ЛЮБОСЛОВИЕ

ГОДИШНО СПИСАНИЕ ЗА ХУМАНИТАРИСТИКА

БРОЙ 26

ТЕМА НА БРОЯ

ТЕХНОЛОГИИ И ХУМАНИТАРИСТИКА

Университетско издателство
Епископ Константин Преславски
2026

ЛЮБОСЛОВИЕ

Издание на Факултета по хуманитарни науки
Шуменски университет „Епископ Константин Преславски“

Главен редактор
доц. д-р Светлана Неделчева (Шуменски университет, България)
Редакционна колегия
Проф. д.ф.н. Галин Тиханов (Университет „Куин Мери“, Лондон, Великобритания)
Проф. д.ф.н. Стивън Дики (Университет Канзас, САЩ)
Проф. д.ф.н. Хана Гладкова (Карлов университет, Прага, Чехия)
проф д.н. Кристян Кристянсон (Университет Бирмингам, Великобритания)
Проф. д.ф.н. Гражина Шват – Гълъбова (Варшавски университет, Полша)
Проф. д.ф.н. Берин Аксой (Университет Атълъм, Анкара, Турция)
Проф. д-р Лиляна Сарич (Университет Осло, Норвегия)
Проф. д-р Питър Гардънфорс (Университет Лунд, Швеция)
проф. д-р Анджей Демут (Университет Комениус, Братислава, Словакия)
Доц. д.ф.н. Анна Бончковска (Университет Гданск, Полша)
Доц. д-р Бръндуша-Мариана Амъланчей (Университет „Василе Александри“, Бакъу, Румъния)
Доц. д-р Стефан Минков (Великотърновски университет, България)
Доц. д-р Михаела Кулеа (Университет „Василе Александри“, Бакъу, Румъния)
Доц. д-р Канаме Окано (Университет по чужди езици в Кобе, Япония)
Доц. д-р Иво Топалилов (Българска академия на науките, България)
Д-р Брайън Мюлер (Университет Лорен, Франция)
Д-р Трейси Спийд (Софийски университет, България)

Езиков редактор Бисерка Стоименова
Графичен дизайн на корицата Таня Йорданова
Предпечатна обработка Ваня Борисова

© Авторски колектив, 2026
© Университетско издателство „Епископ Константин Преславски“, 2026
ISSN 1314-6033

Броят се публикува с финансовата подкрепа на Фонд „Научни изследвания“, проект № КП-06 НП7/35 от 8.12.2025 г.
Фонд „Научни изследвания“ не носи отговорност за съдържанието на материалите.



Lyuboslovie is licensed under a Creative Commons Attribution 4.0 International License

LYUBOSLOVIE

Journal of the Faculty of Humanities
Konstantin Preslavsky University of Shumen

Editor in chief
Assoc. prof. Svetlana Nedelcheva, PhD (Shumen University, Bulgaria)
Editorial Board
Prof. Dr. Galin Tihanov (Queen Mary University of London, UK)
Prof. Dr. Stephen M. Dickey (University of Kansas, USA)
Prof. Dr. Hana Gladkova (Charles University, Prague, Czech Republic)
Prof. Dr. Grażyna Szwat-Gyłybowa (University of Warsaw, Poland)
Prof. Dr. Kristján Kristjánsson (University of Birmingham, UK)
Prof. Dr. Berrin Aksoy (Atilim University, Ankara, Turkey)
Prof. Dr. Ljiljana Saric (University of Oslo, Norway)
Prof. Dr. Peter Gärdenfors (Lund University, Sweden)
Prof. Dr. Andrej Démuth (Comenius University, Bratislava, Slovakia)
Assoc. prof. Dr. Anna Bączkowska (University of Gdansk, Poland)
Assoc. Prof. Dr. Brîndușa-Mariana Amălăncei (Vasile Alecsandri University of Bacău, Romania)
Assoc. prof. Dr. Stefan Minkov (University of Veliko Tarnovo, Bulgaria)
Assoc. Prof. Dr. Mihaela Culea (Vasile Alecsandri University of Bacău, Romania)
Assoc. prof. Dr. Kaname Okano (Kobe City University of Foreign Studies, Japan)
Assoc. prof. Dr. Ivo Topalilov (Bulgarian Academy of Sciences, Bulgaria)
Dr. Bryan Muller (Université de Lorraine, France)
Dr. Traci Speed (Sofia University, Bulgaria)

Proof-reader Biserka Stoimenova
Cover Design Tanya Yordanova
Prepress Vanya Borisova

© Authors, 2026
© *Konstantin Preslavsky* Publishing House, 2026

ISSN 1314-6033
The issue is published with the financial support of the Bulgarian Scientific Fund, project - КП-06 НП7/35 – 8.12.2025.
The Bulgarian Science Fund bears no responsibility for the content of the materials.



Lyuboslovie is licensed under a Creative Commons Attribution 4.0 International License

СЪДЪРЖАНИЕ

ИЗКУСТВЕН ИНТЕЛЕКТ И ХУМАНИТАРНИ НАУКИ

Marta-Teodora Boboc	Equivalence and cultural adaptation in translating idioms (AI-mediated vs. human translation)	9
Mustafa Melih Güçlü *Berrin Aksoy*	AI vs. human translation in children's literature: A Vinay & Darbelnet analysis of Gemini's rendering of *Peter Pan*	22

КЛАСИЧЕСКО НАСЛЕДСТВО

Артър Кларк	Изследване на космоса (превод от англ. език Светлана Неделчева)	42

ТЕХНИКА И ТЕХНОЛОГИИ В ЛИТЕРАТУРАТА, ИЗКУСТВОТО, КУЛТУРАТА

Бисерка Стоименова	Пресичащи се дискурси: наука, фикция и технологии в „Сънят“ на Йоханес Кеплер	55
Бисерка Стоименова	*Технологията в сянка*: референциалните следи на астрономическата практика в „Сънят“ на Йоханес Кеплер	74
Raluca-Andreea Nechifor	The heart inside the machine. Technology versus humanity in reviews of Frankenstein	84
Dragana Litričin Dunić	Media reception and intercultural reading: Ivo Andrić in the digital age	103
Delia Grosu	"A little overdramatic". Moderated assemblages of the self in Hanna Bervoets' *Wat zij zagen*	113
Дияна Боева	Технологии и социалистически реализъм в романа „Покривът“ от Георги Марков	131

ДИГИТАЛНА ЕПОХА И КУЛТУРНА ПАМЕТ

Alina Cosma	Mytho-poetic narratives in the digital age	145
Aleks-Sabi Shabtay Levi	'Gurbet' in the digital age: Family, mobility, and technology in socially vulnerable communities	159
Irena Teodora Vesevska	From excavation to education: Digital archaeology, micro-credentials and the transformation of heritage learning in the digital humanities	174

Konstantin Konstantinov — The Digiarcheospace Project – A European initiative for modernising training in the field of archaeology and cultural heritage — 197

ИНТЕРАКТИВНИ И МУЛТИМЕДИЙНИ ФОРМИ НА ЗНАНИЕ

Antony Hoyte-West — Hyperpolyglot perspectives on generative AI and language learning: A small-scale pilot study — 201

Silvana Neshkovska, Lela Ivanovska, Milena Kasaposka Chadlovska — AI behind the scenes: The use of artificial intelligence in the academic research practices of university foreign language teachers — 214

ДОКУМЕНТ И ПАМЕТ

Татяна Лефтерова-Стойчева — Човекът и машината: документи от британската индустриална революция — 232

АКАДЕМИЧЕН ПРЕГЛЕД

Edward Donaghue — Technology in language teaching: From auxiliary teaching tool to essential educational setting — 246

Samet Doykun — Digital Aesthetics and its interdisciplinary reflections: Reading Ömer Solak's *Digital Literatures, Digital Arts* — 250

Теменуга Тенева — За сходствата в (не)сходното в монографията на Иван Велчев „Lector ex machina. Читателят в дигиталния свят – културологични и образователни измерения" — 253

Ани Ангелова — Юбилейният сборник „Отговорността пред езика", т. XI – академичен диалог между технологиите и съвременната хуманитаристика (Проф. д-р Велка Попова на 65 години) — 260

CONTENTS

ARTIFICIAL INTELLIGENCE AND HUMANITIES

Marta-Teodora Boboc	Equivalence and cultural adaptation in translating idioms (AI-mediated vs. human translation)	9
Mustafa Melih Güçlü *Berrin Aksoy*	AI vs. human translation in children's literature: A Vinay & Darbelnet analysis of Gemini's rendering of *Peter Pan*	22

CLASSICAL HERITAGE

Arthur Clarke	*The exploration of space* (trans. from English by Svetlana Nedelcheva)	42

TECHNOLOGY IN LITERATURE, ART AND CULTURE

Biserka Stoimenova	Intersecting discourses: Science, fiction, and technology in Johannes Kepler's *The Dream*	55
Biserka Stoimenova	*Technology in the shadow*: The referential traces of astronomical practice in Johannes Kepler's *The Dream*	74
Raluca-Andreea Nechifor	The heart inside the machine. Technology versus humanity in reviews of *Frankenstein*	84
Dragana Litričin Dunić	Media reception and intercultural reading: Ivo Andrić in the digital age	103
Delia Grosu	"A little overdramatic". Moderated assemblages of the self in Hanna Bervoets' *Wat zij zagen*	113
Diyana Boeva	Technologies and Socialist Realism in the novel *The Roof* by Georgi Markov	131

THE DIGITAL AGE AND CULTURAL MEMORY

Alina Cosma	Mytho-poetic narratives in the digital age	145
Aleks-Sabi Shabtay Levi	'Gurbet' in the digital age: Family, mobility, and technology in socially vulnerable communities	159
Irena Teodora Vesevska	From excavation to education: Digital archaeology, micro-credentials and the transformation of heritage learning in the digital humanities	174

Konstantin Konstantinov — The Digiarcheospace Project – A European initiative for modernising training in the field of archaeology and cultural heritage — 197

INTERACTIVE AND MULTIMEDIA FORMS OF KNOWLEDGE

Antony Hoyte-West — Hyperpolyglot perspectives on generative AI and language learning: A small-scale pilot study — 201

Silvana Neshkovska, Lela Ivanovska, Milena Kasaposka Chadlovska — AI behind the scenes: The use of artificial intelligence in the academic research practices of university foreign language teachers — 214

DOCUMENTS AND MEMORY

Tatyana Lefterova-Stoycheva — The man and the machine: Documents of British industrial revolution — 232

ACADEMIC REVIEW

Edward Donahue — Technology in language teaching: From auxiliary teaching tool to essential educational setting — 246

Samet Doykun — Digital Aesthetics and its interdisciplinary reflections: Reading Ömer Solak's *Digital Literatures, Digital Arts* — 250

Temenuga Teneva — On similarities in the incompatible in Ivan Velchev's monograph "Lector ex machina. The reader in the digital world – cultural and educational dimensions" — 253

Ani Angelova — The anniversary anthology „Responsibility toward language", vol. XI – An academic dialogue between technology and contemporary humanities (Prof. PhD Velka Popova at 65) — 260

EQUIVALENCE AND CULTURAL ADAPTATION IN TRANSLATING IDIOMS (AI-mediated vs. human translation)

Marta-Teodora Boboc[1], University of Bucharest, Romania

https://doi.org/10.46687/CEPJ2498

Abstract: *This article examines translation challenges in rendering idioms, particularly when they contain nation-bound information (such as ethno-geographical references). Given the fact that these fixed phrases carry both linguistic and cultural material, in order to ensure their proper understanding by the target audience it is very important to convey not only their meaning, but also their formal aspects. Having as theoretical background the concept of equivalence in translation (ranging from Nida's distinction between formal and dynamic equivalence to Irina Condrea's focus on adequacy in translation and equivalence classification into three main categories – false, partial and total [see Condrea, 2006]), our study explores the interplay between conceptual metaphors and their cross-cultural comprehension, thus revealing patterns of both universality and divergence in idiom translation from the source language (Russian) to two target languages (English and Romanian). From a practical point of view, the corpus of idioms has been selected from bilingual dictionaries based on linguocultural criteria and for each idiom we provide information concerning its variants in translation, the specific translation strategy and the quality of translation (considering its accuracy, naturalness, cultural appropriateness and functional equivalence). Each idiom is analysed in terms of semantic meaning, pragmatic function and stylistic effect, both in the source and the target languages. Thus, our contrastive analysis relates to the field of translation (including computer-assisted translation) as well as linguoculturology (as an emerging branch of knowledge) and aims to offer practical insights for translators in their quest for effective strategies for bridging linguistic and cultural gaps in the communication process.*

Key words: *idioms, linguoculturemes, equivalence, translation studies, translation shifts*

1 Marta-Teodora Boboc is Lecturer PhD at the Department of Russian and Slavic Philology of the Faculty of Foreign Languages and Literatures of the University of Bucharest. Her research interests are terminology and translation theory. She has recently published *Russian Economic Terminology for All* (with prof. dr. Moraru Mihaela), 2025; *Fundamental aspects of applied translation studies* (with prof. dr. Moraru Mihaela, lect. dr. Petrașuc Roman, drd. Chivu Costin), 2025. . E-mail: teodora.boboc@lls.unibuc.ro

Copyright © 2026 Marta-Teodora Boboc

Article history: Received: 1 May 2026; Edited: 18 May 2026; Revised: 27 June 2026; Accepted: 30 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

Introduction

The current topic, namely that of translating phraseological units, is not a new one, but it undoubtedly remains of great interest in the field of translation studies, where researchers analyse it from various points of view, for example in literature, in a specific domain (such as sports, mass-media and so on), in a particular register of language (like the colloquial one) among others. Thus, taking into consideration both the relevance of the abovementioned topic as well as its potential to serve as an illustrative case, we turn to online bilingual dictionaries as a practical support to provide our examples, while the theoretical approach encompasses pertinent views of various scholars.

As far as linguoculturology is concerned, given its twofold nature as a combination of language and culture, this field becomes an adequate background in performing the current analysis. Seen as a „*field that studies the relationship between language and culture*", linguoculturology „*examines how language is influenced by the cultural, social and historical contexts in which it is used*" and it „*seeks to understand the ways in which language shapes and reflects the values, customs, and beliefs of a particular culture*" (Mirzhakhon qizi, 2023, p. 155). Moreover, it

> involves not only analysing the language and communication patterns of different cultures in order to gain insights into the underlying cultural values and norms, but also examining the vocabulary, grammar, idioms and other linguistic elements that are unique to a particular culture (Mirzhakhon qizi, 2023, p. 155).

In addition, as we can infer from the last sentence of the quote, the linguocultural approach implies the study of phraseology, for it reflects the ethnic specificity of a nation.

According to N.I. Tolstoy, within each ethnic culture four subtypes can be distinguished, as follows (Tolstoy, 1995):

- *elite* (or *high*) *culture* – a category that is often associated with aristocratic and intellectual social strata, encompassing cultural objects with aesthetic value, such as works of art, literature, music, philosophy, and even the whole history of a given society;

- *folk* (or *traditional*) *culture* – strongly linked to the peasantry, comprising all artistic and spiritual creations, customs and traditions transmitted orally from generation to generation, thus reflecting the values, beliefs and experiences of an ethnic group;

- *vernacular* (or *intermediate*) *culture* – that is connected to the local dialect;

- *professional subculture* (for example, that of shepherds, beekeepers, potters or craftsmen).

Two of these four categories are very important for our analysis, respectively folk and vernacular culture, one representing the cultural element

and the other – its linguistic reflection, given the fact that traditions, values and beliefs often find their expression in a spoken or written form, i.e. in language. This is precisely where linguoculturology proves its usefulness by providing the necessary set of concepts in order to better understand the specifics of various phraseological units in translating between two or more languages. A concise list of these concepts includes notions such as: *linguocultureme*, *linguistic worldview*, *culture space*, *culture language*, *cultural heritage*, *cultural values*, *cultural attitudes*. In what follows we will define each of them.

Firstly, the fundamental concept of linguoculturology is the linguocultureme. Just as translation theory is built around the concept of the *transleme*, morphology around the *morpheme*, and phonetics and phonology around the *phoneme*, linguoculturology takes the *linguocultureme* as its basic unit of analysis. It is defined as the minimal unit that combines "the linguistic representation and the extralinguistic cultural environment associated with it, including the specific linguocultural context" (Vorobiov, 2006, p. 44). At first sight, this notion seems to be identical with that of *realia words*, but in fact it is a much broader term, if we are to take into consideration its extensive semantic field, encompassing not only concrete objects that are nationally relevant, but also various symbols, names of characters and even spatial projections. In addition, the orthographic and phonetic form of a linguocultureme "conceals" a deeper meaning, which usually requires contextualized decoding.

Secondly, the larger context in which linguoculturemes emerge, develop and are used, the so-called linguistic worldview of a specific nation, is shaped as "a system of several reference points which are encoded in associative and imaginative structures of various linguistic units and then reconstructed by interpreting and relating them to the cultural signs and concepts that determine their emergence" (Oparina, 1999, p. 4). Directly connected to this "umbrella concept" are another five, namely: the language of a nation, its cultural heritage (including cultural values and attitudes) and its specific space (or place) of origin.

The language of a nation contains the "means, signs, forms, symbols and texts that help people engage in the communication process and navigate within a particular cultural space" thus serving as "a universal form of understanding reality, a way of creating, preserving, processing and transmitting cultural information" (Parkhomenko, Radugin, 2002, p. 81). As we can see in the quotation above, language acts as a dynamic element that ensures human interaction and the exchange of ideas, while cultural heritage is rather static, but perennial and can be defined as "the identification of cultural meanings (at both individual and social levels) which are preserved and further revealed, interpreted and then decrypted in relation to the peoples concerned" (Evsiukova, Butenko, 2014, p. 93).

This cultural heritage encompasses a fixed set of cultural values which are conventionally integrated into four major domains: "everyday life, ideology, religion and artistic culture" and that manifest themselves in the form of cultural

attitudes, which comprise "the norms of thought and behaviour that are embedded in and preserved within the national culture, are socially accepted and influence the life of that society's members" (Evsiukova, Butenko, 2014, pp. 100-101). Such cultural attitudes may vary from tolerance and acceptance to disapproval and rejection, from understanding to misinterpretation or ignorance and so on.

However, for cultural heritage to function in a particular way, the cultural space in which it exists and its specific characteristics must also be taken into account, for it is "the sum of all individual and collective spaces of all members of a given ethnocultural community and a way of shaping culture in the consciousness of its representatives" (Maslova, 2001, p. 48).

Having as points of departure three cultural spaces, respectively the Russian, the Anglophone and the Romanian spheres, our research aims to reveal in a contrastive analysis of linguoculturemes how the mentality of these peoples is reflected in language, more precisely in phraseology.

Towards a classification of idioms

If we comply with the common view on translation as rendering both meaning and form (see, for example, Nida, 2004; Condrea, 2006; Ene, 2015), with the former being conventionally of greater importance than the latter, but still depending on the type of the text under discussion, at the level of phraseology, especially when cultural elements are involved, two main methods stand as valid solutions – equivalence and cultural adaptation.

But before focusing on each of them, the following conceptual distinction needs to be clarified: in our paper we view a phraseological unit as the broad category for any multi-word expression that is fixed or semi-fixed in usage, we refer to an idiom as a phraseological unit whose meaning is non-compositional (i.e. we cannot infer it from individual words), has a figurative or opaque meaning and is often culturally bound and, last but not least, we take into account collocations as combinations of words that frequently co-occur and sound natural together, but whose meaning is usually transparent.

