manage materials efficiently. Patrons experience a hassle-free borrowing process, contributing to a positive user experience.[4]

Comprehensive Patron Management: With WMS, Ada University Library maintains comprehensive patron records, tracking borrowing history and managing user accounts. This personalized approach enhances user engagement and satisfaction, while also supporting library operations.

Streamlined Acquisition and Ordering: The acquisition of new library materials, including creating purchase orders and managing budgets, is made more straightforward through WMS. This feature empowers librarians to expand their collections efficiently, keeping them up-to-date and diverse.

Effortless Serials Management: As Ada University Library subscribes to serial publications, WMS comes to the rescue by managing subscriptions, tracking issues, and providing access to electronic versions. This feature ensures that the library's periodical collection remains current and accessible to its patrons.[5]

Enhanced Search and Discovery: WMS includes a user-friendly search interface that enables patrons to find materials easily. The system's search and discovery tools contribute to a seamless and efficient library experience.[6]

Resource Management: In an era of digital content and multimedia resources, WMS supports the management of these assets, ensuring that the library keeps pace with evolving formats and user preferences.[7]

Data-Driven Decision-Making: Ada University Library staff can harness the power of reporting and analytics within WMS to assess usage patterns and make informed decisions about collection development and resource allocation.

Integration for Seamless Operations: WMS integrates seamlessly with other library-related systems, reducing silos of information and streamlining library operations for enhanced efficiency.

Data Security and Permissions: The system strongly emphasizes access control and permissions, safeguarding sensitive library data and ensuring that only authorized users can access certain functionalities.

Customizability for Library-Specific Needs: WMS allows librarians to customize the system to meet the unique needs and preferences of Ada University Library.

III. The Automated Library Information System of Azerbaijan (ALISA):

In contrast to Ada University Library's utilization of WMS, UNEC University Library operates under the umbrella of the Automated Library Information System of Azerbaijan (ALISA). ALISA represents a nationwide effort to centralize and modernize library operations nationwide. Here are some key aspects of this innovative system:

Origins and Purpose: ALISA emerged under the auspices of the Culture and Tourism Ministry of Azerbaijan with the primary objective of addressing the lack of integration and standardization among diverse library systems in Azerbaijan. The overarching goal was to create a centralized library information system to automate and simplify library processes while fostering integration with global library networks.[20]

Two Main Components: ALISA consists of two main components: the public-facing "Unit Centralized Library portal" and the administrative and software component designed for internal use by library staff.

Development Platform: ALISA has been developed using cutting-edge technologies and the latest Oracle platform, ensuring robust performance and scalability.[27]

Modernization and Streamlining: ALISA represents a substantial modernization effort aimed at streamlining library operations in Azerbaijan, improving the user experience, and facilitating integration with international library systems. The system's web-based, standardized approach aligns the country's library services with global standards.[29]

Reporting and Oversight: ALISA equips library management with reporting capabilities to assess and optimize internal processes. Oversight and control are vested in the Culture and Tourism Ministry, which can access reports and data from the system.

Global Integration: A key strategic objective of ALISA is to enable the Azerbaijani library system to seamlessly integrate with library systems worldwide. This ensures compatibility and connectivity with global library networks.[17]

Web-Based Accessibility: ALISA is a web-based system that utilizes the latest technologies, making it accessible via web browsers. Its user-friendly interface enhances the experience for library users.

Comprehensive Functionalities: ALISA is designed to automate all processes within national, private, university, and school libraries. It adheres to standard formats and protocols such as MARC21, ISO2709, UNICODE, and Z3950.[19]

Reader Empowerment: ALISA empowers readers to register online, order and reserve publications, and easily manage their library transactions.

Pilot Project Success: ALISA's successful implementation as a pilot project in select central libraries in Baku districts, such as Khatai CLS, Narimanov CLS, and Sabail CLS, showcases its practical effectiveness. During this implementation, close collaboration with libraries and comprehensive support from the developer, Ultra company, were pivotal.

Library Network Integration: ALISA enables readers to utilize a single plastic card for all participating libraries, streamlining the ordering and monitoring of materials.[9]

Specialized Library Equipment: The system integrates specialized equipment to return borrowed items, enhancing operational efficiency.