The classification of idioms according to various criteria is also of significant importance in our current analysis. In this respect, one opinion is that of S.A. Kutumova, who identifies two main categories of idioms, in accordance with their origin (Kutumova, 2014, p. 2):

a) idioms that emerge in the source language based on national folklore, see for example: rus. *по щучьему велению* (deriving from the Russian folk tale *At the Pike's Behest*, where the lazy hero Emelya catches a magical pike that grants his wishes when he pronounces this phrase and, due to this tale, the idiom is used to describe situations where things are done effortlessly or magically) – eng. *with a wave of the wand* – rom. *ca prin farmec/minune* (i.e. *just like magic*);

b) borrowed idioms, especially of old or Biblical origin, such as: rus. *ящик Пандоры* – eng. *Pandora's box* – rom. *cutia Pandorei*, rus. *Фома неверующий* – eng. *doubting Thomas* – rom. *Toma necredinciosul* (here in both Russian and Romanian the adjective is *faithless – неверующий/necredincios*, rather than *doubting – который сомневается / care se îndoiește*).

Another one is D.O. Dobrovolsky's view which divides idioms into four categories depending on the function they fulfill (Dobrovolsky, 1990, pp. 48-53):

a) idioms that serve a descriptive function, such as: rus. *бить баклуши*[2] (to beat or chop wooden blocks)[3] – eng. *to loaf around* – rom. *a freca menta* (to rub the mint), rus. *куда Макар телят не гонял* (where Makar didn't herd the calves or graze his cows) – eng. *in the back of beyond* – rom. *unde și-a înțărcat dracul copiii* (where the devil weaned his children);

b) idioms used for identification, like: rus. *ложки-плошки-финтифлюшки* (spoons, bowls and gewgaws or trinkets) – eng. *all the bits and pieces (and trinkets)* – rom. *fleacuri și nimicuri* (trifles and nothings), rus. *анютины глазки* (little Anya's eyes)/ *Иван-да-Марья* – eng. *Johnny jump up* – rom. *barba împăratului* (the emperor's beard) – with reference to the flower widely known as wild pansy;

c) idioms functioning as modal markers: rus. *была не была / будь что будет* – eng. *come what may* – rom. *fie ce-o fi*;

d) idioms functioning as speech acts: rus. *жребий брошен* – eng. *the die*[4] *is cast* – rom. *zarurile au fost aruncate*;

e) idioms functioning as quantifiers: rus. *встречный-поперечный* (the one coming towards you and the one crossing your path) – eng. *any Tom, Dick or Harry* – rom. *primul venit* (the first one to arrive or to come).

In his turn, V.M. Savitsky (Savitsky, 2006, p. 184–186) also divides idioms into six categories, as follows:

a) according to their degree of semantic cohesion, idioms can be either complete (those whose overall meaning cannot be inferred from the meanings of its individual words), see for example: rus. *куда Макар телят не гонял* – eng. *in the back of beyond* – rom. *unde și-a înțărcat dracul copiii* or partial (where one or more components retain their literal meaning, while the others are used figuratively), like: rus. *держать камень за пазухой* (to keep a stone under one's shirt) – eng. *to hold a grudge (against someone)* – rom. *a avea un dinte (împotriva cuiva) / a purta pică* (to have a tooth against someone / to bear spite);

2 A *baklusha* was a small, chopped wooden block later to be carved into spoons or cups. Preparing such wooden blocks was considered one of the easiest task in woodcraft.

3 Here and from now on we provide in parentheses the literal translation of the idioms, for a better and easier understanding of their meaning. However, we do so only where the idioms differ considerably regarding their formal aspects.

4 We consider it important to mention that the word *die* in English is polysemantic, depending on its morphological category – as a noun it means, as we have already mentioned, rus. *жребий* and rom. *zar*, while as a verb – *to die* – its meaning changes into rus. *умирать-умереть* and rom. *a muri*.

b) considering the type of semantic extensiveness, there are: idioms with narrowed meaning (that is the meaning of the idiom is narrower than that of its components), for example: rus. *зелёная волна* – eng. *green wave* – rom. *undă verde*, broadened meaning, such as: rus. *жить на широкую ногу* (to live on a broad / wide foot) – eng. *to live large / to live high on the hog* – rom. *a trăi pe picior mare* (the same as in Russian), shifted meaning, like: rus. *держать марку* (to maintain the brand) – eng. *to keep up the appearances* – rom. *a păstra aparențele* (the same as in English) and figurative meaning, such as: rus. *белая ворона* (a white crow) – eng. *a rare bird* – rom. *o pasăre rară* (also the same as in English).

c) taking into account their linguistic designation, idioms can be split into phrasal (phraseomatic idioms, for example: rus. *разбить наголову* (to smash someone over the head) – eng. *to wipe the floor with someone* – rom. *a șterge pe jos cu cineva* (the same as in English) and phraseological units, such as: rus. *дело в шляпе* – eng. *it's in the bag* – rom. *a avea în buzunar [ceva sau pe cineva]*[5] – meaning that all is under control), lexical – as it is the case of rus. *за версту видно* – eng. *you can see it a mile away* – rom. *se vede de la o poștă*, where the cultural element is replaced according to the corresponding space (*верста – mile – poștă*[6]) or grammatical – rus. *чем дальше в лес, тем больше дров* (the farther one goes into the forest, the more firewood one finds) – eng. *to open a can of worms*.

d) by their semantic structure, idioms divide into denotative-significative: rus. *за тридевять земель* (beyond thrice nine lands) – eng. *over the hills and far away* – rom. *peste mări și țări* (over seas and lands), denotative-connotative: rus. *синий чулок* (blue stocking) – eng. *blue shirt / bluestocking* and purely connotative: rus. *вешать лапшу на уши* (to hang noodles on someone's ears) – eng. *to pull the wool over someone's eyes* – rom. *a duce cu preșul pe cineva* (to lead / to take someone with the doormat).

e) according to the degree of semantic stability, idioms may have a fixed, for example: rus. *бить баклуши* – eng. *to loaf around* – rom. *a freca menta* or variable global meaning structure, like: rus. *делать из мухи слона* – eng. *to make a mountain out of a molehill* – rom. *a face din țânțar armăsar*[7].

f) according to their degree of semantic motivation, idioms are divided into fully idiomatic expressions, whose figurative meaning is not (or is only hardly) deducible from their literal form and background knowledge, like: rus. *тришкин кафтан*[8] – eng. *robbing Peter to pay Paul* – rom. *a acoperi o gaură făcând alta* (to

5 In this case the only notable difference between the idioms is that in Russian the reference point is a *hat*, in English it is a *bag* and in Romanian – one's *pocket*.

6 This is also a polysemantic word, but in Romanian, where it has the following two meanings: 1. the institution – rom. *poștă* – eng. *post (office)* – rus. *почта* and 2. old measurement unit of about 20 km.

7 In this case the only notable difference between the idioms is that in Russian the reference point is *a fly / an elephant*, in English it is *a mountain / a molehill* and in Romanian *a mosquito / a stallion*.

8 This idiom comes from Ivan Krylov's fable *Trishka's Kaftan*, where the hero, trying to mend his *kaftan*, cuts pieces of fabric from other parts to patch the holes and in the end the *kaftan* only becomes worse.

cover one hole by making another) and partially idiomatic expressions, whose meaning can be inferred with a high but not complete degree of probability: rus. *держать камень за пазухой* – eng. *to hold a grudge against someone* – rom. *a avea un dinte împotriva cuiva / a purta cuiva pică*.

Regarding the classification of idioms in Romanian space, in terms of semantic cohesion as a reference criterion, Constanța Avădanei (Avădanei, 2000, pp. 44-47) splits them into three categories (not only two, as in Savitsky's opinion), namely: non-compositional idioms (opaque) – if they have a high degree of cohesion: rus. *взять быка за рога* – eng. *to take the bull by the horns* – rom. *a lua taurul de coarne*, partially compositional idioms – if some components have figurative meanings, while others are used with their literal meaning within the same phraseological unit: rus. *пустить себе пулю в лоб* – eng. *to blow one's brains out* – rom. *a-și zbura creierii*[9] or fully compositional (transparent) idioms – if the meaning of the phraseological unit can be inferred from the meanings of its individual components, like: rus. *принимать участие в* – eng. *to take part to* – rom. *a lua parte la*.

Idioms in translation between equivalence and cultural adaptation

All the aforementioned idioms display some common traits, namely the following:

- they have a unitary meaning, that is they convey one idea, whose overall meaning does not derive from the individual meanings of all individual elements (Avădanei, 2000, p. 7);

- in this case, the word order is fixed, not flexible and any change at this level might alter its real meaning (Zugun, 2000, p. 29);

- they possess a high degree of expressiveness (Ene, 2015, p. 115);

- and last but not least, they are difficult to translate, especially in terms of grammar and style (Bassnett, 1993, p. 32).

As we can see, phraseology translation seldom results in formal correspondence (although it cannot be completely ruled out, see for example: rus. *волк в овечьей шкуре* – eng. *a wolf in sheep's clothing* – rom. *un lup în piele de oaie*, used in reference to a person who hides a wicked nature under a harmless, friendly or innocent appearance) and rather requires resorting either to equivalence or to adaptation.

The notion of equivalence is deeply ingrained in translation theory, yet it remains a flexible and even contested concept. In practice, it rarely means exact sameness, given the fact that when translating phraseological units, a word-for-word correspondence is often impossible or undesirable, equivalence being in this case achieved not at the formal level, but at the semantic and pragmatic one.

9 In this case in Russian the reference point is the *forehead*, while in both English and Romanian – it is the *brain*.

Such an approach is strongly linked to Eugene Nida's perspective on equivalence (Nida, 2004), that divides it into two categories – dynamic and formal. And while dynamic equivalence prioritizes the response of the target audience, aiming to evoke the same (or at least a similar) reaction as the original text, formal equivalence focuses on keeping as close as possible to the form and content of the source text, which means preserving the wording, structure, grammatical patterns and stylistic features of the original source.

Another classification of the concept of equivalence that may prove useful in studying phraseology translation is the one provided by the Romanian linguist Irina Condrea, who highlights another three types:

1. false equivalence – directly linked to the idea of *false friends* in translation, that is interlinguistic *homonyms*, defined as words with similar orthographic and phonetic form, but with different meaning;

2. partial equivalence – that has more to do with *combinatory valencies* and *polysemy*, for in this case one word from the source language may have two or more correspondents in target language or the other way round;

3. total equivalence – if the meaning in both source and target language is the same (Condrea, 2006, p. 54-65).

Although such a taxonomy does not necessarily apply to phraseological units, three related branches can nevertheless be distinguished within the idiomatic sphere, all of which describe the same underlying reality (Moraru, Boboc, 2018, pp. 45-46):

- non-equivalence – when the form of the idioms in source and target languages is very different, but their meaning stays the same, see for example: rus. *когда рак на горе свистнет* (when the crayfish whistles on the mountain) – eng. *when pigs fly* – rom. *la Sfântu' Așteaptă* (on Saint Waiting's Day), though in this case in Romanian we also have the expression *când o zbura porcul*, which is exactly the same as in English;

- partial equivalence – when the form is similar enough so as to infer the meaning and find the adequate idiomatic translation, like in the case of: rus. ***убить*** *двух* ***зайцев*** (*to kill two rabbits*) – eng. *kill two* ***birds*** *with one stone* – rom. *a* ***împușca*** *doi iepuri dintr-o lovitură*, that is, in its literal translation – *to shoot two rabbits with one shot*;

- total equivalence – if the idioms have not only the same meaning, but also the same formal characteristics, such as: rus. *играть с огнём* – eng. *play with fire* – rom. *a se juca cu focul*.

However, when cultural elements are involved, seeking formal equivalence may not be the optimal strategy, as in such cases an analogue can more effectively familiarize the target audience with the source culture. In this new context, cultural adaptation is the key that "unlocks" the door to Otherness. In translation

theory, adaptation is defined as "a transformation of the original utterance, taking into account the transposition of its pragmatic dimension" (Neliubin, 2003, p. 163), respectively "the particular transfer of the information contained in an utterance received by different addressees" (Veledinskaya, 2010, p. 193)[10]. Thus, if in the case of equivalence the reference pair was form versus effect, when speaking of adaptation the focus shifts to the disjunction between content and effect. Linguocultural adaptation implies transmitting the message to the target culture audience by reshaping the source expression so that it resonates with the target audience's cultural framework. If we were to consider the idiom *as American as apple pie*, which evokes a strong sense of national identity, we should say that neither in Russian or Romanian do we find a one-to-one equivalent in the form of an established idiomatic expression. Here either a more neutral translation could be offered, such as rus. *русский до мозга костей* (Russian to the bone) or an „artificially" created comparison, like rus. *русский как пирог* (as Russian as a traditional pie). When consulting ChatGPT for an alternative, its first suggestion was *русский как берёза* (as Russian as a birch tree), which is also a Russian symbol, but does not belong to gastronomy. In Romanian, the first suggestion was rom. *românesc ca mămăliga* (as Romanian as polenta), but here another issue emerges – namely that of the nuances this particular sort of food has in Romanian culture. When somebody says *a o pune de mămăligă* (to make some polenta) or *a fi de mămăligă* (to be fit for polenta / to be polenta material) the person refers either to *getting into trouble* or to a *cowardly* or *weak* behaviour, so in this case *mămăligă* has a pejorative meaning that *pie* and *пирог* do not have. In what concerns rus. *русский до мозга костей*, the meaning would stay the same, but the cultural nuance would be significantly diminished. Besides, at this level there are similar expressions in both Romanian and English – rom. *român(esc) până în măduva oaselor* and eng. *American/English to the bone/core*.

In the given context, the goal is not to preserve the original imagery, but to recreate its cultural function. So, the translator's task is to identify the adequate conceptual parallels and select an expression that feels natural in the target language.

Idioms containing geographical elements in translation dictionary entries vs. Chat GPT output

In what follows we analyze some examples with geographical elements[11], these being a symbol of the cultural space, and their translations from Russian to English

10 While we are aware that there are more precise and well-established definitions of *adaptation* in both Russian- and English-language translation theory (such as those proposed by V.N. Komissarov, L.N. Barhudarov, J.P. Vinay and J. Darbelnet or P. Newmark), we chose to focus on these two in our search for more recent bibliographical sources (mainly post-2000).

11 The examples we analyze below are selected from online resources such as https://ru.wiktionary.org and https://gramota.ru/. Their meanings in both English and Romanian are given either based on the already existing translations that we found on the same sites or by taking into account their definitions and correlating them with the corresponding idioms.

and Romanian, selecting the corresponding expressions from various dictionaries and comparing them to the alternative AI provides.

The examples we have selected are discussed in alphabetical order and for each of them we provide an explanation concerning the context in which the idiom is used, as well as its translation from Russian to English and Romanian, with contrastive commentaries.

The Russian idiom *ездить в Тулу со своим самоваром* has the English equivalents *to bring owls to Athens* / *to carry coals to Newcastle* and Romanian *a-i vinde castraveți grădinarului* (in its literal translation – *to sell cucumbers to the gardener*). It is used to describe a completely pointless or redundant action, involving someone who knows better than the speaker the way things work. While in Russian and English the geographical component is preserved, which points to the use of cultural adaptation rather than equivalence, in Romanian the form is completely different – therefore here we have non-equivalence. Nevertheless, the meaning and the impact are (presumably) the same, just as Eugene Nida points out when stating what dynamic equivalence is. When looking for an automated translation of said expression, ChatGPT provides the same English equivalent and a similar Romanian idiom, namely *a duce* (i.e. to take) *lemne în pădure* which in the dictionary slightly differs in terms of the choice of verb – *a căra lemne în pădure*, that is *to carry twigs in the woods*.

The idiomatic expression, rus. *загнать за Можай*, refers to the town Mozhaysk, but makes use of its colloquial form and it denotes a faraway place where someone is forcibly driven. In this case, neither in English, nor in Romanian is there an idiom containing concrete geographical references, though a hint to the long distance may be provided in an explicative manner. And while in English we have a simple phrasal verb that can be used in this context – *to drive someone out of something* or an informal idiomatic alternative – *to send someone packing*, in Romanian a more detailed variant is available: *a alunga hăt departe* (to chase or to drive someone far away) / *a trimite la capătul lumii* (to send someone to the end of the world). The options *to run someone off* and *a pune pe fugă*, which ChatGPT suggests, are only partially adequate in that they successfully convey the idea of *running*, but the English version denotes a willing action opposed to its nuances in Russian. In Romanian the translation is adequate and the expression may be considered equivalent, due to the verb *a pune (pe fugă)*, which means *to determine (somebody) to run*.

Regarding the idiom *на Кудыкину гору*, it is also rooted both culturally and geographically in Russian space and contains a reference to Mount Kudykin, a well-known safari park. Its meaning is linked to the idea of an unknown destination which both in English and Romanian has a more religious interpretation so to say, since it is related to the concept of Divinity, see eng. *God knows where* and rom. *Dumnezeu știe unde*. In Romanian it is also possible to use the exact opposite in translation, that is *dracu' știe unde* (in its literal interpretation – *the devil knows*

where). The alternative that ChatGPT offers, namely that of rom. *la mama naibii* (literally – *to the devil's mother*) is very distinct from the point of view of its semantic content, for it means *far away*, instead of *nobody knows exactly where*.

The phraseological unit rus. *вопить / кричать / реветь во всю ивановскую* has as cultural element another toponym, that is, the adjective *ивановскую*, in reference to Ivanovskaya square in Moscow. In the old days this was the place where the Tsar's edicts were read out loud to the people and also where some punishments were carried out publicly, which gave the idiom the particular meaning of screaming very loudly, namely in English *at the top of one's lungs* and in Romanian – *în gura mare* (in a literal translation – *in a big / loud mouth*). As we can see, in this case we do have semantic correspondence, but the loss of its cultural color may also trigger a lessening of the impact upon the target audience which would alter Nida's principle of dynamic equivalence. As for the automatic translation, ChatGPT offers the adequate version, at the same time indicating more neutral alternatives, such as eng. *at full volume / blast* – rom. *la (volum) maxim* that rather relate to the sphere of music than to that of linguocultural phraseology.

The last example, respectively rus. *пройти и Крым, и рым,* contains two specific elements – a toponym and a technical term. Literally meaning *to go through Crimea and through a ring bolt*, this idiomatic expression is a part of the more ample Russian saying *Пройти огонь, воду, медные трубы, чертовы зубы, Крым и рым* and is used to denote the experience one has gained in life. And while in Russian it does have a cultural nuance and a concrete geographical reference, in English and Romanian the semantically equivalent phraseological units do not. Here cultural adaptation lacks, but we do find semantic and even formal equivalence especially between English and Romanian languages, see eng. *to go through fire and water* and rom. *a trece prin foc și pară* – with only one different element, namely *water* and *pară* (i.e. *flame*). When consulting ChatGPT for an adequate translation or equivalent, it provides as synonyms idioms such as eng. *(to have been) through thick and thin* and rom. *a trece prin foc și sabie* which slightly differ from the original in Russian, since the expression ***t**hrough thick and thin*, depending on the verb it combines with, also has the meaning *in good or in bad times*, *in sickness and in health*, as they say when people marry. As for rom. *prin foc și sabie* (i.e. *through fire and sword*) – it is indeed very close to the other one – *prin foc și pară*.

Conclusions

Although five examples are but quite a small statistical sample, we consider that the qualitative contrastive analysis we have provided is of greater importance here, since it is the one that offers a clear image of how each cultural space and language of the three we chose reflects various phenomena and characteristics and assesses them in accordance with their own set of values and linguistic

worldview. As these specimens prove, the cultural nuances are quite difficult to preserve and rarely do we have this component in all three languages (Russian, English and Romanian) for the same idiomatic meaning. In turn, more often only two languages display strong similarities, either in that they do convey the cultural aspect (especially Russian and English) or have pragmatic equivalents (as it is the case of English and Romanian). And while in Russian idioms seem to be deeply rooted in the given geographical space, in English and Romanian they rather have an indefinite character or relate to a completely distinct sphere, be it anatomy (see *lungs* and *gură*), religion (God versus the devil) or primordial elements (fire and water).

Nevertheless, mere knowledge of geography is of no help in decoding the meaning of such idiomatic expressions because often the historical and cultural context are also deeply connected (see the case of Ivanovskaya square, where people would gather and of Tula city, where samovars were traditionally manufactured), which demonstrates that such toponyms do actually represent concrete linguoculturemes.

We acknowledge the fact that the current analysis could be further developed into an even more ample research which could also include certain statistics (that is specific percents for each linguistic phenomenon that has been described – formal and dynamic equivalence, cultural adaptation or a mix of both), but such details are beyond the scope of the present paper.

References

Avădanei, C. (2000). *Construcții idiomatice în limbile română și engleză*. Iași: Editura Universității „Alexandru Ioan Cuza".

Bassnett, S. (1993). *Comparative Literature: A Critical Introduction*. Oxford: Blackwell.

Condrea, I. (2006). *Traducerea din perspectivă semiotică*. Chișinău: Cartdidact

Dobrovolsky, O.D. (1990). *Osnovy strukturno-tipologicheskogo analiza frazeologii sovremennyh germanskih yazykov*. Tübingen: Narr.

Ene, D.L. (2015). *Traduttore, traditore. Incursiune în teoria și practica traducerii unităților frazeologice*. Iași: Demiurg.

Evsyukova, T.V., Butenko, E.Yu. (2014). *Lingvokulyturologiya*. Moskva: Flinta.

Kutumova, S.A. (2014). Features of week days phraseological units etymology in the context of superstition and sayings (by the material of the Russian and English languages). *Philological Sciences*. Issue 5-2. 126-129.

Mirzhakhon qizi, I.S. (2023). Linguoculturology as a branch of linguistics. *Web of teachers: Inderscience research*, 1(9), 154-157.

Moraru, M., Boboc, T. (2018). *Limba Rusă pentru Noi*. București: Editura Universității din București.

Neliubin, L.L. (2003). *Tolykovyy perevodcheskiy slovary*. Moskva: Nauka.

Nida, E. (2004). *Toward a Science of Translation*. Shanghai: Shanghai Foreign Language Education Press.

Parkhomenko, I.T., Radugin, A.A., (2002). Istorya mirovoy i otechestvennoy kulytury. Moskva: Vlados.

Savitsky, B.M. (2006). Osnovy *obshtey teorii idiomatiki*. Moskva: Gnozis.

Tolstoy, N.I. (1995). *Yazyk i narodnaya kulytura*. Moskva: Indrik.

Veledinskaya, S.B. (2010). *Kurs obshtey teorii perevoda: uchebnoe posobie*. Tomsk: Izd-vo Tomskogo politehnicheskogo un-ta.

Vorobyov, V.V. (2006). *Lingvokulyturologiya*. Moskva: Izd-vo Ross. un-ta druzhby narodov.

Zugun, P. (2000). *Lexicologia limbii române*. Iași: Tehnopress.

AI VS. HUMAN TRANSLATION IN CHILDREN'S LITERATURE: A VINAY & DARBELNET ANALYSIS OF GEMINI'S RENDERING OF PETER PAN[1]

Mustafa Melih Güçlü[2],
N. Berrin Aksoy[3], Atılım University, Ankara, Türkiye

https://doi.org/10.46687/GAHV2333

Abstract: *This study investigates Google's Gemini in translating children's literature by comparing the results of Gemini outputs and those of a professional human translator. Translating for children is often regarded as a complicated area, requiring a high level of creativity in order to deal with wordplay, rhyme, cultural allusions, and the dual addressee nature of the genre. Thus, to evaluate artificial intelligence performance in this complex domain, Vinay and Darbelnet's (1958/1995) taxonomy of translation procedures was chosen as a framework, and six purposively selected excerpts were selected from J. M. Barrie's classic children's book Peter Pan (1911). Three translations, a professional human translation, an unprompted Gemini translation, and a prompted Gemini translation were analyzed. The results demonstrate that the human translator employs a balanced distribution of translation procedures, while the unprompted Gemini translation relies heavily on the direct procedures, which results in semantic accuracy but source-oriented phrasing and mechanical output. The prompted Gemini output, on the other hand, shows a tendency toward oblique and supplementary procedures. This shift often leads to over-explanation and a loss of narrative subtlety, but it does indicate that effective prompting redirects the model's attention to a child-centered approach. The study concludes that although prompting functions as a significant translational intervention, which increases reader-orientation, large language models currently serve most effectively as a supportive tool for human translators in the translation process, rather than as autonomous children's literature translators.*

Keywords: *Children's literature translation, Artificial intelligence (AI), Large language models (LLMs), Vinay and Darbelnet, Google's Gemini*

1 This study is based on Mustafa Melih Güçlü's "A Comparative Analysis of Google's Gemini and Human Translation in Terms of Vinay and Darbelnet's Translation Procedures: The Case of Peter Pan", MA Thesis, supervised by Prof. N. Berrin Aksoy (PhD).
Author Contributions: Mustafa Melih Güçlü 70% (Title, literature review, theoretical framework, choice of translation examples, editing). Prof. N. Berrin Aksoy (PhD): 30% (Theory, review, organization, outline).

2 Mustafa Melih Güçlü is a freelance English–Turkish translator and an independent researcher. He holds an M.A. in English Translation Studies from Atılım University. His research focuses on literary and children's literature translation, with particular interest in AI-assisted translation and translation theory. Email: guclu.mustafamelih@outlook.com

3 Prof. Dr. N. Berrin Aksoy is a senior lecturer in the Department of English Translation and Interpretation at Atılım University in Ankara, Türkiye. Her research areas include translation studies, English literature, Turkish literature, and comparative literature. She has published extensively in these fields at both international and national levels and has presented at international conferences. She has supervised more than 20 MA and Ph.D theses in literary and translation studies. Currently, she teaches literary translation and contemporary trends in Translation Studies in both BA and MA courses. Email: berrin.aksoy@atilim.edu.tr

Copyright © 2026 Mustafa Melih Güçlü, N. Berrin Aksoy
Article history: Received: 18 May 2026; Edited: 30 May 2026; Revised: 19 June 2026; Accepted: 22 June 2026; Published: 25 Oct 2026
This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

Introduction

In recent years, large language models (LLMs) and machine translation models have improved significantly. This rapid improvement has started to influence many aspects of daily life and professional workflows. However, it has also sparked curiosity about the use of these models in the process of translation. Despite their rapid development and efficiency in areas such as technical texts, their use in literary translation is questionable. While AI translations tend to focus on the literal accuracy of texts, human translators take into account the texts' contextual meaning and literary depth. Literary texts are different from technical texts. They are written with figurative language and deeper thematic meanings, and they require extensive contextual and cultural knowledge.

These challenges are magnified in the translation of children's literature, which is often considered one of the most complex areas of translation. Children's literature frequently relies on wordplay, rhyme, rhythm, and cultural allusions, which inherently demand a high level of creativity and knowledge of the target culture to both preserve the original text's components and effects and create a text that children find fascinating and fun to read. In addition, children's books are created for young readers, but are written, mediated, evaluated, and often enjoyed by adults, resulting in a dual addressee complexity of the genre (O'Sullivan, 1993).

Because of these complexities, James Matthew Barrie's classic children's book *Peter Pan* (1911) serves as an ideal case study for testing Gemini's capabilities in translating children's literature. The novel presents a wide range of translation challenges, such as wordplay, playful language, metaphors, and cultural references.

Given these complexities, this study proposes the following hypotheses:

H1: Without stylistic instructions, Gemini will use direct translation procedures, which include literal translation and calque. Even though it can capture the meaning of the source text, it cannot capture its tone and register.

H2: The human translator, on the other hand, is expected to apply oblique procedures, especially modulation and transposition. It is hypothesized that human expertise allows for the creative translation necessary to preserve the child-oriented narration, rhythm, and cultural nuances of selected excerpts from *Peter Pan* (1911).

H3: The introduction of the specific stylistic prompt is hypothesized to cause a visible change in the distribution of procedures that Gemini uses, thus resulting in a higher frequency of the application of supplementary and oblique procedures when translating.

This study attempts to compare translation procedures used by Gemini and a professional human translator in children's literature. By examining the limitations and opportunities of large language models, the research aims to

identify the key translation procedures employed by Gemini and the human translator using Vinay and Darbelnet's (1958/1995) taxonomy. Furthermore, the research will explore qualitative differences in children's literature translation focusing on the role of prompting in decision-making.

This study addresses an underexplored area in the current literature. While previous studies have focused on traditional machine translation tools such as Google Translate and DeepL, they have largely overlooked children's literature. In addition, most existing studies rely on automatic metrics and quality judgments, with only a few applying established translation theories to investigate large language models. By examining Gemini's translations through the framework of Vinay and Darbelnet (1958/1995), this study will be among the first to analyze a large language model in the context of Turkish translation of children's literature.

Analytical Framework

In this research, the taxonomy of the translation procedures outlined by Jean-Paul Vinay and Jean Darbelnet (1958/1995) has been used as a framework for analysis of the selected excerpts. The classification is proposed by Vinay and Darbelnet in their study titled *Comparative Stylistics of French and English: A methodology for Translation* (1958/1995). Vinay and Darbelnet (1958/1995) categorize the translation procedures into two major types: direct procedures and oblique procedures. Direct procedures are borrowing, calque, and literal translation. They are used when there is structural and conceptual similarity between the source and target languages. When direct procedures are not suitable because of linguistic or stylistic differences, oblique procedures are used. These oblique procedures include transposition, modulation, equivalence, and adaptation.

As literary translation, and specifically children's literature, requires a high degree of adaptation and intervention for readability, this study also employs supplementary translation procedures, outlined in Vinay and Darbelnet's (1958/1995) extended framework. Munday (2016) states that some of these procedures have "maintained currency" in translation theory (p. 92).

Supplementary translation procedures are amplification and economy, explicitation and implicitation, compensation, generalization and particularization. These procedures are essential for capturing semantic and stylistic shifts such as tone softening and cultural clarification.

Vinay and Darbelnet's (1958/1995) model is especially useful in comparative AI translation research, as it enables systematic identification of both structural and stylistic shifts in all outputs. The framework is also applicable to children's literature, where readability, tone, and cultural adaptation often require moving away from literal translation.

Brief Literature Review of Related Studies

Research on machine translation and artificial intelligence, in particular large language models, is increasingly interested in the capacity of these systems to deal with literary, culturally rich, and contextual texts. Previous work on traditional machine translation systems, has generally shown that such systems can generate grammatically correct output but are unsuccessful in interpreting figurative language, and in transferring cultural, and stylistic aspects. Studies on literary texts, children's literature, and classical novels have revealed that machine translation systems frequently use literal translation strategies, leading to semantic distortion, lexical inconsistency, and loss of narrative coherence (Aşkın & Balkul, 2022; Aşkın, 2023; Aksoy Arıkan, 2021).

Studies of children's literature show the limitations of machine translation in terms of readability, emotional tone, and stylistic suitability. Aşkın and Balkul (2022) analyze the Google Translate output of a Turkish children's book and note that the translations are mechanically good but stylistically poor. The model occasionally failed to maintain contextual meaning and lexical consistency. Similarly, Aşkın (2023) investigated Google Translate's translation of Harper Lee's *To Kill a Mockingbird* and found that the model was unable to translate idiomatic expressions, metaphors, dialectical speech, and cultural references. For example, the phrase "walk on eggs" was translated literally into Turkish, and the cultural significance of the expression was lost. Moreover, Aksoy Arıkan's (2021) comparative study of Google Translate and Yandex Translate in translating Anne of Green Gables shows that machine translation systems have difficulty comprehending polysemous words and emotionally charged sentences. Thus, the results of these studies show that despite improvements in grammatical accuracy, the transfer of thematic depth, cultural meaning, and literary style is still a limitation of machine translation systems.

The limitations are more visible in studies of idiomatic expressions and neologisms. In Sarı (2023), the performance of neural machine translation systems in audio-visual translation was studied, and it was found that the machine translation tools translated idioms literally most of the time. This resulted in semantic and cultural loss. Expressions such as "in a pickle" were translated literally, rather than finding a similar expression in context. Similarly, Awadh and Shafiull (2020) observe that machine translation systems face challenges with neologisms because of the lack of fixed lexical equivalents in dictionaries and training data. The studies show that non-literal language and novel vocabulary remain major challenges for machine translation systems.

Research on post-editing suggests that the quality of machine translation can be significantly improved by human intervention. Argun (2023) and Eşme (2023) investigate the effectiveness of combining machine translation systems with post-editing and grammar checking tools. The results demonstrate the ability of models such as DeepL to produce relatively fluent translations when

combined with post-editing tools such as Grammarly. However, even the most advanced neural machine translation tools remain dependent on human supervision, especially in the field of literature and high-precision domains. The studies present machine translation systems as supporting tools that aid human translators, rather than autonomous systems capable of replacing human translation expertise. This perspective is consistent with the broader discussions about machine translation literacy. Kenny (2022) argues that users and translators need to be competent enough to be able to critically assess machine-translated texts and judge whether they are "fit for purpose" (p. vi). Current approaches stress the role of AI systems as tools to support humans, whose output needs to be critically evaluated, especially in fields where style, culture, and readers' needs are essential, rather than regarding AI systems as replacements for human translators.

Recent studies have focused on large language models such as ChatGPT, GPT-3.5, GPT-4, and Gemini. LLMs show better performance in document-level coherence, semantic fidelity, fluency, and discourse-level flow than previous MT systems (Wang et al., 2023). Additionally, Wang et al. (2023) argue that LLMs could be a "new paradigm" for document-level translation as they perform better than commercial machine translation systems in human evaluation of coherence and readability but achieve lower scores in automatic metrics in some cases (p. 1).

However, research on rich literary and cultural texts indicates important limitations remain. The research by Obeidat et al. (2024) compared translations of English idioms into Arabic by Gemini, ChatGPT, and Google Translate. The study found that Gemini used less literal translation and showed a higher tendency for sense-based translation than the other two models. But all models still have difficulty with figurative and culturally embedded language. Gunawan et al. (2025) evaluated the translation of *Pride and Prejudice* into Indonesian. The study found that ChatGPT and DeepSeek performed relatively well in the formal and idiomatic language category. Meanwhile, Gemini was noted as less suitable for literary translation because it could not preserve the contextual meaning. Working on low-resource Indian languages, Chandra et al. (2025) also conclude that LLMs perform better than Google Translate in terms of emotional preservation and semantic fidelity. However, highly figurative and culturally rich content still remains a challenge for LLMs. Moreover, Nedelcheva (2025) investigated ChatGPT's performance against human translation when handling the translation culture-specific terms, metaphors, and stylistic nuances. The study demonstrates that AI is effective at translating common language, slang words, and universal metaphors, but struggles with translating culturally embedded idioms, wordplay, and emotional tone. The results suggest that, despite technological advancements, AI still lacks the pragmatic comprehension and creative intuition required to replace human translators.

Studies also suggest that language typology and cultural distance are important factors influencing the quality of AI translations. Bal and Köktürk

(2025) studied GPT-4 from the perspective of Skopos Theory and found that the model was more successful for structurally similar and high-resource language pairs than for the typologically distant and low-resource language pairs, such as Turkish-Spanish.

Studies on medical and other high-stakes contexts support the need for human oversight. Alimen (2023) and Canbaz (2024) show that ChatGPT can produce fluent and convincing translations while hallucinating and making factual errors at the same time. Seyratlı (2024) also investigated the performance of machine translation in disaster guidelines and stated that Google Translate and DeepL made serious errors in terminology and accuracy, which could endanger human lives. Pre-editing did reduce the number of errors considerably, but these studies maintain the idea that AI-generated translations cannot be relied upon in high-stakes contexts.

Overall, the state of the art in machine translation and large language models has improved significantly in terms of fluency, coherence, and semantic processing, but challenges remain with figurative language, cultural transfer, stylistic nuance, and low-resource languages. Studies so far have pointed out that the human touch and supervision are still invaluable, especially for literary, culturally rich, and high-stakes translation scenarios. Although there is an increasing amount of studies on AI translation, the current studies on Gemini are few and primarily focus on idioms, short passages, or non-literary texts rather than whole works of children's literature (Chandra et al., 2025; Gunawan et al., 2025; Obeidat et al., 2024). Moreover, most studies rely on automatic metrics or general quality assessments rather than translation theory-based frameworks. Therefore, the comparative study of Gemini and human translation in children's literature in Turkish-English is under-researched. This study aims to fill this gap by investigating the translation of *Peter Pan* (1911) by Gemini and a human translator through the lens of Vinay and Darbelnet's (1958/1995) translation procedures.

Google's Gemini

Gemini is a series of large language models developed by Google. Originally released as Bard in 2023, it was renamed as Gemini in February 2024. Gemini is designed to serve a broad set of use cases ranging from complex reasoning to on-device applications (Gemini Team, 2025, p. 1). At the time of writing, there are three Gemini performance tiers. The first tier consists of Pro and Ultra models, designed for complex reasoning and complicated tasks. The second tier includes the Flash models, designed to provide high-speed processing for daily use. Lastly, the Nano Models are lightweight versions optimized for on-device processing and mobile applications. Gemini models were trained across a wide range of data types, which enables them to understand and reason natively across text, images, audio, and video (Gemini Team, 2025, p. 1). As these models are designed to work

with different types of input, not just text but also images, charts, audio, and video, they can combine information from different sources while still using the reasoning capabilities of a large language model. For example, they can identify fine-grained details, synthesize context, and make sense of information presented over time, such as in a video or audio recording (Gemini Team, 2025, p. 13).

Methodology

This study adopts a qualitative comparative research design to examine the translation procedures employed by a large language model and a professional human translator. The primary corpus chosen for this study is the classic children's book *Peter Pan* by James Matthew Barrie (1911/2020), and its professional Turkish translation by Aslı Konaç. Konaç's translation is selected as a benchmark because she has a specialized academic background in children's literature. Additionally, the contemporary relevance of this translation ensures that the human translation reflects current norms in children's literature translation. It also indicates that all translations were produced under similar modern linguistic and technological conditions. Artificial intelligence translations were generated using Gemini 3 Pro. All translations were generated on 11.12.2025. For each selected excerpt, two different Turkish versions were produced. The first is an unprompted translation, which is generated by providing only the source text to the model. The second version is a prompted translation generated using the following prompt: "Translate the following passage from the classic children's novel *'Peter Pan'* into Turkish. The target audience is children aged 8-12. Preserve the tone of the original work and generate a thrilling and engaging text for young readers."

The study utilizes purposive sampling to select six key excerpts from the source text. These excerpts are chosen specifically as they include translation challenges, such as figurative language, idiomatic expressions, and narrative voice. Furthermore, to observe how the human translator and AI handle the tone and reader orientation, the selection also includes excerpts containing sensitive themes for children, such as death. Rather than aiming for quantitative representativeness, this study prioritizes analytical depth that allows a detailed, systematic examination of each excerpt within the framework of Vinay and Darbelnet (1958/1995).

The translations were analyzed using the translation procedures framework proposed by Vinay and Darbelnet (1958/1995). Each excerpt is analyzed at the level of lexical items, phrases, or clauses to identify the use of direct (borrowing, calque, literal translation), oblique (transposition, modulation, equivalence, adaptation), and supplementary (amplification, explicitation, implicitation, economy, generalization, and particularization) procedures. To maintain consistency, each translation shift is classified according to the most dominant translation procedure. The objective of this comparison is to obtain insight into Gemini's decision-making with and without prompting, as well as

how closely these translations reflect the literary standards of the professional human translator.