Conclusion

Library Management Systems have revolutionized library operations in Azerbaijan, with Ada University Library's use of OCLC's WorldShare Management System (WMS) and UNEC University Library's adoption of the Automated Library Information System of Azerbaijan (ALISA) serving as prime examples of this transformation. While WMS enhances cataloging workflows, streamlines circulation, and empowers library staff with data-driven insights, ALISA represents a nationwide effort to centralize and modernize library services, promoting integration with global library networks. These systems reflect the evolving landscape of library technology, offering tailored solutions to meet the unique needs of libraries in Azerbaijan and beyond. The following research will

provide a comprehensive assessment of the impact and effectiveness of these systems in the context of university libraries in Azerbaijan.

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FAVORABLE COMPETITIVE ENVIRONMENT AS A FACTOR DETERMINING BUSINESS DEVELOPMENT

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Abstract

In the article, the author considers a favorable competitive environment as one of the factors that trigger the development of business entities. It is emphasized that the efficient development of business will not be possible without competition, and that competition is inevitable for the expansion of the economic entity on a global scale. In the article, a number of types of competition, including many approaches to competition, are explained in detail with relevant examples. According to the author, although competition creates difficulties for the economic subjects themselves, these difficulties ultimately result in the enterprise surviving in the market, surpassing its competitors, producing high-quality and competitive products at the most optimal price, thus making a positive contribution to the country's economy. In markets where there is no competition, product quality and selling price are unpleasant. In this case, two enterprises producing the same product collude secretly, and for this reason, the price and quality of those products are either completely the same, or they are selected with a slight difference from each other.

Key Words: global economy, favorable competitive environment, cross-sectoral competition

Introduction

In the globalized economy, it is impossible to imagine significant development of economic entities without competition. Although the competition itself in a certain sense expose both economic subjects to spend more labor, it causes both enterprises producing the same product to develop their products and optimize sales prices. According to a group of economists, development is possible even without competition, but competition conditions further acceleration of development, faster adjustment of product quality to international standards, in other words, efficient development. For this reason, the competitive production of economic entities is a very important factor. As for the definition of competition, there are many different theories in the economic literature. But the general conclusion of all is that competition is valued as the main mechanism as a driving force of the market. In other words, competition is a market situation in which different economic entities producing goods belonging to the same product category or different categories compete for the same potential customers, provided that they can satisfy the same consumer demand. Competition is considered as a condition for the existence of the enterprise in the market. That is, the more competitive the manufactured product is, the more our enterprise will be in the forefront of the market. Countries with competitive economies make efficient use of the limited resources they are able to use. With this, they act as an important factor in the regulation of the economy. The existence of a favorable competitive environment at the time when the market economy prevails determines the offer of the best quality product at the most reasonable price according to the demand of the consumers.

Conceptual framework

Competition in nature, economy and human society is an open and hidden race and struggle for resources and opportunities for life, between and within the flora and fauna, forms of property and national economic sectors, countries, nations, peoples. In other words, competition is the main concept that expresses the essence of market relations. In the period of capitalism, more precisely, in the conditions of the market economy, competition penetrates widely in the social and economic spheres and acquires large scales, deepens and expands. In the economic literature, there are many approaches to the concept of competition in three directions.

- As a market mechanism that balances supply and demand
- As a criterion for determining the type of field markets
- Like a race

1. This approach belongs to classical economic theory. According to this approach, the formation of prices, the formation of demand and supply occurs directly under the influence of competition. This approach characterizes competition more as a market driving force.

2. This approach was formed as a result of the development of economic theory in recent times. Although the development of the theory of competition and the clarification of its role in different types of markets took place, competition in general means the competition of economic subjects.

3. This situation is also reflected in local legislative acts. According to this approach, economic entities compete with each other for the market, for the buyer. Each business entity competes with competitors to capture a wider market segment, sell more products, and earn more. As a result, consumers and the economy win. This approach is more consistent with the views of the great Austrian economist Schumpeter. The entrepreneur is always fighting to earn more, and the "entrepreneur's desire to earn more" eventually develops the society. In other words, society and consumers are the winners of the competition.

According to the famous English scientist A. Marshall's theory, competition reflects the competition of one person with another, including the competition for buying or selling something. In this approach, a person is a market subject. Indeed, competition is a struggle for the sale or purchase of material or non-material resources. Of course, this struggle ultimately has a positive effect on the consumer. If we think that there is a fertile competitive environment in the market and entrepreneurs try to minimize the price of the products they produce as a result of the competition, then, as we mentioned, consumers will be profitable from the "competition". Continuous competition in the business environment prompts business entities to innovate in the products they produce, stimulate sales prices, and take other steps to ensure competitiveness. It should also be noted that competitiveness can be formed in a fertile environment. No matter how competitive an economic entity is, there must be a fertile environment for the display of those competitive products. For example, a successful hockey player will not be able to fully demonstrate his potential if he does not have a quality hockey field. In order for a hockey player to reveal his full potential, he needs a hockey field. From here it can be concluded that in addition to competition, the competitive environment, including the market, is a competition ground for economic entities and businessmen. Unlike hockey, the general army of consumers wins more than the winner of these competitions.