Analysis of the Selected Excerpts

The following section adopts the analytical framework developed above and carries out a focused comparative analysis of selected excerpts from *Peter Pan* (1911). Each example illustrates a specific problem of translation, such as the use of figurative language and narrative voice, which enables a systematic comparison between the human and Gemini translations. The study investigates the predominance of particular translation procedures in each case and the consequences of such choices on readability, stylistic uniformity, and suitability for young readers. With this analysis, the study aims to find not only the procedural patterns but also the broader interpretative trends that distinguish human from AI-generated translations.

Example 1: *"...but **catch them trying** to draw a map of a child's mind, which is not only confused, but keeps going round all the time."* (Barrie, 1911, pp. 8-9)

Translator	Translation	Procedure
Human T.	"...**ama kolaysa** bir çocuğun karman çorman olmakla kalmayıp bir de durmadan dönüp duran zihninin haritasını çıkarabilen bir doktor **bulun**." (Barrie, 1911/2020, p. 13)	Modulation
Unprompted Gemini	"...**ama bir de onları**, sadece karmaşık olmakla kalmayıp aynı zamanda sürekli dönüp duran bir çocuğun zihninin haritasını **çizmeye çalışırken görün.**"	Literal Translation
Prompted Gemin	"...ama bir çocuğun zihninin haritasını **çizmeye kalkışsalar ne olurdu bir düşünün!** Orası sadece karışık olmakla kalmaz, aynı zamanda hiç durmadan fırıl fırıl döner."	Modulation, amplification

In this example, the human translator applies modulation in the clause "catch them trying," where the observational viewpoint "catch (see) them in the act of trying" of the source text is reformulated as a challenge: "ama kolaysa... bulun." The core meaning is the same, but the action becomes inherently difficult. As a result, the human translation produces a more engaging and idiomatic expression in Turkish.

On the other hand, unprompted Gemini stays close to the original rendering of the clause as "...çizmeye çalışırken görün," showing a literal translation procedure. But the prompted version extends this structure with the addition of the reader-oriented expression "bir düşünün!" This choice reflects

modulation, because it revises the presentation of difficulty. Besides, it can also be classified as amplification because it contains an explicit address to the reader and emphasis that is missing in the source text.

From the perspective of children's literature, the challenge-based approach of the human translator and the prompted Gemini's direct address produce a more playful and engaging narrative voice. These choices make the narrative more readable and more child-friendly, while the unprompted Gemini's literal translation is more distant and observational in tone.

Example 2: *"It is a punishment put on them **for something** they did so long ago that no star now **knows** what it was."* (Barrie, 1911, p. 32)

Translator	Translation	Procedure
Human T.	"Uzun zaman önce yaptıkları **bir şeyin** cezasıdır bu; öyle ki hiçbir yıldız o şeyin ne olduğunu **hatırlamaz**." (Barrie, 1911/2020, p. 30)	Literal translation ("bir şey"), modulation ("hatırlamak")
Unprompted Gemini	"Bu, çok uzun zaman önce yaptıkları, artık hiçbir yıldızın ne olduğunu bile **hatırlamadığı bir şey yüzünden** onlara verilmiş bir cezadır."	Literal translation ("bir şey"), modulation ("hatırlamak"), transposition ("hatırlamadığı")
Prompted Gemini	"Bu, çok ama çok uzun zaman önce **işledikleri bir suç yüzünden** onlara verilmiş bir cezadır; öyle eskidir ki, artık hiçbir yıldız o suçun ne olduğunu bile **hatırlamaz**."	Particularization ("suç"), Modulation ("hatırlamaz")

In this example, the author intentionally leaves "something" undefined in "for something they did" to create an ambiguity around what caused the punishment. This ambiguity is preserved by both the human translator and the unprompted Gemini, who translate it as "bir şey" and leave the act undefined. In contrast, the prompted Gemini removes this ambiguity by replacing "something" with "suç." This choice specified the ambiguity into a criminal activity, thus reflecting the particularization procedure.

In the clause "no star now knows," all three translations use modulation by changing the cognitive verb "know" to "hatırlamak" (remember). This maintains the general idea but recasts the concept from the perspective of memory. The unprompted Gemini version also shows transposition, where the finite verb "knows" is expressed by a non-finite (participial) form.

From a children's literature viewpoint, these shifts are directly related to the tone and mystery of the text. "Something" becomes "bir şey," and this

preserves the fairytale ambiguity of the source text, enabling young readers to imagine the untold cause. The use of "suç" is more overt in its moral framing, thereby reducing the ambiguity of interpretation and subtlety of the narrative.

Example 3: *"...for the **Neverland** is always more or less an island, with astonishing splashes of colour here and there..."* (Barrie, 1911, p. 9)

Translator	Translation	Procedure
Human T.	"Ne de olsa **Yokülke**; köşede bucakta karşınıza çıkan baş döndürücü renk pırıltıları..." (Barrie, 1911/2020, p. 13)	Calque
Unprompted Gemini	"...çünkü **Olmayan Ülke**; şurada burada şaşırtıcı renk cümbüşleri..."	Calque
Prompted Gemini	"...çünkü **Varolmayan Ülke**, her zaman az çok bir adaya benzer. Orada şaşırtıcı renk cümbüşleri..."	Calque

In this excerpt, all three versions translate "Neverland" using a calque procedure. They construct the term by transferring the semantic components of the original English form into Turkish instead of directly borrowing the original English Form. The human translator's choice "Yokülke" is a short, compound, memorable, and child-reader-friendly form which intensifies the playful, fairytale register of the original. Gemini's "Olmayan Ülke" and "Varolmayan Ülke" are, however, more like descriptive noun phrases that literally mean "a country that does not exist." Therefore, these versions are not as immediate and charming as the human version "Yokülke."

The naming process plays an important role in imagination in children's fantasy literature. The human translation "Yokülke" is short and rhythmic, and therefore more engaging and magical to read. It also makes it easier for young readers to remember and relate to the story. The alternatives of Gemini translations are more semantically clear, but the more explanatory structure removes the playfulness and enchantment from the human version.

Example 4: *"So as soon as the door of 27 closed on Mr. and Mrs. Darling there was **a commotion in the firmament**, and the smallest of all the stars in the Milky Way **screamed out**: 'Now, Peter!'"* (Barrie, 1911, p. 33)

Translator	Translation	Procedure
Human T.	"Böylece 27 Numara'nın kapısı Bay ve Bayan Darling'in ardından kapanır kapanmaz **gökyüzünde bir telaş başladı** ve Samanyolu'ndaki yıldızların en küçüğü şöyle **bağırdı**: 'Şimdi, Peter!'" (Barrie, 1911/2020, p. 31)	Modulation ("başladı"), generalization ("gökyüzü," "bağırdı")

Unprompted Gemini	"Böylece 27 numaranın kapısı Bay ve Bayan Darling'in ardından kapanır kapanmaz, **gök kubbede bir kargaşa koptu** ve Samanyolu'ndaki en küçük yıldız **çığlığı bastı**: 'Şimdi, Peter!'"	Modulation ("kargaşa koptu"), literal translation ("gök kubbede"), transposition ("çığlığı bastı")
Prompted Gemini	"27 numaranın kapısı Bay ve Bayan Darling'in ardından kapanır kapanmaz, **gökyüzünde bir kargaşa koptu** ve Samanyolu'ndaki en minik yıldız **avazı çıktığı kadar bağırdı**: 'Haydi, Peter!'"	Modulation ("kargaşa koptu"), generalization ("bağırdı," "gökyüzü"), amplification ("avazı çıktığı kadar")

In this example, the three translations use more idiomatic structures for the clause "there was a commotion in the firmament," avoiding literal translations. This results in a modulation throughout the translations. The source text is a state ("there was…"), and the target texts are recast as an event that arises or erupts. The human translation "gökyüzünde bir telaş başladı" depicts the situation as a beginning ("başladı") and therefore the perspective changes. Furthermore, the human translator's and prompted Gemini's selection of "gökyüzü" for "firmament" manifests a shift towards a broader, more neutral lexical item. This choice diminishes the elevated connotation of "heavens" or "sky-vault" to a more general notion of "sky." This can be interpreted as a generalization. However, the unprompted Gemini version, "gök kubbede bir kargaşa koptu," also uses modulation in its presentation of the event. But it keeps the imagery of the original by translating "firmament" as "gök kubbe." This rendering is a more literal equivalent, maintaining the metaphor of the sky as a vault.

The translations vary in the degree of intensity of the expression "screamed out." The human translator chooses "bağırdı." This reflects generalization, since it is less specific and encompasses a wider range of loud vocal expression. The unprompted Gemini translation uses "çığlığı bastı," a transposition that reconstructed the action into a noun + light-verb structure ("çığlık" + "basmak") rather than a simple verb such as "çığlık attı." Meanwhile, the prompted Gemini version intensifies the expression by amplification and boosts the action by using "avazı çıktığı kadar."

To summarize, the human translation is more moderated both on the stylistic and the intensity level, while the unprompted version of Gemini preserves the cosmic image of the original by means of a literal translation and maintains the intensity through transposition. The prompted Gemini translation, however, emphasises dramatic effect through amplification. The human translator's use of more accessible words, such as "gökyüzü," and action-oriented language such as "telaş başladı," "kargaşa koptu", creates a scene that is more vivid and easily digested, consistent with the tendency of children's literature for clarity, fluency, and narrative pace. However, expressions like "gök kubbe" are more advanced and may not be as familiar to younger readers.

Example 5: *"Before they had attended school a week they saw what **goats** they had been not to remain on the island; but it was too late now, and soon they settled down to being as ordinary as you or me or **Jenkins minor**."* (Barrie, 1911, p. 254)

Translator	Translation	Procedure
Human T.	"Okuldaki ilk haftaları dolmadan, adada kalmamakla ne büyük bir **enayilik** ettiklerini gördüler ama artık çok geçti ve çok geçmeden siz, ben ya da **Jenkins'lerin en küçüğü** kadar sıradanlaştılar." (Barrie, 1911/2020, p. 199)	Modulation ("enayilik"), explicitation ("en küçüğü")
Unprompted Gemini	"Daha okula gideli bir hafta bile olmadan, adada kalmayarak ne büyük **budalalık** ettiklerini anladılar; ama artık çok geçti ve kısa süre sonra senin, benim ya da **Küçük Jenkins** kadar sıradan olmaya alıştılar."	Modulation ("budalalık"), literal translation ("Küçük Jenkins")
Prompted Gemini	"Okula gideli daha bir hafta bile olmadan, adada kalmayıp dönmekle ne büyük **budalalık** ettiklerini anladılar; ama artık iş işten geçmişti. Çok geçmeden, tıpkı sen, ben ya da **okulun arka sırasında oturan herhangi bir çocuk** gibi sıradan hayata alıştılar."	Modulation ("budalalık"), generalization ("herhangi bir çocuk"), amplification ("okulun arka sırasında oturan")

In this example, the modulation procedure is used in all three translations of "goats." The source text's metaphorical animal imagery is rephrased to convey the insult's initial implied meaning through "enayilik" (foolishness) and "budalalık" (idiocy). While the choice makes for a clear and accessible read for younger readers, it loses some of the playful, ironic nuance of the original expression.

The translation of "Jenkins' minor" in the three versions, however, is more noticeably different. The human translator chooses explicitation by translating the phrase as "Jenkins'lerin en küçüğü" (The youngest of the Jenkin's) and thereby clarifying the sense of "minor." The unprompted Gemini version stands closer to the source structure with a more literal "Küçük Jenkins." The prompted Gemini, on the other hand, adopts a generalization procedure in which the proper name is replaced completely with "herhangi bir çocuk" (any child). Although this translation increases readability and comprehension, it leads to a loss of the proper name humor present in the source text. Furthermore, the addition of "okulun arka sırasında oturan..." (...who sits in the back row of the classroom) is an amplification, adding contextual detail that is not present in the source text.

Example 6: *"He did this because there is a saying in the Neverland that, every time you breathe, a grown-up dies; and Peter was **killing them off vindictively** as fast as possible."* (Barrie, 1911, p. 169)

Translator	Translation	Procedure
Human T.	"Bunun nedeni, Yokülke'de, her nefes alıp verdiğinizde bir yetişkinin öldüğüne dair bir söylenti olmasıydı; Peter elinden geldiğince hızla ve **kindarca öldürüyordu** onları." (Barrie, 1911/2020, p. 135)	Literal translation ("kindarca," öldürüyordu"), economy ("off")
Unprompted Gemini	"Bunu yapıyordu, çünkü Olmayan Ülke'de şöyle bir söz vardır: Her nefes alışında bir yetişkin ölür; ve Peter da **intikam hırsıyla** onları olabildiğince hızlı bir şekilde öldürüyordu."	Literal translation ("öldürüyordu"), modulation + explicitation ("intikam hırsıyla")
Prompted Gemini	"Bunu yapmasının bir sebebi vardı; çünkü Varolmayan Ülke'deki bir söylentiye göre, her nefes alışınızda bir yetişkin ölürdü. Peter da o an **intikam hırsıyla**, mümkün olduğunca **hızlı nefes alıp** onları **birer birer ortadan kaldırıyordu**."	Modulation "ortadan kaldırmak," explicitation ("nefes alıp...," "birer birer")

In this example, the literal translation procedure is mainly used in the human translation of the expression "Peter was killing them off vindictively." The verb "killing" is translated literally as "öldürüyordu" and "vindictively" is translated as "kindarca" in order to preserve the semantic content and the adverbial function of the source text. However, the particle "off," which implies total or systematic destruction, is not translated directly, and its nuance must be inferred from the broader context.

The unprompted Gemini translation also mostly uses literal translation, with "killing" being translated as "öldürmek." But it does apply modulation by translating the adverb "vindictively" as "intikam hırsıyla." The shift here is from a general spiteful attitude to a more violent revenge motivation. The phrase can also be read as an explicitation, as the idea of "revenge" is stated more directly in Turkish. Also, the utilization of "hırs" does raise the emotional tone slightly from the original text.

The prompted Gemini output is different from other translations with strategic interventions. In this translation, explicitation is applied with the addition of "nefes alıp...," which makes the causal relation between breathing and death more explicit than the source text. Similarly, the addition of "birer birer" makes the implied idea of eliminating gradually or completely clear. Also, the translation of "kill" as "ortadan kaldırmak" can be interpreted as a modulation, as it substitutes the direct violence of "killing" with the softer, more indirect "elimination."

In general, these choices in translation affect both tone and reader perception in various ways. The human translator retains the forcefulness of the original by using "öldürmek" and "kindarca." The unprompted Gemini keeps the same verb choice but increases the emotional level with "intikam hırsıyla" to make the act seem more personal. The prompted Gemini, however, softens the violent imagery with "ortadan kaldırmak," a choice that is more in line with the conventions of children's literature. The use of the explicitation procedure also makes the harmful intent appear more deliberate and planned. So, the prompted Gemini seems to soften the explicit harshness of the action but increases the sense of malice by clarifying the motive and the sequence ("intikam hırsıyla," "birer birer").

Overall Discussion

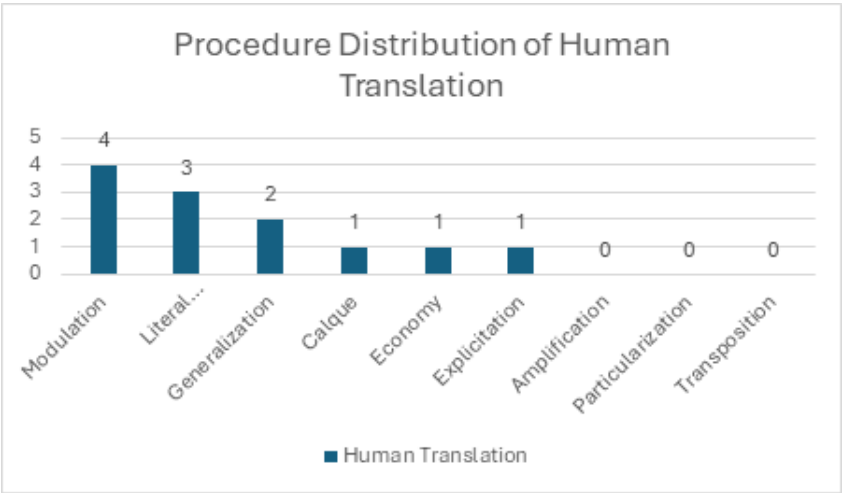


Figure 1. *Procedure Distribution of Human Translation*

This section summarizes the findings to give an overview of the wider stylistic and interpretive tendencies of both the human translator and Gemini, following the detailed analysis of each individual example.

The analysis of six selected excerpts reveals clear procedural and stylistic differences between the professional human translation and Gemini outputs. The human translator makes a balanced use of direct and oblique procedures in the six examples. The most frequently used procedure is modulation (4 cases), followed by literal translation (3), generalization (2), and one case of calque, explicitation, and economy. The distribution shows that the human translator does not focus solely on semantic accuracy or free adaptation but flexibly integrates various approaches to meet the needs of the text. In most cases, the modulation results in the translator's restructuring of the expression into more natural and lively Turkish forms, thus preserving the literary tone and imagination of the original.

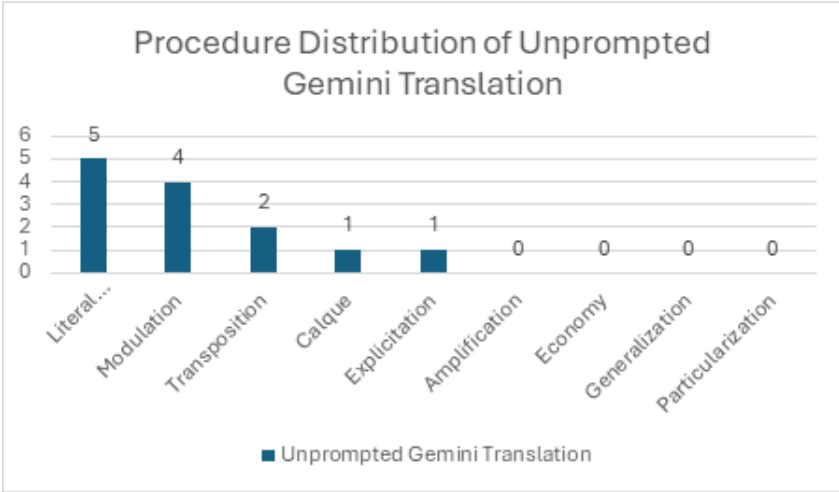


Figure 2. *Procedure Distribution of Unprompted Gemini Translation*

By contrast, the unprompted Gemini translation exhibits a much greater dependence on direct translation procedures. Literal translation appears to be the dominant procedure (5 instances), followed by modulation (4), transposition (2), and limited use of calque (1) and explicitation (1). This inclination of Gemini is in line with the model's tendency to preserve surface-level semantic structure and lexical correspondence. This method usually preserves the informational meaning of the source text but results in source-oriented, stylistically unnatural phrasing in Turkish. This pattern is especially strong in figurative expressions, fantasy terminology, and narrative voice. However, translations such as "olmayan ülke" and "küçük Jenkins," for instance, are semantically clear, but do not have the rhythm and imaginative decisions of the human translator. These results are in line with the hypothesis that unprompted Gemini treats translation primarily as a semantic transfer process rather than as a literary reconstruction task.

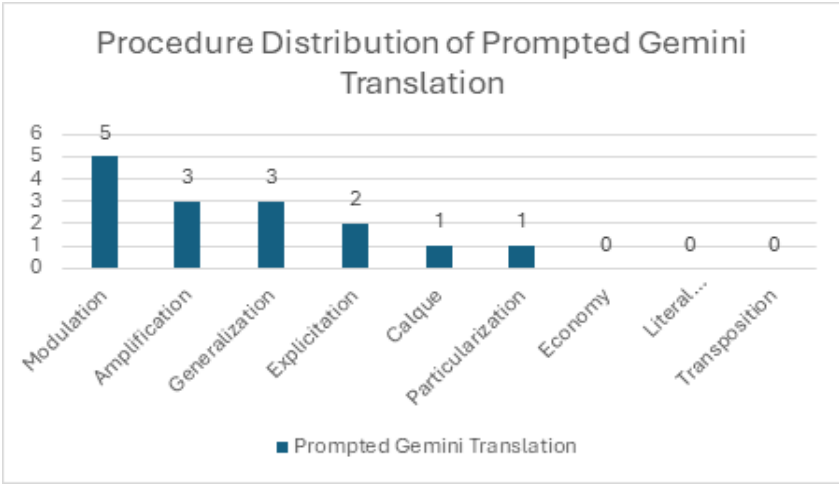


Figure 3. *Procedure Distribution of Prompted Gemini Translation*

The prompted Gemini, on the other hand, exhibits a major procedural change. The most frequent procedure is modulation (5 cases), followed by amplification (3), generalization (3), explicitation (2), calque (1), and particularization (1), all of which are more frequently used than the unprompted output. The prompted output is more inclined to rephrasing, elaborating, and clarifying the meaning for young readers. Examples like "bir düşünün!" "avazı çıktığı kadar," and "birer birer" show how prompting pushes Gemini to engage in a more expressive, reader-oriented mode of narration. From this perspective, prompting seems to be a tool that moves Gemini away from a pure preservation of semantics and toward stylistic adaptation and narrative liveliness.

The findings, however, also demonstrate that more adaptation does not always lead to more balanced literary translations. Amplification and explicitation do clarify things, but often at the cost of the intended ambiguity and subtlety of the narrative. For example, the translation of the unspecified "something" as "suç" closes down interpretative openness of the original text, and additions such as "intikam hırsıyla" add emotional motivation of the act beyond the tone of the source text. Similarly, while "eliminate" is a softer way of saying "kill," the use of the explicitation procedure at the same time gives a stronger sense of planned malice. These examples indicate that while prompting may improve readability and accessibility for young readers, it may also increase interpretive intervention.

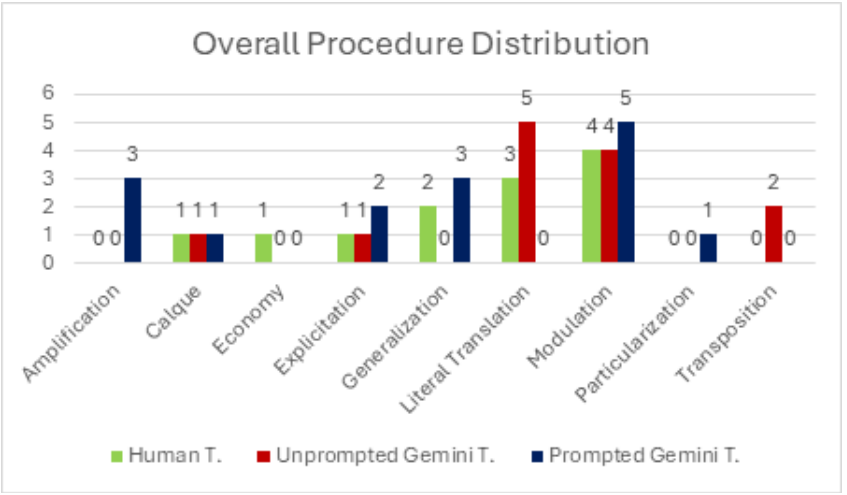


Figure 4. *Overall Procedure Distribution*

These procedural patterns are particularly important from the point of view of children's literature. Translation of children's literature needs more than lexical equivalence. It is a matter of finding the right balance among readability and emotional tone, imagination, rhythm, wordplay, and age-appropriate narration. The human translator appears to achieve this balance more successfully by modulation and controlled adaptation. However, the unprompted Gemini

translation appears to favor structural fidelity over literary effect. This inclination leads to more source language-faithful but less idiomatic translations. The prompted version moves closer to the child-reader and adopts a child-oriented narration through amplification and explicitation. Yet, it sometimes sacrifices subtlety and stylistic consistency through over-explanation.

All in all, the findings of the study align with the initial hypotheses. The unprompted Gemini output mainly relies on direct procedures, particularly literal translation, and is therefore relatively more source-oriented in tone and structure. The human translator adopts a more balanced procedural distribution, using oblique translation procedures to preserve literary quality and narrative fluency. Prompting significantly affects Gemini's translation tendencies, leading to increased use of oblique and supplementary procedures, such as amplification, generalization, and explicitation. However, even with these improvements, there is over-explanation in some passages of the prompted output. The results thus suggest that present-day large language models, particularly Gemini, are more suitable as supportive tools for human translators in literary translation than as independent translators capable of generating stylistically appropriate and emotionally resonant children's literature.

Conclusion

This study comparatively investigated human, unprompted Gemini, and prompted Gemini translations of selected excerpts from *Peter Pan* (1911) using Vinay and Darbelnet's (1958/1995) translation procedures. The study primarily aimed to evaluate how large language models handle translations of children's literature. The results of the study indicate that the three translations differ in terms of linguistic, stylistic, and functional aspects. The human translator employed a fairly balanced mix of direct, oblique, and supplementary procedures to preserve literary tone, narrative flow, and emotional subtlety. The unprompted Gemini output tended toward literal translation and source-oriented structures. However, the prompted Gemini version tended towards modulation, amplification, explicitation, and generalization. It produced more expressive, reader-oriented translations. However, it was also relatively interventionist.

The results have great importance for the translation of children's literature. Translating for children requires the preservation of imagination, emotional balance, readability, narrative fluency, and age-appropriate expressions, more than the translation of semantic meaning. The analysis shows that human translators are currently more effective in balancing this through contextual understanding and stylistic adaptability. Meanwhile, the Gemini translation produced with prompting shows that large language models can be partially tuned, with the right guidance, to fulfill the needs of young readers. This suggests that AI systems could increasingly be used as an assistive tool for human translators in the translation process. For instance, they can be used in simplifying, adapting the style, or producing initial draft translations.

The study also highlights the growing importance of prompting in AI-assisted translation practices. The procedure differences between the unprompted and prompted Gemini outputs display that prompting can significantly alter the translation performance, narrative tone, and style of the model. In this sense, prompting stands out as a translational intervention capable of shaping the target text, rather than a mere technical instruction. This development may lead to new horizons for translator training and professional practice by introducing prompt engineering as an additional translational skill. Future translators may be required to not only translate texts, but also guide, evaluate, or post-edit AI-generated outputs.

From a broader perspective, the findings also indicate that AI-powered translation technologies are increasingly changing translation practices. Rather than replacing human translators, large language models will more likely lead to hybrid translation workflows, in which human translation competence, cultural interpretation, literary judgment, and creativity will remain at the center. Human oversight will continue to play a decisive role, especially in children's literature translation, where tone, creativity, judgment, and cultural interpretation are essential. Nonetheless, the rapid development of AI technologies also creates new opportunities for accessibility and translation speed that cannot be ignored.

Finally, the study shows that classical translation theories such as Vinay and Darbelnet's (1958/1995) model are still relevant for the analysis of AI-generated translation. The framework provides a systematic and detailed basis for the identification of differences between AI-generated outputs and human translation choices at the micro level. As AI systems evolve, translation studies might find it useful to combine theoretical frameworks with emerging technologies to better understand the transforming nature of translation in the digital age.

In spite of these findings, the study is limited to selected excerpts from a single literary work and a single language pair. In future research, the corpus can be expanded, different models with other language pairs can be compared, or AI translation of different genres can be investigated. Such research may contribute to a better understanding of the limitations and capabilities of large language model translation in the future.

References

Aksoy Arıkan, R. (2021). Lucy Maud Montgomery'nin "Yeşil'in Kızı" adlı kitabının yazın çevirisi ve makine çevirisi çerçevesinde karşılaştırmalı incelenmesi. *LOTUS International Journal of Language and Translation Studies*, *1*(1), 1-22.

Alimen, N. (2023). Makine çevirisinden sohbet robotu çevirisine: ChatGPT ile deneysel bir çalışma. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, (36), 1532-1548. https://doi.org/10.29000/rumelide.1369589

Argun, R. (2023). *A comparative quality analysis of the machine translation outputs: A case study on letter of consent* (Publication No. 829629) [Master's thesis, Atılım University]. Ulusal Tez Merkezi.

Aşkın, M. C. (2023). *Yazın çevirisinde çevirmen ve makine çevirisi üzerine eleştirel bir karşılaştırma: "To Kill a Mockingbird" örneği* (Publication No. 787905) [Master's thesis, Sakarya University]. Ulusal Tez Merkezi.

Aşkın, M. C., & Balkul, H. İ. (2022). "Bu Kış Kimse Üşümeyecek" kitabının İngilizce çevirisinin makine çevirisi ile karşılaştırılması: Google Çeviri'nin yazın çevirisinde kullanılabilirliği üzerine bir inceleme. *International Journal of Languages' Education and Teaching*, *10*(4), 117-131. https://doi.org/10.29228/ijlet.66173

Awadh, A. N. M., & Shafiull, K. A. (2020). Challenges of translating neologisms comparative study: Human and machine translation. *Journal of Language and Linguistic Studies, 16*(4), 1987-2002. https://doi.org/10.17263/jlls.851030

Bal, D., & Köktürk, Ş. (2025). Evaluating large language models in translation: A theoretical and practical analysis based on Skopos Theory. *Söylem Filoloji Dergisi (Çeviribilim Özel Sayısı II)*, 819-826. https://doi.org/10.29110/soylemdergi.1602093

Barrie, J. M. (1911). *Peter and Wendy*. Charles Scribner's Sons.

Barrie, J. M. (2020). *Peter Pan* (A. Konaç, Trans.). Yapı Kredi Yayınları. (Original work published 1911).

Canbaz, R. (2024). *The position of ChatGPT3 chatbot in the process of translation of written medical texts and evaluation of translation product quality* (Publication No. 878104) [Master's thesis, Sakarya University]. Ulusal Tez Merkezi.

Chandra, R., Chaudhari, A., & Rayavarapu, Y. (2025). *An evaluation of LLMs and Google Translate for translation of selected Indian languages via sentiment and semantic analyses*. arXiv. https://doi.org/10.48550/arxiv.2503.21393

Eşme, H. (2023). *An evaluation on the outputs of machine translation and independent post-editors focused on literary texts* (Publication No. 775145) [Master's thesis, Atılım University]. Ulusal Tez Merkezi.

Gemini Team. (2025). *Gemini: A family of highly capable multimodal models*. arXiv. https://doi.org/10.48550/arXiv.2312.11805

Gunawan, L. S., Feivel, B., Shiddiqi, H. A., & Manalu, S. R. (2025). Evaluating the accuracy and naturalness of AI-Generated translations using BLEU and METEOR: A comparison of ChatGPT, Gemini, Copilot, and DeepSeek. *Procedia Computer Science*, *269*, 815-824. https://doi.org/10.1016/j.procs.2025.09.024

Kenny, D. (2022). Introduction. In D. Kenny (Ed.), *Machine translation for everyone: Empowering users in the age of artificial intelligence* (pp. v–viii). Language Science Press. https://doi.org/10.5281/zenodo.6759972

Munday, J. (2016). *Introducing translation studies: Theories and applications*. Routledge.

Nedelcheva, S. (2025). Naming Culture Specifics: Human vs. AI Translation (A Case Study of Georgi Gospodinov's Time Shelter). *Cultural Perspectives Journal for Literary and British Cultural Studies in Romania*, *30*, 92-121. https://doi.org/10.29081/cp.2025.30.06

Obeidat, M. M., Haider, A. S., Abu Tair, S., & Sahari, Y. (2024). Analyzing the performance of Gemini, ChatGPT, and Google Translate in rendering English idioms into Arabic. *FWU Journal of Social Sciences, 18*(4), 1-18. https://doi.org/10.51709/19951272/Winter2024/1

O'Sullivan, E. (1993). The fate of the dual addressee in the translation of children's literature. *New Comparison,* (16), 109-119.

Sarı, Ş. (2023). *A comparative analysis of idiomatic expressions in subtitle and dubbing translations through artificial intelligence-based machine translation applications* (Publication No. 803212) [Doctoral dissertation, Ankara Hacı Bayram Veli University]. Ulusal Tez Merkezi.

Seyratlı, M. K. (2024). *The use of machine translation in high-stakes texts: A case study on guidelines for natural disasters* (Publication No. 865768) [Master's thesis, İstanbul 29 Mayıs University]. Ulusal Tez Merkezi.

Vinay, J. P., & Darbelnet, J. (1995). *Comparative stylistics of French and English: A methodology for translation* (J. C. Sager & M.-J. Hamel, Trans.). John Benjamins. (Original work published 1958).

Wang, L., Lyu, C., Ji, T., Zhang, Z., Yu, D., Shi, S., & Tu, Z. (2023). *Document-level machine translation with large language models*. *arXiv*. https://arxiv.org/abs/2304.02210

ИЗСЛЕДВАНЕ НА КОСМОСА от Артър Кларк[1]

(превод от англ. език Светлана Неделчева)

THE EXPLORATION OF SPACE by Arthur Clarke

Translated from English by Svetlana Nedelcheva[2],
Konstantin Preslavsky University of Shumen, Bulgaria

https://doi.org/10.46687/OTIV9216

Глава първа

ОФОРМЯНЕТО НА МЕЧТАТА

Елате, приятели мои,
не твърде късно е да открием един по-нов свят.
Да отплаваме отвъд залеза и морето
с къпещите се западни звезди.
Алфред Тенисън, "Одисей"

Самата идея за междупланетни пътешествия, разбира се, е била невъзможна, докато хората не осъзнават, че съществуват и други планети. Това откритие е направено много по-късно, отколкото си представяме днес, когато разполагаме със съвременни научни знания. Макар че Меркурий, Венера, Марс, Юпитер и Сатурн са известни още от най-стари времена, за древните хора те са просто блуждаещи звезди. (Самата

1 Сър Артър Чарлз Кларк (1917 – 2008) е британски писател, футуролог, популяризатор на науката и един от най-влиятелните автори на научна фантастика през XX век. Още през 1945 г. Кларк публикува статия, в която предлага използването на геостационарни спътници за глобални комуникации. Днес тази орбита е известна като „орбита на Кларк" (Clarke Orbit). „Изследването на космоса" (*The Exploration of Space*, 1951 г.) е сред най-важните му научнопопулярни трудове. В него авторът описва теоретично пътуването до Луната и Марс, като прокарва пътя за реални космически мисии. Трудът му служи на пионери като Вернер фон Браун за убеждаване на американското правителство в реалността на космическите полети.

2 Prof. Svetlana Nedelcheva, PhD, is a lecturer at the Department of English Studies of *Konstantin Preslavsky* University of Shumen. Her research interests are in the field of cognitive linguistics, contrastive linguistics, translation and foreign language teaching. Email: s.nedelcheva@shu.bg

Copyright © 2026 Svetlana Nedelcheva

Article history: Received: 12 May 2026; Edited: 30 May 2026; Revised: 9 June 2026; Accepted: 12 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

дума „планета“ всъщност означава „скитник“ или „блуждаещ“.) Що се отнася до това какво представляват тези звезди, всеки философ дава различен отговор. Последователите на Питагор през VI век пр.н.е. правят забележително точно предположение, като твърдят, че Земята е една от планетите. Но това учение – толкова очевидно противоречащо на всички доказателства на здравия разум – никога не става общоприето и всъщност по онова време има малко аргументи, които могат да бъдат приведени в негова подкрепа. Следователно за древните идеята за междупланетно пътуване в буквалния смисъл на думата е не просто фантастична – тя е лишена от всякакъв смисъл.

Въпреки това, макар звездите и планетите да са само безразмерни светлинни точки, Слънцето и Луната очевидно принадлежат към съвсем различна категория. Всеки може да види, че те имат осезаеми размери, а по лицето на Луната се забелязват петна и очертания, които лесно могат да бъдат възприети като континенти и морета. Ето защо не е изненадващо, че много от гръцките философи – и не само питагорейците – вярват, че Луната наистина е свят. Те дори правят оценки за нейните размери и разстоянието до нея, като някои от тези оценки не са далече от истината. След като това е направено, естествено е да се разсъждава върху природата на Луната и да се поставя въпросът дали тя е обитаема. И е съвсем естествено – поне така ни се струва днес – хората да пишат истории за пътувания до този загадъчен и романтичен свят. Всъщност обаче само един писател от древността се възползва от тази класическа впоследствие тема. Това е Лукиан от Самосата, живял през II век сл. Хр. Героят на неправилно озаглавеното произведение на Лукиан „Истинска история“ е отнесен до Луната от воден смерч, който грабва кораба му, докато плава отвъд Херкулесовите стълбове – област, където, както е добре известно по онова време, може да се случи абсолютно всичко.

Във втора книга героят на Лукиан се отправя към Луната съвсем преднамерено, като си изработва крила по подобие на Икар и излита от планината Олимп. По времето на Лукиан, както и през много векове след това, не се осъзнава, че съществува фундаментална разлика между аеронавтиката и астронавтиката. През 160 г. сл. Хр. изглежда напълно естествено да се предполага, че ако човек успее да създаде действащи крила, може да ги използва, за да достигне до Луната.

След Лукиан темата за космическите пътешествия е пренебрегвана почти петнадесет века. Когато отново се появява, това става в една съвсем различна интелектуална среда. Настъпила модерната епоха: Земята вече не се смятала за център на Вселената. А най-важното – изобретен е телескопът.

Днес ни е трудно да си представим астрономията такава, каквато е била във времената, когато всички наблюдения трябвало да се извършват

с невъоръжено око. Сега приемаме телескопа за даденост, но са изминали малко повече от три века от момента, в който Галилео Галилей насочва първите си примитивни инструменти към звездите и разкрива тайни, останали скрити за всички хора от началото на историята. Малцина учени са събрали толкова много открития за толкова кратко време. Само за няколко седмици Галилей вижда планините и долините на Луната – доказвайки, че тя наистина е твърда планета – и също така открива, че планетите, за разлика от звездите, имат видими дискове. Той установява, че четири малки светлинни точки обикалят около Юпитер така, както Луната обикаля около Земята, а изводът е очевиден: Юпитер е свят с четири спътника, докато Земята има само един, като те изглеждат толкова малки единствено поради огромното разстояние. Това е първото пряко разкритие на истинските мащаби на Вселената. Астрономите и преди са изчислявали разстоянията до планетите, но сега човекът най-сетне разполага с инструмент, чрез който може действително да надникне в дълбините на космоса. От този момент старата средновековна представа за Вселената, с нейните концентрични кристални сфери, носещи планетите между Небето и Земята, е обречена. Границите на пространството се отдръпнали на огромно разстояние – и продължават да се отдръпват и до днес. Едва ли е изненадващо, че първият сериозен разказ за пътешествие до Луната се появява само едно поколение след откритията на Галилей.

По-изненадващо е обаче, че този разказ е написан от най-великия астроном на своето време – всъщност от един от най-великите астрономи в историята. Йоханес Кеплер е първият човек, открил точните закони, управляващи движението на планетите – същите закони, които един ден ще управляват движението на космическите кораби. През последните години от живота си Кеплер написва, но не публикува своето произведение „Сънят“ (*Somnium*). В тази книга той пренася героя си на Луната чрез свръхестествени средства – на пръв поглед крачка назад за един учен. Но Кеплер живее в епоха, която все още вярва в магията, а собствената му майка дори е обвинена във вещерство. Несъмнено той прибягва до демонични средства за придвижване, защото не познава природни сили, способни да извършат подобна задача. Кеплер – за разлика от своя предшественик Лукиан – прекрасно съзнава, че между Земята и Луната няма въздух, макар да смята, че самата Луна може да притежава атмосфера и обитатели. Неговото описание на Луната е първото, основано на новите знания, разкрити от телескопа, и оказва огромно влияние върху всички бъдещи писатели, които са се занимавали с тази тема (включително върху Хърбърт Джордж Уелс два века и половина по-късно).