The great American economist Michael Porter considered the competition from four opposing aspects, based on production, investment, innovation or technological advantage and wealth. The

development of competitiveness and the achievement of a competitive advantage based on production factors depends on the country's availability of resources (natural labor force, etc.) and the degree of their efficient use (production costs; prices, exchange rates). International experience shows that relying only on production factors as the only resource of competitiveness sharply limits the areas of the economy that meet the conditions of international competition. At that stage, the economy becomes very sensitive to world economic crises that cause sudden changes in demand and prices. When the existing factors of production are exhausted, the situation becomes extremely acute.

The stage of competitiveness based on investment is also called the stage of technological development. In this matter, the technological superiority of the economy is based on the implementation of intensive capital investments in modern, efficient equipment and technology by enterprises. They can be obtained from the world market. At the same time, investments are directed to the purchase of licenses, the creation of joint ventures and other means of increasing competitiveness. The increase in the volume of investment leads to the creation of new, advanced factors and the development of modern infrastructure.

Technological advantage - knowledge stock, technological stock, investment, etc. is a set of reserves. They cover the entire spectrum of modern competitive advantage, from technological advancement to country leadership in one or more fields. The advantage of the industrial structure in the country's economy is due to the existence of a progressive structure that meets the requirements of scientific and technical progress. Finally, successful economic development is based on the existence of a favorable economic and, accordingly, socio-political environment, which creates conditions for the development of the economy through innovation, assimilation of new techniques and technologies. One of the nuances that should not be overlooked during competition based on technological advantage is investing in human capital. During technology-based competition, enterprises should pay attention not only to their equipment, but also to the formation of human resources capable of managing innovative devices with new types of knowledge and skills. From here it can be concluded that the full formation of technology-based competition in the economic entity should be carried out in parallel with the development of their innovative skills by involving the personnel potential in training or attracting new personnel to the enterprise. Otherwise, the use of innovative devices to be applied during the economic activity of the enterprise will not play a role for the competitiveness of the enterprise.

Competitiveness based on innovations can occur in countries at different levels of development. First, a number of industries try to gain a competitive advantage by applying innovation. Then the improvement process spreads to other areas. A more dynamic and advanced economy creates conditions for the horizontal and vertical expansion of the circle of competitive fields and the formation of new characters. The speed of that process depends on the degree of revival of business activity in both new and existing economic entities. Since the 90s of the 20th century, the difference between developed and underdeveloped countries is mainly technological. Due to the fact that modern technologies are too complex and expensive, underdeveloped countries not only cannot create them, but even have difficulty in purchasing them.

Competition based on wealth, unlike the previous three stages, ultimately leads to decline. The driving force of the economy is already acquired abundance. The main problem is that an economy operating on the basis of already created wealth cannot increase its wealth any more. At this stage, as a result of many reasons, economic subjects begin to lose their position in international competition. The weakening of competition reduces the interest of enterprises to invest capital in innovations.

Competition is an intrinsic feature of commodity production and reflects its development method. The basis of competition or economic negotiation is that each person tries to get more profit for himself. Arbitrage is based, first of all, on the existence of a large number of independent sellers and buyers in the market for each particular product, and secondly, on the complete freedom of sellers and buyers to enter and leave this or that market as needed. In the conditions of the scientific and technical revolution, competition allows to accelerate the application of science and technology in production, to present various varieties of the quality of manufactured products to consumers, to increase labor productivity, and to make production cheaper. In such conditions, competition becomes the main tool of spontaneous market regulation of the market economy.

Free competition prevailed in pre-monopoly capitalism and it existed in two main forms – intra-industry competition and inter-industry competition.

Intra-field competition is a type of competition between entrepreneurs operating in the same field for the purpose of obtaining more favorable conditions for the production and sale of goods, additional profit.