Книгата на Кеплер е публикувана през 1634 г. Само четири години по-късно се появява първият английски разказ за пътешествие до Луната – „Човекът на Луната“ (*The Man in the Moone*) на епископ Годуин. Героят на Годуин, Доминго Гонсалес, полита към Луната на лек сал, теглен от

обучени лебеди. Това забележително постижение е напълно случайно, тъй като Гонсалес се опитва единствено да покори въздуха, а не космическото пространство. Той обаче не знае, че неговите лебеди имат навик, неизвестен дотогава на орнитолозите – да мигрират към Луната. Неочакваното му пътешествие до нашия спътник продължава дванадесет дни и по пътя той не изпитва никакви затруднения с дишането. Все пак забелязва, че теглото му постепенно намалява, докато се отдалечава от Земята, а когато достига Луната, открива, че нейното притегляне е много по-слабо, така че човек може да подскача на огромни височини. Днес тази идея ни е добре позната, но Годуин пише петдесет години преди Нютон да открие закона за земното притегляне.

По това време идеята за лунни пътешествия започва да става все по-популярна и през 1640 г. епископ Уилкинс публикува една изключително важна книга – „Разсъждение относно един нов свят“ (*A Discourse Concerning a New World*). Това не е художествено произведение, а сериозно научно изследване на Луната, нейните физически характеристики и възможността тя да е обитаема. Но Уилкинс отива още по-далеч. Той стига до заключението, че няма причина хората един ден да не изобретят средство за придвижване – „летяща колесница“, както я нарича – способно да достигне до Луната. Дори предлага там да бъдат основани колонии – идея, която, разбира се, дава повод на някои чуждестранни автори да отправят язвителни забележки по адрес на британския империализъм.

През следващите два века непрекъснато се появяват книги, посветени на космическите пътешествия. Някои са чиста фантазия, но други поне от време на време правят опити да се придържат към научната достоверност. Безспорно най-изобретателният автор от този период е Сирано дьо Бержерак, автор на „Пътешествие до Луната и Слънцето“ (1656). На Сирано принадлежи заслугата пръв да използва идеята за ракетно задвижване, макар че със сигурност не разбира предимствата му. Още по-изненадващо е, че той предрича и принципа на въздушно-реактивния двигател (ramjet). В последния си опит да осъществи междупланетен полет той измисля летателен апарат, състоящ се от голяма лека кутия, напълно херметична с изключение на отвори в двата края, изработена от лещи, които концентрират слънчевата светлина във вътрешността ѝ. Така нагретият въздух трябвало да излиза през едната дюза, а през другата да постъпва нов въздух. За съжаление Сирано все още е обсебен от представата, че „природата не търпи празно пространство“ — по онова време все още не е открито, че по-голямата част от природата всъщност представлява именно вакуум. Затова той си въобразява, че машината му ще бъде изтласквана нагоре от въздуха, нахлуващ през долния отвор, вместо от въздуха, който излиза от него.

Макар повечето произведения от тази епоха да са посветени на пътешествия до Луната (а понякога и до Слънцето, което също се смята

за обитаем свят), въображението на някои автори се простира и по-далеч. Така например през 1686 г. Бернар дьо Фонтенел написал изключително популярна книга по занимателна астрономия, в която поддържа тезата, че всички планети са населени със същества, приспособили се към условията на своята среда. През 1752 г. великият Волтер създава „Микромегас“ – произведение с удивително модерни възгледи, тъй като представя човека и неговата планета в правилната астрономическа перспектива. Микромегас бил гигант от звездната система на Сириус и посетил Земята заедно със свой спътник от Сатурн. Подобно на много други произведения от този жанр, както преди него, така и след него, „Микромегас“ служи преди всичко като средство за сатира.

Към началото на XIX век обаче разказите за космически пътешествия изпадат в затруднение. Натрупано е твърде много знание за трудностите и пречките пред междупланетните полети, а науката все още не е напреднала достатъчно, за да покаже как те могат да бъдат преодолени. Изобретяването на балона (през 1783 г.) отклонява вниманието към пътуванията в атмосферата и същевременно убедително доказва, че човек не може да съществува без специални средства на голяма височина. Луната и планетите изглеждат много по-недостъпни, отколкото се струват на епископите Годуин и Уилкинс.

През втората половина на века обаче писателите на фантастика преодоляват временното си затруднение и историите за космически пътешествия стават едновременно по-разпространени и по-научно обосновани. Несъмнено великите инженерни постижения на викторианската епоха създават атмосфера на оптимизъм: толкова много вече е постигнато, че може би дори преодоляването на космическите пространства вече не е напълно невъзможна мечта.

Тази нагласа ясно личи в прочутия роман на Жул Верн „От Земята до Луната“ (1865). Макар голяма част от произведението да е написана с хумористичен тон – Верн се забавлява, като осмива предприемчивите американци, толкова нетърпеливи да достигнат Луната – книгата е важна, защото е първата, основана на здрави научни принципи. Верн не избира лесния път и не измисля, както правят толкова много автори преди и след него, някакъв загадъчен метод за задвижване или вещество, способно да се противопоставя на гравитацията. Той знае, че ако едно тяло бъде изстреляно от Земята с достатъчно висока скорост, то ще достигне до Луната. Затова просто построява огромно оръдие и изстрелва своите герои в специално оборудван снаряд. Всички изчисления, времена и скорости за пътуването са подробно разработени от неговия зет, професор по астрономия, а самият снаряд е описан с изключителна прецизност. Една от най-интересните му особености е, че е снабден с ракети за управление, които да се използват след навлизането му в космическото пространство. Верн отлично разбира – за разлика от много хора дори в по-късни времена – че ракетата може да

функционира и във вакуум, лишен от въздух. Въпреки това той никога не стига до идеята тя да бъде използвана като основно средство за придвижване през цялото пътуване.

Вероятно Верн действително е вярвал, че неговото космическо оръдие би могло да проработи, макар днес да знаем, че снарядът би бил унищожен от въздушното съпротивление още преди да напусне цевта. От друга страна, едва ли е смятал, че пътниците му биха оцелели след първоначалния тласък, който би ги подложил на натоварване, равняващо се на привидно тегло от няколко хиляди тона за всеки от тях. Без съмнение той е подминал този дребен проблем с усмивка в името на добрия разказ.

Верн никога не приземява героите си на Луната, вероятно защото не успява да измисли начин те да се завърнат безопасно на Земята. Вместо това те извършват обиколка около Луната и след това се връщат обратно – което всъщност почти сигурно ще направят и първите истински лунни космически кораби.

Хърбърт Джордж Уелс е по-малко научен, но по-смел в своите идеи – а също и много по-увлекателен за четене, тъй като неговият роман „Първите хора на Луната“ е едно от малкото междупланетни приключения, което едновременно представлява и истинско литературно произведение. От чисто техническа гледна точка обаче книгата бележи отстъпление спрямо Верн, чието космическо оръдие е поне правдоподобно и основано на научни факти. За да изпрати своите герои до Луната, Уелс измисля „каворит“ – вещество, способно да действа като изолатор срещу гравитацията. Героят трябвало просто да се качи в сфера, покрита с този полезен материал, и тя сама щяла да се отправи към космоса. За да насочи движението си към Луната, било достатъчно да отвори прозорец в съответната посока...

Тази идея за вещество, което изолира или преодолява гравитацията, не произхожда от Уелс. Първият автор, който изглежда я използва, е някой си Дж. Атърли, чиято книга „Пътешествие до Луната“ се появява през 1827 г. Нито господин Атърли, нито многобройните му последователи обясняват, доколкото ни е известно, как техните антигравитационни метали изобщо успяват да останат на Земята. Човек би предположил, че вещества с такава склонност към левитация отдавна биха отлетели в космоса.

Не е трудно да се покаже, че вещество като „каворита“ на Уелс е физически невъзможно, тъй като противоречи на основни природни закони. Но самата идея за антигравитация не е непременно абсурдна и ще се върнем към нея в Глава 17.

Книгата на Уелс излиза през 1901 г., а броят на произведенията, които оттогава насам засягат темата за междупланетните полети, е

толкова голям, че е трудно дори да бъдат преброени, камо ли прочетени. Причините за този ръст са две и са напълно очевидни. На първо място, завладяването на въздуха чрез авиацията стимулира въображението. На второ място, основите на астронавтиката вече са положени от компетентни учени и резултатите от тяхната работа постепенно достигат до широката публика. Изследванията на Робърт Годард (започнали през 1914 г.) и по-късно на Херман Оберт насочват вниманието към ракетата. Още преди мащабните експериментални програми на съвременната епоха да потвърдят точността на техните предвиждания, ракетата вече е възприета като основно средство за задвижване на космическите кораби в повечето произведения за междупланетни пътешествия. Както ще видим по-късно, това предсказание почти сигурно ще се окаже вярно.

Също така не може да има съмнение, че тези безброй истории – а не само онези няколко, които са изградени върху внимателно разработена научна основа – са допринесли значително за приближаването на постиженията, които самите те описват. Когато човек разгледа въпроса безпристрастно, ситуацията изглежда донякъде необичайна. Дори литературата, посветена на полетите, която представлява най-близкия паралел, не е нито толкова обширна, нито толкова подробно разработена. Очевидно завладяването на космоса притежава дълбоко въздействие върху човешките емоции, щом е останало толкова устойчива тема през толкова дълъг период от време. Затова е малко странно да се осъзнае, че в своята така наречена „класическа форма“ разказът за космическите пътешествия скоро ще изчезне, защото историята вече настига въображението. Когато първата ракета кацне на нашия спътник, романтичните писатели ще изгубят Луната като сцена за своите фантазии. Но това ще бъде малка жертва, защото цялата Вселена ще продължи да остава тяхна територия за приключения и мечти.

Глава втора

ЗЕМЯТА И НЕЙНИТЕ СЪСЕДИ

Под нея приливите на деня и нощта,
със светлина и мрак набраздяват
безкрайното пространство – чак долу, където Земята
се върти като тревожна муха.
Данте Габриел Росети, „Блажената девица“ (*The Blessed Damozel*)

Първата трудност, с която се сблъскваме, когато се опитваме да си представим междупланетен полет, е свързана с мащаба. Разстоянията са толкова огромни, толкова по-големи от тези, с които се срещаме в

ежедневния си живот, че в началото изглеждат напълно лишени от смисъл. Това обаче е нещо, което (с известна практика) може сравнително лесно да бъде преодоляно. Все още съществуват примитивни общества, за които сто мили представляват немислимо голямо разстояние. В същото време има хора, които не виждат нищо необичайно в това да изминат десет хиляди мили само за няколко дни. С увеличаването на скоростта на транспорта се е променяло и нашето усещане за разстояние. Австралия никога не може да бъде толкова далечна за нас, колкото е била за нашите предци. По същия начин човешкото съзнание може да се приспособи към междупланетните разстояния дори ако никога не е в състояние да ги обхване напълно. (А в крайна сметка, може ли умът наистина да си представи какво означават хиляда мили?)

Първата стъпка в този процес на „привикване“ е създаването на мащабен модел. Нека за начало да се съсредоточим само върху Земята и Луната, като пренебрегнем останалите планети. Ще използваме мащаб, при който човек все още би бил видим с невъоръжено око, като коефициентът на намаление е 1000 към 1. При този мащаб Земята се превръща в сфера с диаметър осем мили, а на разстояние 240 мили от нея се намира друга сфера – Луната – с диаметър две мили. В този модел човек би бил висок малко по-малко от една дванадесета част от инча, скоростта на най-бързия самолет би била около две мили в час, а тази на междуконтинентална балистична ракета – около петнадесет мили в час. Следователно човекът с височина една дванадесета от инча, който съзерцава бездната между Земята и Луната, се намира приблизително в същото положение като интелигентна мравка, опитваща се да си представи щата Ню Йорк.

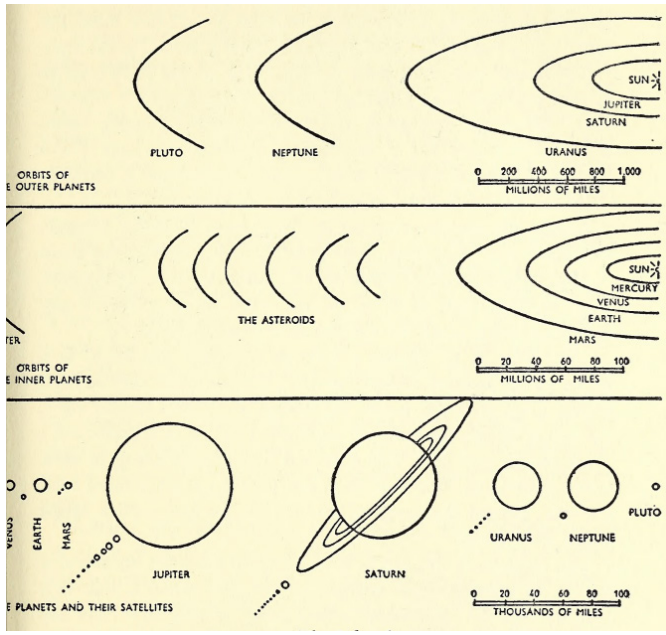
За да включим и планетите, трябва отново да променим мащаба, като човекът се смали дотолкова, че да стане напълно невидим. При намаление от един милион пъти Земята вече има диаметър от 40 фута, Луната е широка 10 фута и се намира на четвърт миля разстояние. Слънцето е на 93 мили и е с диаметър почти една миля; на 36 и 67 мили от него обикалят съответно Меркурий и Венера. Меркурий е с диаметър 15 фута, а Венера – 38 фута, само малко по-малка от Земята. Отвъд земната орбита се намира Марс – с диаметър 20 фута и на 140 мили от Слънцето. Той е придружаван от два миниатюрни спътника, големи едва около половин инч.

Отвъд Марс се простира огромна бездна, изпълнена единствено от хиляди малки планети, или „астероиди“, малко от които в този мащаб биха били по-големи от песъчинки. Трябва да изминем 483 мили от Слънцето – тоест още 340 мили отвъд Марс – преди да достигнем Юпитер, най-голямата от всички планети. В нашия модел той би имал диаметър над 400 фута и дванадесет спътника с размери от 15 фута до едва няколко инча.

Може да ви се струва, че моделът ни става доста неудобен въпреки драстичното намаление в съотношение едно към един милион, но все още сме далеч от пределите на слънчевото царство. Предстоят още четири планети – Сатурн (диаметър 350 фута), Уран (150 фута), Нептун (160 фута) и Плутон (20 фута). А Плутон се намира на 3700 мили от Слънцето...

Този модел на нашата Слънчева система много ясно показва колко празно е космическото пространство и колко трудно е едновременно да се представят в един и същи мащаб както размерите на планетите, така и разстоянията между тях. Ако намалим Земята до размера на топче за тенис на маса, нейната орбита пак би имала диаметър половин миля, а Плутон би се намирал на десет мили от Слънцето.

Опит за графично представяне на планетите, техните спътници и орбитите им в правилен мащаб е показан на Фигура 1. Дори и в най-„увеличените“ схеми обаче не е възможно по-малките спътници да бъдат изобразени точно.



Фигура 1. *Слънчевата система*

Остава да спомена още три неща, преди картината на Слънчевата система да бъде завършена. На първо място, тя не представлява неподвижна система. Всички планети се движат, и то в една и съща посока около Слънцето. Най-вътрешната планета, Меркурий, се нуждае само от 88 дни, за да извърши една пълна обиколка, докато на Плутон са необходими 248 години – така че астрономите ще трябва да чакат до 2178 г., преди той да се върне в онази част от небето, където е бил открит през 1930 г. Увеличаването на периода на обиколка от Меркурий до Плутон

не се дължи единствено на по-големите разстояния, които външните планети трябва да изминат. Те се движат и по-бавно по причини, които ще разгледаме в Глава 4. Меркурий се движи по орбитата си със скорост 107 000 мили в час, Земята – с по-умерените 68 000 мили в час, а Плутон – с едва 10 000 мили в час.

Втората важна особеност е, че почти всички планети се намират в една и съща равнина или много близо до нея, така че Слънчевата система е практически „плоска". Има изключения от това правило, като най-яркият пример е Плутон, чиято орбита е наклонена под ъгъл от 17 градуса спрямо орбитата на Земята. Като цяло обаче това правило се спазва доста добре – и несъмнено улеснява задачата на междупланетната навигация.

Накрая трябва да кажем няколко думи за формата на орбитите. Те са почти кръгови, като Слънцето се намира в центъра им. Само Меркурий, Марс и – отново – Плутон се отклоняват съществено от това правило, тъй като техните орбити са осезаемо елиптични. Орбитата на Плутон всъщност е толкова ексцентрична, че понякога той се оказва по-близо до Слънцето, отколкото Нептун.

Такова е семейството на планетите, към което принадлежи и нашият свят – един сравнително млад негов член. Въпреки размерите си то представлява почти изолирана система в пространството поради огромната отдалеченост дори на най-близките звезди. (За мащабите на звездната Вселена ще говорим в Глава 16.) Със съвършена точност век след век планетите следват орбитите си около Слънцето, защото се движат в почти пълен вакуум, извън обсега на триенето или на каквато и да е сила, която би могла да намали скоростта им.

Безвъздушността на космическото пространство сигурно е изглеждала като непреодолима пречка за междупланетните пътешествия в дните, когато за първи път е било осъзнато, че атмосферата се простира само на сравнително малко разстояние от Земята. Днес знаем повече, защото ако в космоса имаше каквото и да е значително количество материя, не би било възможно да се достигнат скоростите, необходими за пътувания до други светове. Това обаче би било по-скоро теоретично съображение, тъй като самите тези светове отдавна биха престанали да съществуват: съпротивлението на движението им постепенно би ги принудило да описват все по-тесни спирали, докато накрая не паднат върху Слънцето.

По-късно ще имаме възможност да разгледаме по-подробно останалите планети и да видим какво е известно за техните физически условия. Сега обаче трябва да се върнем към Земята, която още дълго време ще бъде отправната точка на всички наши пътешествия, и да разгледаме какви препятствия трябва да преодолеем, ако искаме да я напуснем.

Както вече споменахме, атмосферата е едновременно помощник и пречка. Ние не можем да живеем, ако налягането на заобикалящия ни въздух спадне под около половината от стойността му на морското равнище, а повечето хора биха били практически неспособни да действат нормално още преди да се достигне тази граница. С изкачването над земната повърхност налягането и плътността на въздуха непрекъснато намаляват. Най-голямата височина, на която хора могат да живеят постоянно, е около три и половина мили, и дори това изисква продължителен период на приспособяване.

Липсата на атмосфера, разбира се, не засяга само хората, но и машините. Самолетите – независимо дали се задвижват от витла или реактивни двигатели – са устройства, които използват въздуха, също както и хората. Разликата е, че в човешкия „двигател“ горенето протича по-плавно, а преобразуването на енергията в сила е значително по-фино. Освен това самолетите се нуждаят от атмосферата като опора: както крилата, така и витлата биха били безполезни във вакуум. Тези фактори поставят граница на височината, на която конвенционалните летателни апарати могат да функционират. Тази граница е между 15 и 20 мили височина – или приблизително там, където атмосферното налягане е по-малко от една петдесета от стойността му на морското равнище.

Балоните могат да достигат значително по-големи височини – до около 25 мили, ако носят само много леки прибори. Но и те в крайна сметка достигат ниво, на което околният въздух е едва малко по-плътен от водорода в обвивката им и вече не може да им осигури допълнителна подемна сила. До появата на гигантските ракети нито един създаден от човека обект не се е издигал над тази височина – с единственото изключение на снарядите от Парижкото оръдие (често погрешно наричано „Голямата Берта“) през войната от 1914 г. Те достигат максимална височина от 30 мили и ако оръдието можеше да стреля вертикално, снарядите щяха да се издигнат на повече от 40 мили.

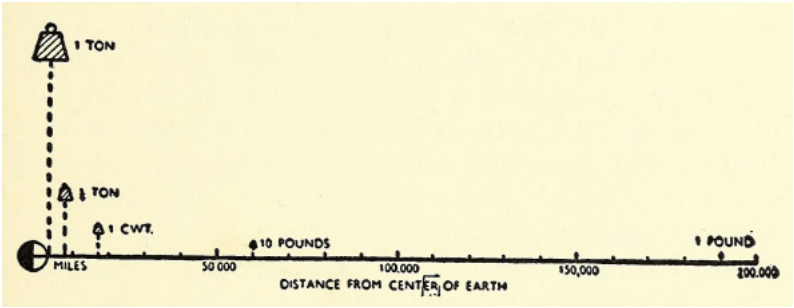
Атмосферата обаче не свършва там, където балоните вече не могат да се изкачват. Всъщност тя никога не свършва напълно, а постепенно се разрежда с увеличаване на разстоянието така, както музикалният тон постепенно заглъхва с времето, докато накрая вече няма начин да бъде открито присъствието му. На височина от петдесет мили все още има достатъчно вещество, за да играе много важна роля в съвременния ни живот, защото тук разредените газове се йонизират и образуват отразяващия слой (йоносферата или слоя на Хевисайд), който прави възможна далечната радиовръзка и е причина за много от странните шумове, които понякога се намесват в радиоприемането. Около тази височина намират своя край и повечето метеори, които нахлуват в атмосферата със скорости от 100000 мили в час и повече, защото при такива скорости дори йоносферата може да създаде огромно съпротивление вследствие на триенето.

Последното свидетелство за присъствието на атмосферата ни дава полярното сияние, чиито призрачни лъчи и светлинни завеси рядко се виждат в южните ширини, но са съвсем обичайни в близост до магнитните полюси. Полярното сияние се поражда от електрически разряди, много подобни на тези в неоновите реклами, а най-външните му светлинни струи достигат височина от около 600 мили. Значително под тази височина обаче вече се намираме във вакуум, по-съвършен от всеки, който може да бъде създаден в лаборатория.

Би могло да се помисли, че тъй като атмосферата е сравнително плитка обвивка, тя може да бъде пренебрегната при обсъждането на междупланетните полети. Това не е така. Както ще видим по-късно, тя поставя ограничение върху скоростта, която можем да развием близо до земната повърхност по пътя към космоса и – което е много по-важно – осигурява средство за безопасно приземяване при завръщането.

Тази тънка въздушна покривка, без която животът в познатата ни форма би бил невъзможен, е здраво привързана към Земята от силата на гравитацията. Ако гравитацията беше четири или пет пъти по-слаба, атмосферата щеше да се е разсеяла в космоса – както е станало в случая с Луната. Затова можем да бъдем благодарни на гравитацията в това отношение, макар че когато мислим за задачата да напуснем Земята, понякога ни се иска тя да беше значително по-слаба.

От всички природни сили гравитацията е най-всеобхватната и тя доминира във всяко обсъждане на космическия полет. Тук, на земната повърхност, никога не можем да избягаме от нейното влияние, а стойността ѝ е практически еднаква навсякъде по планетата. С увеличаването на височината тя постепенно отслабва, макар и толкова бавно, че дори на хиляда мили над Земята все още запазва 65 процента от стойността си на морското равнище. Когато разстоянието от Земята достигне хиляди мили, намаляването вече става съществено: на височина от дванадесет хиляди мили тежест от един фунт би тежала само една унция. Следователно колкото се отдалечаваме от Земята, толкова по-лесно става да продължим още по-нататък. (Практическа илюстрация на поговорката, че нищо не води до успех така, както самият успех.) От гледна точка на гравитацията напускането на Земята прилича на изкачване на хълм, който първоначално е много стръмен, но постепенно става все по-полегат, докато накрая почти се изравни. И все пак никога не става съвсем равен: гравитационното притегляне на Земята се простира из цялата Вселена, макар че за почти всички практически цели може да бъде пренебрегнато на разстояние от около един милион мили.



Фигура 2. *Намаляване на гравитацията с увеличаване на разстоянието*

Тази представа за гравитацията като хълм, по който трябва да се изкачим, за да се откъснем от Земята, е много полезна и по-късно отново ще се възползваме от нея. Междувременно Фигура 2 дава нагледна представа за начина, по който гравитацията отслабва с увеличаването на разстоянието, и би трябвало да помогне за разсейването на едно изненадващо разпространено погрешно схващане – че тя просто престава да съществува, когато човек все още е сравнително близо до Земята.

Следователно, ако някога се надяваме да построим космически кораби, трябва да имаме предвид две основни обстоятелства. На първо място, всеки метод за задвижване, който зависи от атмосферата, ще бъде безполезен. На второ място, дори ако разполагаме с устройство, способно да създава тяга в безвъздушен вакуум, нашият кораб трябва да бъде снабден с достатъчно енергия, за да си проправи път в продължение на хиляди мили като преодолява притеглянето на земната гравитация.

Първото условие, както ще видим в следващата глава, се изпълнява сравнително лесно. Именно второто – проблемът с енергията – е далеч по-сериозно предизвикателство. Но дори и то може да бъде решено, без да се прибягва до каквито и да било нови фундаментални открития. Не е необходимо да чакаме някой да създаде „антигравитация“, преди да можем да пътуваме до планетите: средството вече е в наши ръце. То е ракетата.

ПРЕСИЧАЩИ СЕ ДИСКУРСИ: НАУКА, ФИКЦИЯ И ТЕХНОЛОГИИ В „СЪНЯТ“ НА ЙОХАНЕС КЕПЛЕР

Бисерка Стоименова

INTERSECTING DISCOURSES: SCIENCE, FICTION, AND TECHNOLOGY IN JOHANNES KEPLER'S *THE DREAM*

Biserka Stoimenova[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/FLCD8732

Abstract: *This article explores the intersection of science, literature, and technology in the work of Johannes Kepler by tracing the function of fiction in the description of a lunar voyage. It situates the work within the broader context of seventeenth-century scientific knowledge and rationalist inquiry, examining the connections between the radical innovation of scientific instruments – from Galileo's telescope to Robert Hooke's microscope – and the evolution of empirical observation alongside transformations in fictional narratives. At a time when scientific objectivity regarding facts and data served as the sole criterion for the validity of knowledge, verification required a regime of maximum visibility: scientific instruments demanded detailed descriptions, and objects of observation required precise representation. At the boundary between technological and fictional representation, fiction assumes the role of a self-sufficient mental technology – an optical extension of mind's sensitiveness – that transforms the observer's position. The article argues that in Somnium (The Dream), Kepler transforms fiction into a technology for the transmission of meaning and concepts, a function homologous to the telescope's role in overcoming the limitations of human experience. If, in Galileo's narrative (Sidereus Nuncius), the metaphorical "extension of the senses"*

1 Dr. Biserka Stoimenova is an assistant professor of Ancient and Western European literature at the *Konstantin Preslavsky* University of Shumen. Her research interests are in the field of cultural history of French enlightenment, the sociology of literature, the new-historical studies, the French libertinage of the 18th century, the literature and the visuals, the postmodern culture. She is the author of "Zapadnoevropeyska literatura na 17 vek (Frantsiya vav Veka na absolyutizma)" (2013) and "Antichna drama i teatar" (2014) and articles on Bulgarian literature, French literature and culture (17-18th century). Email: b.stoimenova@shu.bg

Copyright © 2026 Biserka Stoimenova

Article history: Received: 25 June 2026; Edited: 10 July 2026; Revised: 19 July 2026; Accepted: 29 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

is complemented by visual imagery – a challenge to the imagination – then in Kepler's Somnium (The Dream), the narrative framework of the dream and the allegorical account of the Daemon of Levania begin to function as a tool for thought: a specific technology for the transmission of knowledge.*

Key words: *intersection, science, lunar voyage, Kepler, Somnium, fiction and technology*

В изследователския подстъп към творбите на ранномодерната епоха (XVI – XVII век) често в аналитичния фокус застава пресичането на литературния и научния дискурс през периода – на фикционалната (въображаема) и научна репрезентация – което позволява надхвърлянето на ограниченията на дисциплините и структуриране на интердисциплинарни полета. Преобразуването на класическото литературноисторическо систематизиране на художествените текстове намира своята методологическа опора в разбирането за синхронното действие на историята на литературата и историята на науката при таксономизиране на знанието. Съвременни културни изследвания[2] върху движението на идеите в ранномодерната епоха разширяват границите с фокусиране върху природата на репрезентацията отвъд рамкиращата жанрово-фикционална условност на текстовете. Както посочва в изследванията си Мишел Сер, именно успоредизирането на научния, философския и литературния дискурс през XVII век функционира като свързващ *проход* (passage) между рязко отдалечените епистеми на знанието (Serres, 1980).

Успоредяването на научно и литературно въображение в ранномодерната епоха не само илюстрира потенциала за репрезентиране на „новата наука" чрез тематизирането на явления, открития и идеи в текстове с различен жанров характер. Научната активност от късния XVI в. и първата половина на XVII век, все още недостатъчно силно институционализирана, обект на полемики или натиск от телеологичния

2 Фундаментален методологически тласък за изследване на пресичащите се полета дава концептуализацията на *епистемите* и дискурсите на Мишел Фуко в „Думите и нещата", „Археология на знанието" „Порядъкът на дискурса" и др. За трансформацията на епистемите вж. по-подробно Fuko, 1992. Пресичанията в различни дисциплинарни полета на научния и фикционалния дискурс анализират Мишел дьо Серто (в историческото поле) (de Certeau, 1986); Фернан Халин и Мери Мидли (в литературното поле на ранномодерната епоха) (Hallyn, 1987; Midgeley, 2001); Мери Бейн Кембъл (в естетическото поле) (Campbel, 2006) и др. За изследванията на *cross-disciplinary* подхода в естетическото поле и визуалните изкуства на ранномодерната епоха вж. също и Jowitt & Watt, 2002.

дискурс, поставя учените и техните текстове в зона, отворена за интерпретации – популяризиране, тълкуване, аргументиране; апология или критическа рецепция – и част от този процес се осъществява в литературното поле. Както посочва Мери Бейн Кембъл:

> Поезията и науката все още не се бяха разминали и поляризирали; поне през шестнадесети век стиховете все още можеха да се използват за предаване на нови открития в медицината и естествената философия" (Campbell, 2006, p. 757).

Пресичанията на наука и литература от края на XVI век и началото на XVII век намират своето привилегировано поле с развитието на коперниканските идеи в астрономията, съпътствани от технологични открития и утвърждаване на нови методи на познание.

Пресичането на наука, литература и технологии в творбата на Й. Кеплер дава възможност да се преосмисли разбирането за функционирането на фикцията при описанието на лунното пътешествие. Ситуирането на творбата в контекста на радикална иновативност на научните инструменти и развитието на емпиричното наблюдение – от телескопа на Галилей до микроскопа на Ричард Хук – разкрива допълнителни смислови натрупвания и трансформации на жанровата формула. Във време, когато единственият белег за достоверност на знанието е научната обективност на факти и данни, неговата верификация се нуждае от режима на максимална видимост – научният инструмент се нуждае от подробно описание, а обектът на наблюдение – от детайлно представяне. На границите между технологична и фикционална репрезентация фикцията встъпва във функцията на самодостатъчна ментална технология – едно *оптическо разширение* на сетивността на ума – трансформираща позицията на наблюдателя.

Културната парадигма: рационалност и емпиризъм в ранномодерната наука

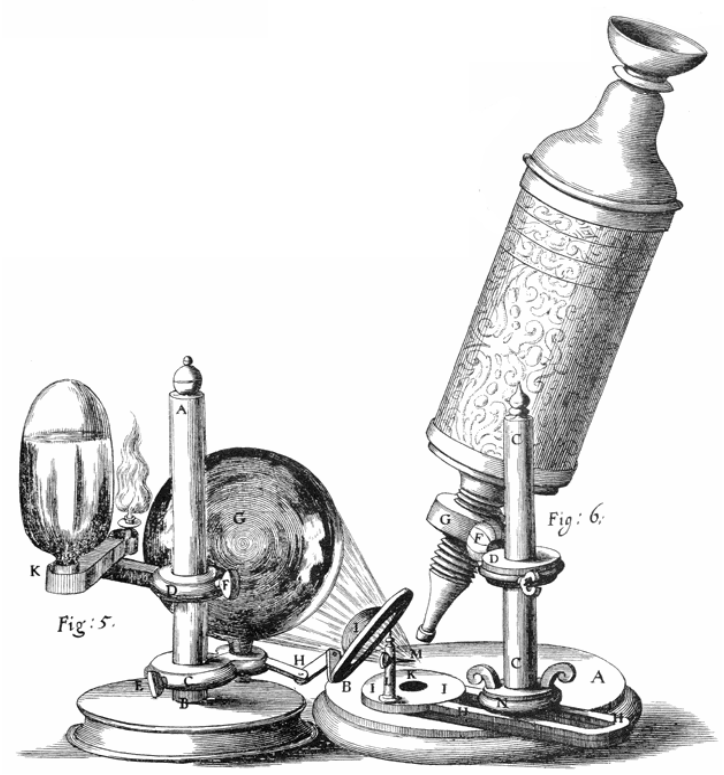
Изключителна роля за промяната на картината на света през XVII век има радикалната научна революция (Shapin, 1996; Dear, 2009) от този период, която създава нова концепция за човека, природата и мирозданието на Новото време. XVII век е време на бързо развитие на астрономията, физиката и математиката, чрез които се променя фундаментът на средновековната наука. Астрономът Тихо Брахе (1546 – 1601) съставя ка-

талог с точното положение на планетите, а Йоханес Кеплер (1571 – 1630) формулира трите закона за движението на планетите, което усилва съмненията в аристотелианския и птолемеевия модел за света. Твърдението на Николай Коперник, че Слънцето се намира в центъра на планетите и Земята се върти около него, е потвърдено от Галилео Галилей (1564 – 1642), който през 1632 г. публикува трактата „Диалог за двете най-главни системи в света – Птолемеевата и Коперниковата".

В началото на XVII век са променени не само основните идеи в астрономията, но и принципите на динамиката и физиката. Изградени са както нов математически език, така и нови дялове на математическата наука. Разработени са аналитичната геометрия и пресмятането до безкрайност, теорията на механиката, геометричната и физичната теория за светлината. Изобретяването на телескопа и на микроскопа дава тласък на откритията в „макро-" и „микросвета" на материята. Като доусъвършенства телескопа, изобретен през 1608 г. от холандския майстор на очила Ханс Липерсхей, Галилей поставя началото на поредица от експериментални астрономически наблюдения, с които потвърждава Коперниковата теория за Вселената и които описва в своите научни трудове.

По начина, по който откриването на телескопа променя развитието на науката астрономия, изобретяването на сложния микроскоп в началото на XVII век осъществява „революция в биологията" през втората половина на столетието[3]. Може би най-ясно значимостта на микроскопското наблюдение обобщава през 1665 г. английският изследовател Робърт Хук в книгата си „Микрография": „Току-що е открит един видим свят."

3 Според придворния лекар на Луи XIV Пиер Борел „с помощта на микроскопа миниатюрни насекоми се превръщат в колосални чудовища... различават се безброй части... открита е нова физика" (cited in Spangenberg & Mouzar, 2007, p. 112).



Фигура 1. Сложният микроскоп на Робърт Хук[4]

Научната революция през XVII век се изразява не само в натрупване на емпирични открития, технически изобретения или във формулирането на нови научни закони. Систематизирането на нейните достижения е съпътствано от остри полемики, разпалени обсъждания, често протичащи като публични диспути или епистоларен обмен. Въпреки че университетски центрове като Оксфорд, Кеймбридж, Болоня, Падуа и Париж остават предимно консервативни, новата наука се разпространява бързо в създаваните през цялото столетие нови (научни) общества[5], в които се формира съвременната научна публика.

4 Илюстрация на сложния микроскоп и неговата осветителна система, публикувана за първи път в труда „Micrographia“. Източник: „Hooke-microscope.png“ от R. Hooke, 1665, https://commons.wikimedia.org/wiki/File:Hooke-microscope.png

5 Първата институционализирана организация, посветена на научната дейност, е основаното през 1660 г. Кралско общество на Лондон за подобряване на естествените знания. Две години по-късно то е официално узаконено от Чарлз II. Целта на научното общество е да бъдат събрани и систематизирани всички знания за природата, полезни за обществото, а научните открития да бъдат представяни пред по-широка публика. През 1665 г. обществото започва да издава и първото професионално научно списание.

Изключително влияние върху рационалистичното знание през XVII век имат откритията на Исак Нютон (1642 – 1727) в областта на механиката и оптиката. Във фундаменталния си труд „Математически принципи на натурфилософията" (1687 г.) Нютон формулира трите закона за движението и закона за всеобщото привличане (известен и като *закон за гравитацията*), с които поставя основите на класическата механика. Откритията в областта на астрономията, физиката и механиката, възможни и благодарение на солидната научна традиция до XVII век, му позволяват не само да систематизира научното знание, но и да формулира общите принципи и научни закони.

Именно на Нютоновите наблюдения науката на XVII и на XVIII век дължи извеждането на принципите на съответствие – движението на небесните тела и движението на предметите на Земята се подчиняват на единни закономерности. Като представя близостта между законите на Кеплер *за движението на планетите и* закона за гравитацията, Нютон изгражда фундаментната научна представа за единен закон, а математическото обяснение на законите, които управляват движението, окончателно утвърждава хелиоцентричната теория за Вселената.

Развитието на новата наука допринася за триумфа на разума и за загубата на представата на предопределеност на явленията. В процеса на познанието укрепва и ролята на съмнението. Именно съмнението се превръща в основен инструмент на познанието, което се опира не на авторитета и вярата, а на индивидуалното рационално съждение. Усъмняването в достоверността на нещата в науката на XVII век често се възприема и като естествен и единствен резултат в процеса на познанието, тъй като довежда до драматичното разбиране, че постигнатите истини са по-скоро вероятни, а не абсолютни.

Определящи за развитието на философското знание стават идеите на философите Франсис Бейкън (Англия) и Рене Декарт (Франция). Идеите на Бейкън са свързани с философията на науката и за тяхното пространно разгръщане е замислена творба в шест части „Великото възстановяване“. Според замисъла на Бейкън първата част предвижда описание на актуалното състояние на знанието, а втората предлага нов метод за научно изследване. В третата част ще бъдат събрани научни (емпирични) данни с функцията на доказателствен материал, а в следващата част ще бъде онагледен новият научен метод. Последните две части предвиждат съответно представянето на изводи и обобщението на знанията, резултат от новия научен метод.

Замисълът на Бейкън е частично осъществен, като концепцията си за първите две части той разгръща в трудовете „За достойнството и напредъка на науките“ (в което доразвива идеи, заложени в по-ранния трактат „Напредъкът на знанието“ (1605) и „Нов органон“ (1620).