As it is known, there are differences in the technical equipment of commodity producers operating in any field in each specific period, in the professional levels of workers, and in the levels of labor productivity. As a result of this, there are differences in the individual values of the goods produced in these enterprises. In other words, the production of the same commodity costs different costs for different producers. However, in the same market, at the same time, it is impossible to sell the same goods at different prices, that is, according to the individual production costs of each producer. The market has its own laws and market prices are regulated by these laws. Thus, in the conditions of intra-industry competition, prices are not determined by individual labor costs, but by socially necessary labor costs. If any producer produces that commodity at a cost higher than the socially necessary labor costs, the development of that economic entity is based on extensive development, and if it continues for a long time, it may face bankruptcy and exit the market as a result. Producers whose production costs are lower than average costs get additional profits. Far-sighted entrepreneurs use the extra profit from sales to reduce production costs. By skillfully using the achievements of scientific and technical progress, that is, by applying innovative products in production on a large scale, they can significantly optimize the production costs of the enterprise. Thus, as a result of intra-industry competition, producers with a higher level of technical equipment and higher productivity than average labor productivity, as a rule, obtain additional profits. Technically and organizationally lagging production enterprises fail to compete and go bankrupt.

As a result, intra-industry competition encourages manufacturers to scientific and technical progress and to apply its results to production as soon as possible. In this way, it helps the rapid development of forces in the product in the society, the emergence of new technologies and their application to production.

One type of competition between manufacturers, entrepreneurs, firms and companies is intersectoral competition. Intersectoral competition is conducted between enterprises operating in different fields to obtain a higher rate of profit for their capital. This is expressed in the form of the flow of capital from areas with a low rate of profit to areas with a high rate of profit. It is through inter-sectoral competition that the flow of capital from one sector to another is carried out and the reproduction proportions of social capital are ensured.

Everyone knows that the main goal of all entrepreneurs in capitalism is to make as much profit as possible. Here, the profit rate serves as a compass that determines the direction of capital's activities.

For entrepreneurs, it doesn't matter in which area they spend their capital and what they produce. All they want is for that capital to return with more profit. Therefore, intersectoral competition causes capitalists to move from areas with a lower rate of profit to areas with a higher rate of profit. As a result of this, because the rate of profit is low, the production decreases in the areas where the capital leaves, the demand for manufactured products begins to exceed their supply, the market prices of these goods are higher than their value, and the rate of profit in these areas rises to the level of average profit. At the same time, due to the high rate of profit, intra-field competition begins to intensify in areas where a lot of capital is involved, production expands because the number of producers is greater than before, the supply of goods exceeds the demand for them, and as a result, market prices and the rate of profit begin to fall. The capitals freed up in the process of re-production go to areas with higher profit rates. Under conditions of free competition, the constant flow of capital from one area to another leads to the equalization of area profit rates and the formation of the average production price along with the general rate of profit.

According to the theories of Western economists, it can be said that "the concept of competitiveness is an extremely dynamic category, and its dynamics are directly or indirectly related to external factors. "Competition is not an equilibrium, it is ever-changing." The improvement and renewal of the field is not a one-time event, but a continuous process, with long-term stability behind it. Our present advantage may be taken away or reduced to nothing tomorrow. Indeed, if the entrepreneur gains an advantage in the market, if he does not further stimulate his production, he will again ensure his competitiveness in the market by surpassing other competitors. For this reason, if any economic entity has ensured its competitiveness in the market, it should take stimulating steps on its product through product development, application of innovative technologies to production, further stimulation of prices, following the daily market trend and other ways. Only in this case, the enterprise will maintain its position in the market and become more developed. Based on the experiences of developed countries, we can say that the market mechanism works more efficiently and effectively in conditions of free or progressive competition, but in reality it is not true to say this, because the available opportunities in the market are the large number of buyers and sellers, the same type of manufactured product, the firm's free access to the market. characterized by its entry and exit. In this kind of progressive competition, neither sellers nor buyers are able to influence market prices by themselves.

Competition in business activity is a dynamic process and serves to better supply the market with goods. Competition in entrepreneurial activity reflects the struggle of entrepreneurs for profitable production conditions and product sales. It plays the role of a regulator of the pace and volume of production, and at the same time it directs demand to the application of scientific and technical achievements, increase of labor productivity, improvement of technology, organization of production, etc. he makes. Competition is a factor that adjusts prices, stimulates innovation processes, and leads to the displacement of inefficient enterprises from production and more efficient use of resources.

Conclusion

In conclusion, if we look at the economic theory of the Austrian economist Y. Schumpeter, we will see that Schumpeter valued competition as a struggle between the new and the old. According to his opinion, this struggle is carried out by an entrepreneur, he opens a new path, implements a new

combination of resources. Schumpeter thought that the task of an entrepreneur is to implement innovations, to fight with the old, not to do what others do, to be creative. Only in this case, it can win the competition with economic entities that use old technology or produce products that are not in demand. Referring to Y. Schumpeter's approach, we can say that the more innovative an entrepreneur is in his field, the more competitive he will be in the market. It is natural that the application of innovative products in production creates financial difficulties for entrepreneurs. Both acquisition and installation of these innovations cause additional costs for entrepreneurs. However, in addition to the mentioned factors, having a staff capable of using innovations correctly is another nuance that is important for the competitiveness of the economic entity. Because no matter how much the enterprise meets the innovative requirements of the time, in the end it is the human capital that moves those technologies. For this reason, entrepreneurs should attract "innovative personnel" who meet the requirements of the time to their enterprises in order to ensure the competitiveness of their economic subjects.

In the era of capitalism, it is impossible to imagine the efficient development of business entities without competition. If the commodity produced by economic entities does not differ from the commodity produced by the enterprise producing the same product in terms of positive quality indicators, including availability in terms of price, then that product is not sufficiently competitive. A competitive product is considered non-substitutable for the consumer, that is, the consumer cannot see the same quality and the same price in another similar product. As a result, it tries to obtain a product that has kept up with the competition and is a leader in the market. Otherwise, he realizes that he will have to get a lower quality product. From this point of view, products produced by economic entities with high quality and more optimal price gain leadership in the market after a while. As time progresses, competing companies adopt that product as an example.

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A SYSTEMATIC REVIEW AND META-ANALYSIS OF FLIPPED INCLUSION MODEL: THEORIES AND PRACTICES

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Abstract

The global anthropological and ecological transformations that have taken place in the world since 1970, due to the interaction between the various evolutionary factors (socio-cultural, economic and technological), have profoundly changed man's living conditions, as well as the way of thinking and to perceive the world and human coexistence. The rapid unstoppable and irreversible changes taking place, of an unprecedented magnitude, have generated a high degree of insecurity and instability which contributes to generating negative effects on well-being and on the sense of personal and social identity. In this sense, education, through the experimentation of lifelong learning paths that allow to manage the transitions in progress, represents the socio-inclusive vehicle that allows to strengthen the awareness of identity (Bauman, 2003) and to influence the *Quality of Life* (WHO, 1995) of each and every one for a new *Weltanschauung*.
In this regard, the Flipped Inclusion model (Corona et. al, 2020) is being tested at the University of Salerno (Italy) with the aim of promoting the acquisition of prosocial skills and building inclusive people based on self- transcendence (Schwartz, 2012). The Flipped Inclusion model, structurally divided into 4 phases (Explore/Idea/Project/Experiment), overturns the traditional learning cycle consisting of frontal lessons based on transmissive teaching, to use active, cooperative and participatory teaching methods, indispensable for enhancing differences of each individual.
The experimentation was carried out with a simple random sampling of 1786 students of all types and levels of schools, selected from the Campania region. Qualitative and quantitative research methods were used. The results indicate that the model positively influences the cognitive and attributional styles of the participants, from a prosocial-inclusive point of view.

Keywords: Flipped Inclusion; Special Pedagogy, Inclusion.

GEORGIA'S PAN-CAUCASIAN VISION: UNEARTHING HISTORICAL CHALLENGES

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Abstract

This study delves into Georgia's historical quest for Pan-Caucasian unity and the persistent hurdles that have impeded its realization. The central research inquiry revolves around the perennial shortfall in achieving regional integration.

By scrutinizing the historical backdrop, this paper underscores Georgia's strategic imperative to counteract Russian 'Divide and Rule' strategies. Rather than seeking commonalities among the South Caucasian nations, Georgia's political resolve emerged from the imperative to confront Russian influence.

The analysis meticulously reviews past presidential propositions, contrasting the isolationist stance of Georgia's inaugural president, Gamsakhurdia, with his "Common Caucasian Home", Shevardnadze's "Peaceful Caucasus" as a conflict resolution endeavor and Saakashvili's anti-Russian policy of forging a Free, Stable, and United Caucasus. It further delineates the inertia demonstrated by Margvelashvili, and Zurabishvili's stillborn "Caucasus Peace Platform".

The study employed a multi-faceted methodology, combining historical analysis and discourse analysis to investigate the policies and attitudes of each of the five presidents of Georgia towards South Caucasus unity. This analysis provided valuable insights into the evolving dynamics of regional cooperation in the South Caucasus.

While each new president's proposals reflect shifting realities in the region, all of these initiatives presented Georgia with the formidable task of engaging its neighbors in regional cooperation, while excluding Russia.

This research illuminates the intricate interplay of national interests, external pressures, and geopolitical complexities that have obstructed Georgia's pursuit of Pan-Caucasian unity. It proffers invaluable insights into the historical and contemporary challenges that beset the region.

Key Words: Georgia, Russia, Pan-Caucasianism, Caucasus, Regional Integration.

THE CRAFT MARKET ENVIRONMENT CHALLENGES TO COMMERCIAL SUCCESS

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Abstract

Algerian handicrafts, like the other countries, are characterized by an undeniable richness and amazing diversity, be it in forms, techniques or motifs. The diversity of Algeria's climatic conditions, natural resources and various civilizations explains the existence of a wide range of craft specializations. As the global trading system continues to be liberalized and deregulated, resulting in freer flows of goods and services, the international business environment is becoming more diverse for manufacturers and suppliers of all kinds of handicraft products is becoming increasingly competitive. This made it more difficult for local artisans to compete with imported products as a result of deregulation. From this perspective, the field study served to examine the reality of the craft market environment and the challenges of commercial success. The field study covered Biskra state. We relied on the selection of a random sample of 60 craftsmen. We used an interview form. The result of the study was that many craftsmen are thinking about turning to more profitable activities and abandoning this craft as it is no longer economically viable, especially with (high cost of raw materials) and in addition to importing products from abroad. The study's key recommendations include: Government intervention to reduce raw material costs. Providing all opportunities for exporting handicrafts abroad at competitive prices.

Key words: Handicrafts products, Competitiveness, Local products.

KAZKH RHETORIC FORMATION AND CONSTRUCTION OF CULTURAL AND NATIONAL IDENTITY. PROVERBS IN BIYS PRACTICE

Written within the framework of the project «Scientific concept of Kazakh rhetoric: rhetorical ideal, identity, argumentation and speech practice»

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Abstract

The Kazakh Institute of Justice, which emerged in the Middle Ages and persisted until the 19th century (known as the "biys institution"), represents an interesting subject for studying the cultural and national identity of the Kazakh people. This is evidenced by Kazakh proverbs, which biys widely used in resolving disputes and conflicts. At the same time, studying the ways in which Kazakh biys applied proverbs is significant for developing a scholarly concept of Kazakh rhetoric. The biys used not only proverbs related to law, but also appealed to moral and spiritual values that symbolized the fundamental notions of the people about the rhetorical ideal. The exceptional contribution of biys to the rhetorical culture of the people is evidenced by proverbs that characterize word power: «Айтқан сөзі – құрған қақпандай» (A word spoken is like a trap) or «Тілмен түйгенді, тіспен шеше алмас» (A twisted tongue cannot be untied by teeth). The relevance of the topic is stipulated to the study of identity based on the methods of creating a worldview specifically the world of imagination (Mundus Imaginalis). Following A. Corbin's terminology, imagination as a spiritual ability that is formed through cognitive functions such as sensory and intellectual cognition and provides the opportunity to model Kazakh rhetoric using the tools from contemporary metascience. The aim of this work is to describe the imaginary world in the Kazakh proverbs used by biys. The analysis of this view creation is conducted through the concepts of "imaginative power" and "imaginative activity". This helps to develop an analytical framework for understanding imagination as an organ of cognition and a means of influence. In the article, the description of the Kazakh worldview using the term "imaginary world" (Mundus Imaginalis) is based on a comparison with the symbols from Persian literature as well as the application of philosophy methods, analytical psychology, cultural anthropology, sociology, religious traditions.

Key words: biys, proverbs, rhetoric, rhetorical ideal

INTRODUCTION

The origin of the formation of Kazakh cultural and national identity goes back to the time of the establishment of the Institute of Justice – the Biy Institution in the Middle Ages and its crisis in the nineteenth century. An interesting object of study in this regard is proverbs that were used in resolving conflicts and disputes. Biys employed proverbs related to steppe law which reflected moral and spiritual values that help to describe the Kazakh rhetorical ideal.

The relevance of the topic is determined by the study of identity in the aspect of the world of imagination (Mundus Imaginalis). Following Henry Corbin's term, who considered imagination as a spiritual ability that is formed through cognitive functions – sensory and intellectual knowledge, we develop the principles of a model of Kazakh rhetoric using the tools of modern meta-science.
The purpose of the work is to describe the imaginary world in Kazakh proverbs used by biys. The analysis of the creation is carried out using the concepts of "imaginative power" and "imaginative activity". The biy activates the listener's imagination with the help of symbols of Kazakh culture and gives the parameters of reality to a utopian picture of the world.

MATERIALS AND METHODS

The issue of Kazakhstan's history in the region shows the same results. The first scientific work with post – Soviet problems of study by A. Mametovoy (1947) was interrupted by obstruction. B. Adambayev will take the first Labor path to discuss life, water, the usual word of the mare . In the post-Soviet period, the book "biler Soz" (biler Soz/ Kurastrgan T. Kakishev / – Almaty: "Kazakh University", 1992. – 160 P. - the introduction of Kazakh addresses to the rhetorical culture of Kazakhs. Representatives and employees: B. Adambayev, S. Sayutbekov, T. Suoeymenov, S. Karamendin, S. Sarsenbayev, G. Kulakhmetov, K. nuralin, K. Tokmyrzin, S. Dautov, G. Mukanov, T. Bokenov, zh. Tursynuly, D. Dabyluly, N. Bektemisov, N. Dosayuly, A. Toktabayeva, A. Tatanayev, S. Sozakbayev, K. Madibayeva, zh. Smailova, S. Tokalbaeva), "basic Kazakh laws. Documents, data and research" (Drevniy Mir prava Kazakov. Materials, documents and research. 10 volumes. Modified and supplemented Edition 2 / head of the program: S. Z. Zimanov. - Almaty: Zheti zhargy, 2004 (intellectual-Parasat law company). Volume 1. Kazakh, Russian, Turkish, English. – 2004. - 632 P.).

A bibliographic index (output data) has been released through the efforts of the project team "Scientific concept of Kazakh rhetoric: rhetorical ideal, identity, argumentation and speech practice" in collaboration with the staff of the National Academic Library. It summarized scientific, educational and critical sources on the oral heritage of the Kazakh people, dedicated to the study of the poetry of Zhyrau and the heritage of the Biys.

The description of the Kazakh worldview using H. Corbin's term "imaginary world" (Mundus Imaginalis) actualizes the comparison with the symbols of Persian literature. The use of methods of philosophy, analytical psychology, cultural anthropology, deep sociology, religious traditions contributes to the analysis of the process of self-knowledge, in other words, it is a person's path in the process of knowing himself, the meaning of life and what is beyond it, the role of man in the world, etc. This approach provides a foundation for considering Kazakh proverbs as a kind of a model of nomad initiation and the formation of national identity constants.

H. Corbin considers imagination as a pure spiritual ability that does not depend on the physical organism and, therefore, is able to exist after the death of a person. Thus, it becomes possible to study the listener's imagination as a result of the influence of the word in the aspect of such cognitive functions of imagination as sensory and intellectual perception.

The French philosopher revealed the role of such categories as imaginative perception and imaginative consciousness in the structure of imagination. According to the scientist, it has cognitive value in their own world, the world that is 'alam al-mithal, mundus imaginalis, the world of mystical cities such as Hurkalia, where time becomes reversible and where space, being the external aspect of the internal state, is created by will.
To describe the process of constructing the Kazakh identity through the prism of the national worldview, it is fruitful to use the methods of psychoanthropology and the category developed by it "a place is not a place", "a place that does not exist". The identification of a kind of initiation in Kazakh proverbs refers us to the toponymic objects of the imaginary world as a metaphysical reality, i.e. a reality that has its own parameters for measuring space and time.

The idea of the French researcher of Eastern mysticism H. Corbin regarding "being in suspension" is significant for the study of the metaphysical world in the spiritual heritage of the Kazakh people, as well as in the legends of the steppe biys that regulated the worldview and people's behavior in the Middle Ages. Thus, the scientist raises the issue of creating a worldview based on the correlation of institutions in everyday life and ethical values as the basis of a rhetorical ideal. Hence the relevance of Corbin's ideas about the connection of mundus imaginalis with the theory of imaginative knowledge and imaginative function.
The object of analysis in this paper is the proverbs in the legends of Tole Bi. His credo was expressed by the rhetorical formula: "Sayak zhurgen tayak zheidi. Yntymagi, birligi mykty eldi zhau da, dau da ala almaydy" (A lonely person becomes a victim of loneliness, the people, if they are united spiritually and solidary, then no enemy is poweefull in front of them). Literally it means that the lonely one will be beaten (with a stick, literally: eat a stick). People are strong in friendship and unity such people are impervious to either an external enemy or internal strife. The categories "zhau" / "dau" have a polysemantic manifestation (quarrel, dispute, litigation, discord). They become staples of national identity, forming a rhetorical ideal on the principle of "on the contrary", from a negative image of the future.

RESULTS

The report describes the principles of constructing cultural and national identity from the standpoint of imagination as an organ of cognition and reception of the influence of the biya on the listener. The development of the foundations of the scientific concept of Kazakh rhetoric based on the material of proverbs allowed to systematize the ways of their application.

DISCUSSION

Biys significant contribution to nations rhetorical culture is indicated with the proverb «Айтқан сөзі – құрған қақпандай» is understood as " the word is a trap" o another example «Тілмен түйгенді, тіспен шеше алмас» which means "You can't handle it with your tongue, you can't handle it with your teeth."

H. Korben's thought regarding psychological, philosophical, aesthetic factors of revelation appearance provides the basis for the analysis of Kazakh legal proverbs as an insight, which is the result of generalization of national experience, ethical values and worldly wisdom. The rational nature of Kazakhs nomadic thinking is examplified by the oral cartography of nomads and demonstrates the connection between toponyms, methods of designation of natural and geographical objects and the worldview enclosed in them. A similar phenomenon can be observed in the imaginary world of proverbs. The biy activates the listener's consciousness and imagination and creates a utopian picture of the world. Following Corbin's idea, it is curious how spiritual culture explains various manifestations of the soul and we presume the answers for the questions What external conditions make a person a utopian? How and why do revelations occur?

The national picture of the world is characterized by pantedeterminism (Ts. Todorov). This is a phenomenon that reflects the anthropomorphic thinking of the people. The nomad erases the boundary between the physical and the spiritual. Here the difference between the identity of a Western and an Eastern person is revealed. It is not by chance that H. Corbin speaks about the "agnostic reflex" of a Western person, meaning different ways of understanding and explaining the world through a system of relations of thinking and being.

The Kazakh proverbs "Aitkan sozi – kurgan kakpandai" (a spoken word is like a trap), "Tilmen tuygendi, tispen sheshe almas (you can't crack a strong tongue with your teeth)" testify to the impact of biys on the listener with a word and a rhetorical ideal as a method of establishing identity.

When analyzing proverbs, the comparison between the symbols of Kazakh culture with the symbol of Persian culture, namely, a drop of balm exuded into the bowl of the palm by the Sun, explains the process of a person's inner journey and self-discovery. Kazakh proverbs as a model of an imaginary world show the immersion of a nomad into himself and return to the true self through the commandments of the fathers.

Imaginary worldview as a process of immersion into inner self and return to real self is proved by these provebs. "Sarandyuty azhualaydy, bata berip, tilek kosady. Azaly kazany estartip, kunil aytady, zhubatady, toktam aytady". The proverb about two kettles where collides the concepts of "empty talk", which was considered "korlyk" (misfortune) and the concept of death. The use of metonymy: "The miserly hearth mocks, blessing, add wishes. The mourning kettle reminds, sympathizes, comforts and gives a solution" – creates a picture of the world in two symbols. These are symbols of empty talk / false, hiding the true essence of the world revealed to the nomad and the mourning world, in which death is a sign of loss and a reminder of the meaning of life.

The proverb "Soz shynyna toktaydy, pyshak kynyna toktaydy" (The word remains truth, the knife is in the sheath) shows the role of everyday objects and "effective images". This is a frequent use of ars memoria (in the ancient art of memory), mnemonic images (psychoanthropology) and eo ipso – as

forms of the concrete existence of these things. We see how the psycho anthropological understanding explains the pandeterminism of the Kazakh national identity: consciousness and its objects in the Kazakh view are ontologically inseparable

To build a model of an imaginary world, an understanding of space, the cosmos and the relationship to the world of intermediate worlds is also important. In this regard, proverbs as a tool for educating active imagination are a kind of par excellence, an epiphanic place. The wide presence of folklore archetypes in proverbs (roads, houses, trees, father, orphan, sage) is not only comparable with the systematics of K.G. Jung, but also contributes to the identification of Kazakh identity through the interpretation of social roles in the family and the concept of loneliness, family unity as the unity of the people. Thus, the connection of mundus imaginalis with the theory of imaginative knowledge and imaginative function is shown. Archaic social institutions in the legends of biy (myth, religious signs and symbols) pay attention to the rituals of the oath, methods of punishment, etc. as the boundary between the ideal of social behavior and the conflict of values.

CONCLUSION

The identity of the Kazakhs is manifested in a rhetorical ideal built on the ontological inseparability of consciousness and its objects. The creation of a picture of the imaginary world of imaginative knowledge and the formation of rhetoric through concepts (chatter/ wisdom, family/ clan, loneliness / outcast) with their imaginative function shows a utopian picture of the world as a prototype of the formation of national identity.

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