Именно частта „Нов органон“ („Нов инструмент“) става текстът, който оказва най-силно влияние върху философските представи за научното знание, приело емпиричния изследователски метод като основа на новата наука. Знанието според Бейкън се постига чрез систематизиране на особеностите на наблюдаваните обекти, чрез сумиране на факти и доказателства, които стават основа за научните изводи. Въпреки че не винаги този метод на индуктивно изследване (от частния факт към обобщението) е безусловно следван от учените, през XVII век се утвърждава важността на наблюдението и на експеримента в системата на научните методи.

Основополагаща роля за развитието на философския рационализъм през XVII век има философията на картезианството, утвърдена в логико-философските съчинения на Рене Декарт (1596 – 1650). Като основа на познавателния процес Декарт извежда принципа на съмнението в абсолютната достоверност на нещата, в установените знания. За достигането до истината е необходимо всяко твърдение да бъде обосновано посредством логическото доказателство. Така познанието е представено не като „готова истина”, често налагана чрез вярата, авторитета или традицията, а като постигнато в логическия процес умозаключение, основано на здравия разум и способността за съждение. По този начин познанието трябва да се осъществява от разума посредством логическата оперативност на анализа, умозаключението и синтеза. Двете школи – на емпиризма и рационализма – през XVII век моделират развитието на философската мисъл през следващите две столетия.

През XVII век съществено се променя и начинът на мислене и възприемане на света, при който в процеса на експериментално-опитното изследване на природата се диференцира достоверното и вероятното в процеса на познание. Природата е възприемана все повече като механизъм, а не като организъм, като отношението между човека и природата се мисли механистично – човекът търси и изследва елементите и силите на това отношение, стреми се да открие законите на това взаимодействие.

Същевременно световъзприятието на човека през XVII век е силно противоречиво и многообразно – в него се съчетават рационализъм и чувствителност (сенсуализъм), разсъдъчност и мистицизъм. Успоредно с това през този период се оформя и по-общото движение от религиозното към светското световъзприятие, водещо до все по-отчетливото разделение на светската и религиозната словесност. И въпреки ясната секуларизация на знанието през XVII век, в различните текстове на философи, мислители и поети се наблюдават общи места – близост в интереса към универсалните („вечните") идеи, към философската рефлексия за човека и Бога, за живота и смъртта.

Космология и фикция: епистемологични трансформации на *лунното пътешествие* в ранния XVII век

Във времето на Научната революция уреди и инструменти действат като средство за апробиране на теорията и установяване на истината. С утвърждаването на Бейкъновия експериментален метод на познание нараства и ролята на инструменталната практика, в която с механичните уреди и „научните инструменти" се преодоляват ограниченията на човешките сетива. В Предговора към *Micrographia* (1665) Робърт Хук развива една от основните за експерименталния опит тези – за необходимостта науката да търси помощ, за да преодолее немощта на човешкото тяло, и „да добавя изкуствени органи към естествените", с което ще се постигне „уголемяване и удължаване на сетивата" (Hook, 1665, p. 3). В този смислов контекст научните инструменти – телескопът и микроскопът – са мислени единствено като статични механични инструменти за преодоляване на физическата слабост и ограниченост на сетивата, като променят мащабите на непознатата отдалечена реалност.

Фикционалното картографиране на лунарния свят, изграждането на Лунарната астрономия развиват сходна смислова функционалност, като се превръщат в мисловен инструмент – в „Сънят" Кеплер трансформира фикцията в технология на смислова и концептуална трансмисия, чиято функция е хомологически съизмерима с действието на телескопа (или по-късно – на микроскопа) за справяне с ограничения опит на човека.

От тази гледна точка „удължаването на сетивата“ се трансформира от просто механично усъвършенстване на оптическата рецепция в сложна и активна когнитивна процедура. Наблюдението и изследването с механичния инструмент отключват провокациите към сетивния опит, но както посочва Ладина Бецолла Ламберт, „истинското „удължаване“ се извършва от човешкото въображение, което конструира изцяло нова перспектива, способна да преведе и асимилира дотогава „невъобразимите“ космически обекти.“ (Bezzola Lambert, 2002).

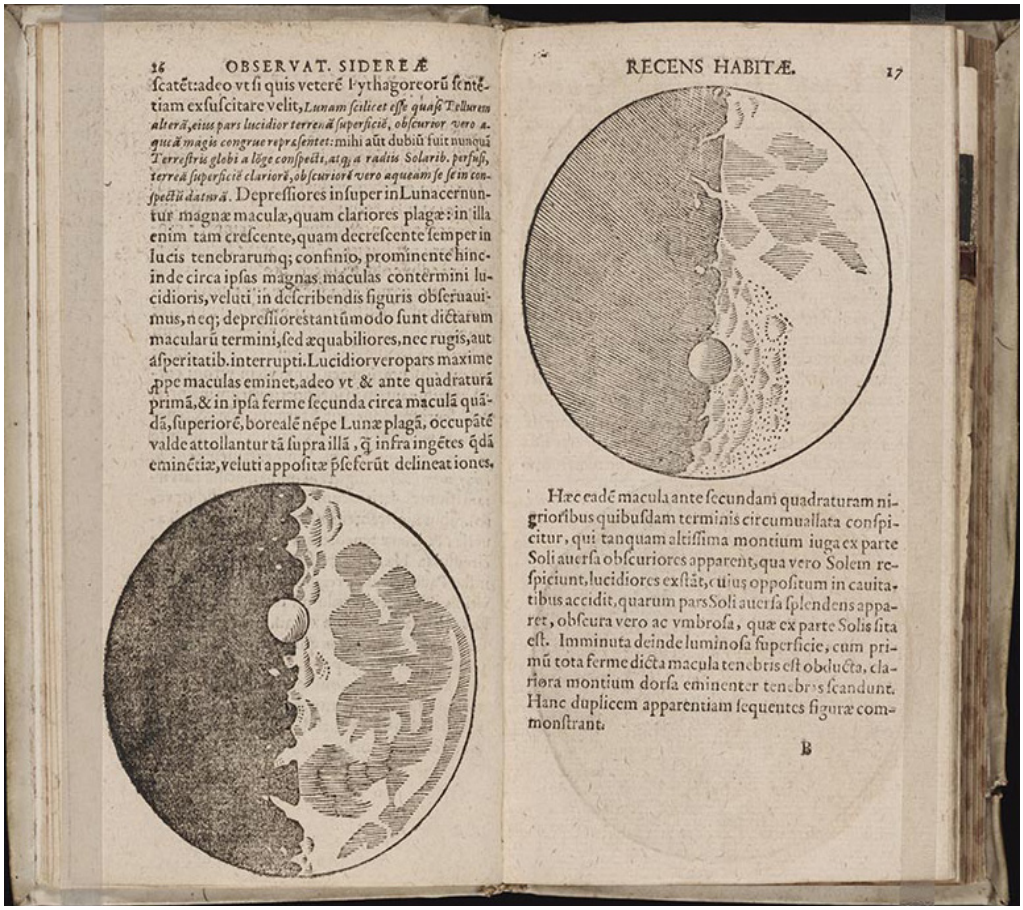
В първото десетилетие на XVII век трудовете на Галилео Галилей[6] и на Йоханес Кеплер[7] имат решаващо значение не само за трансформацията на научните представи и утвърждаване на коперниканските идеи, но и за стимулиране на литературното въображение към описание на други обитаеми светове със средствата на пътешественическия наратив. Публикуването на *Sidereus nuncius* на Галилей през 1610 г. (текст, синтезирал пионерните телескопични открития на Галилей за релефната повърхност на Луната и петната по Слънцето) става отправна точка на мощен литературен интерес – в текстове с различна жанрова и дискурсивна природа авторите изграждат образите на въображаемите светове на Луната (или на Слънцето и планетите), едновременно разпознавани като невероятни, но и като възможни.

За публиката, развила досегашните си представи за Луната на основата на Аристотеловата концепция за идеалната небесна сфера, откритият нов свят става „въобразим“ и посредством визуалното изображение: графичните рисунки на Галилей на лунната повърхност действат като визуална трансмисия на наблюдаваните през телескопа оптически петна в релефна картина (планини и долини) на лунния ландшафт. По този начин въображението преодолява ограниченията на сетивата в телескопските наблюдения, като „превежда“ непознатото – и невъобразимото – на езика на познатия (земен) свят.

---

6 Текстовете на Галилей *Sidereus Nuncius* (1610) и *Dialoga sopra i due massimi sistemi del mondo* (1632) създават представата за небесното тяло като физическо пространство с реална, сетивна география и по този начин стимулират литературното въображение да мисли лунното пътешествие като възможно и постижимо.

7 В своите научно-философски трактати „Нова звезда“ (*De Stella Nova* (1606) и „Нова астрономия“ (*Astronomia Nova* (1609) Кеплер опровергава Аристотеловата концепция за неизменността на надлунния свят и въвежда единните физични закони. В отговор на трактата на Галилей „Звезден пратеник“ *(Sidereus Nuncius)* създава трактата „Разговор със Звездния пратеник“ (*Dissertatio cum Nuncio Sidereo* (1610) като апология и защита на идеите на Галилей.



16 OBSERVAT. SIDEREÆ

scatēt: adeo vt si quis veterē Pythagoreorū sententiam exsuscitare velit, *Lunam scilicet esse quasi Tellurem alteram, eius pars lucidior terreną superficiē, obscurior vero aquā magis congruē repræsentet*: mihi aūt dubiū fuit nunquā Terrestrium globi a lōge conspectū, atq; a radiis Solarib. perfusū, terreā superficiē clariorē, obscuriorē vero aqueam se sēn conspectū daturā. Depressiores insuper in Luna cernuntur magnæ maculæ, quam clariores plagæ: in illa enim tam crescente, quam decrescente semper in lucis tenebrarumq; confinio, prominente hinc inde circa ipsas magnas maculas contermini lucidioris, veluti in describendis figuris obseruauimus, neq; depressiores tantūmodo sunt dictarum macularū termini, sed æquabiliores, nec rugis, aut asperitatib. interrupti. Lucidior vero pars maxime ppe maculas eminet, adeo vt & ante quadraturā primā, & in ipsa ferme secunda circa maculā quādā, superiorē, borealē nēpe Lunæ plagā, occupātē valde attollantur tā supra illā, q̄ infra ingētes q̄dā eminētiæ, veluti appositæ pferūt delineationes.

RECENS HABITÆ. 17

Hæc eadē macula ante secundam quadraturam nigrioribus quibusdam terminis circumuallata conspicitur, qui tanquam altissima montium iuga ex parte Soli auersa obscuriores apparent, qua vero Solem respiciunt, lucidiores exstāt, cuius oppositum in cauitatibus accidit, quarum pars Soli auersa splendens appareat, obscura vero ac vmbrosa, quæ ex parte Solis sita est. Imminuta deinde luminosa superficie, cum primū tota ferme dicta macula tenebris est obducta, clariora montium dorsa eminenter tenebras scandunt. Hanc duplicem apparentiam sequentes figuræ commonstrant.

B

Фигура 2. Рисунките на Галилей на Луната (Siderius Nuncius, 1610)[8]

За краткия период между 10-те и 50-те г. на XVII век телескопичните описания и разсъждения в „Звезден пратеник“ на Галилей лавинообразно отключват наративите на лунното пътешествие в творби като фантасмагоричния разказ „Сънят“ (*Somnium*) (1634)[9] на Йоханес Кеплер (1610 – 1630), фарсовия епизод в романа на Шарл Сорел „Комична история на Франсион“ (*L'Histoire comique de Francion*) (1623), романа „Човекът

8 Печатна версия на рисунките на Луната от Галилео. От *Siderevs nvncivs...*, от G. Galilei, 1610. Beinecke Rare Book and Manuscript Library, Yale University. Взето от *The Pulter Project*. https://pulterproject.northwestern.edu/curations/c1-early-modern-astronomy.html

9 Йоханес Кеплер започва работата си по „Сънят“ още през 1609 г., но активно развива концептуалното ядро на текста под въздействието на трактата на Галилей „Звезден пратеник“ (1610). Той снабдява първоначалния фикционален сюжет с мащабен обяснителен корпус научни бележки, създавани в периода 1610–1630 г. Трактатът е публикуван посмъртно от неговия син Лудвиг Кеплер през 1634 г.

на Луната“ (*The Man on the Moon*) на Франсис Годуин (1638), научно-философския трактат на Джон Уилкинс „Откриване на света на Луната” (*The Discovery of a World in the Moon* (1638) или в сатиричния роман на Сирано дьо Бержерак „Другият свят“ (*L' Autre monde*[10])[11] Въображаемите пътешествия до Луната спояват научноописателен и фикционален наратив като реакция на посткоперниканските концепции за Вселената и възможност те да станат не просто обект на репрезентация, но и на полемични реакции.

Неоднозначното отношение към откритията на новата астрономия и телескопичните наблюдения създава двойствена дискурсивна среда за разгръщане на тематичната линия *откриване на други светове* и *пътешествия до Луната*. От една страна се развива силно критическата нагласа, изразена от автори като Джон Дън, който използва наратива за лунарно пътешествие като средство за яростна сатирична или комична дискредитация на новата наука. В „Конклавът на Игнатий“ (1611) Дън сатирически преобръща мотива за пътуването, представяйки технологичните иновации (откритието на телескопа) като средство за дяволски машинации, Луната – като пространство на наказанието (място, където ще бъдат преселени йезуитите), а новата астрономия на Коперник, Галилей и Кеплер – като разрушаване на установения космогоничен порядък и разпад на света.

От друга страна е нескриваната възхита от телескопичното откриване на един нов свят, стимулирала тържествената поетическа възхвала към Галилей на Джанбатиста Марино в X песен на поемата „Адонис“ (1623). С пищна барокова образност в поемата Марино нарича Галилей „нов Ендимион“, който ще може да съзерцава без воал Луната, защото неговият уред (един „възхитителен инструмент“, „малка тръба и два кристала“) скъсява разстоянията и прави далечното да изглежда близко. Ако в наратива на Галилей (*Siderius Nuncius)* метафоричното „удължаване на сетивата“ се допълва от визуалното изображение – едно предизвикателство пред въображението, то в „Сънят“ (*Somnium*) на Кеплер, повествователната рамка на *съня* и алегоричният разказ

10 Романът „Другият свят“ на Сирано се състои от две части: „Комична история за държавите и империите на Луната“ (*L' Histoire comique des États et Empires de la Lune* (1657) и „Комична история за държавите и империите на Слънцето“ (*L' Histoire comique des États et Empires du Soleil* (1662).

11 За рефлексията на астрономически идеи при изграждането на наративите за *лунните пътешествия* в ранномодерната литература вж. Nicolson, 1948; за пресичанията между нова наука и литература в тематизацията на *travel narrativs* вж. Hayden, 2016.

на Демона на Лавания започват да функционират като мисловен инструмент – една специфична технология за трансмисия на смисъла и знанието.

„Сънят, или Астрономия на Луната“ (1609 – 1630; публ. 1634) на Й. Кеплер е ключова творба за изграждане на литературните въображаеми пътешествия до Луната през първата половина на XVII век. Нейният наратив е симбиоза между фантастичен (фантасмагоричен) разказ и научни описания в духа на коперниканската астрономическа теория. Както посочва Марджъри Никълсън, „Сънят“ на Кеплер остава в периферията[12] на интереса и на историците на науката, и на литературните изследователи (Nicolson, 1956, pp. 58-59), въпреки че творбата е снабдена със сериозни научни обяснения под формата на бележки, съпътстващи фикционалния разказ за магическия полет, описанието на Луната (Левания) и живота на нейните обитатели. По късни изследвания[13] възобновяват вниманието към творбата на Кеплер, проследявайки както генеративната роля на античните текстове („Истинска история“ на Лукиан, „За лицето в диска на Луната“ на Плутарх[14]), така и влиянието ѝ върху романовите наративи на Франсис Годуин, Джон Уилкинс и Сирано дьо Бержерак за изграждане на симбиозата между измислица и научно описание.

12 Според Марджъри Никълсън текстът на Кеплер незаслужено е останал в периферията на изследване и в историята на науката, и в историята на литературата. Тя отбелязва значимостта на творбата за представяне на новаторските астрономически идеи на Кеплер, както и за влиянието ѝ върху развитието на жанра „космическо пътешествие“ в литературата на XVII и XVIII век. В допълнение текстът разяснява и моменти от семейната история на Кеплер (Nicolson, 1956, pp. 58-59). С аргументацията за необходимото изследване на творбата от перспективата на интердискурсивния диалог наука – художествена литература – социална история – (авто)биография Никълсън представя една от ранните интуитивни форми на *cross-disciplinary* подхода в хуманитаристиката, основа на съвременните разбирания за интердисциплинарни изследвания.

13 Изследователският корпус върху творбата на Кеплер в контекста на лунарния пътепис (*travel narrative*) е изключително богат. Изследванията на тази традиция започват с класическите трудове на Марджъри Никълсън (Nicolson, 1948; Nicolson, 1956), а пресичанията между въображаемите пътувания и ранномодерната космология са водещ фокус в изследванията на Фредерик Аит-Туати (Aït-Touati, 2010; Aït-Touati, 2011), Уилям Пул (Poole, 2010), Сара Хътън (Hutton, 2005). Влиянието на реторическия език и литературната фигуративност като когнитивен инструмент на космологичните идеи е проучено от Фернан Халин (Hallyn, 1987) като подстъп към една нова „поетика на науката“ и от Ладина Бецола Ламберт (Bezzola Lambert, 2002) като механизъм за стимулиране на въображението. За алегоричната природа на „Сънят“ на Кеплер като симбиоза между метафизично и научно знание в контекста на средновековния алегоричен семиозис вж. изследването на Дийн Суинфорд (Swinford, 2006).

14 Кеплер добре познава съчинението на Плутарх в превод на латински още от 1595 г. В бел. 2 от коментарите в „Сънят“ посочва „За лицето на лунния диск“ като един от вдъхновяващите източници за написване на своята творба. По-късно, в периода 1629 – 1630 г., той прави и собствен превод от гръцки на латински език.

„Сънят“ на Кеплер представя алегоричен разказ за възможното пътуване до Луната, като използва многопластова наративна рамка, управлявана от разказвачи, принадлежащи към светове, в различна степен съотносими към конкретна (историко-социална или автореференциална) или магическа реалност. Разказът е структуриран като плавен преход на повествователни гласове, илюстриращи постепенното отделяне от фикционалното литературно сюжетиране към наукоописателен наратив, синтезиращ основни постулати на посткоперниканската лунна астрономия. Моделът на разказване, уподобен от Уилям Пул като движение по концентрични кръгове (Poole, 2010, § 12), въвежда първия – неназован – разказвач[15] и неговата кратка история: след като прекарва нощта в любуване на луната, той неусетно заспива и в съня си се вижда как чете книга, купена във Франкфурт, за приключенията на младия исландец Дуракотус и за неговата среща с Демона от Левания.

Вторият наративен пласт се открива с разказа на Дуракотус за принудителното му странстване, за пребиваването му в Дания и за обучението му при датския астроном Тихо Брахе. Син на магьосницата Фиоксхилде, Дуракотус е едновременно посветен в магическото знание и тайнствените ритуали, но и достигнал до познания „за най-божествената от науките“. Когато след петгодишно странстване се завръща в Исландия, радостно посрещнат от своята майка, Дуракотус продължава да търси знанието, за да сравнява наученото от книги и наблюдения с проникновеното магическо знание, открило се в разказа на призования от Фиоксхилде *Демон* на Луната.

Демонът на Левания е третият разказвач в поредния наративен пласт, в който фикционалната история рязко отстъпва на монологичния наукоописателен наратив за пътуването до Луната, за нейните физико-астрономически особености, география, ландшафт и обитатели[16].

---

15 Традиционно историческите референции в първата повествователна рамка са тълкувани и като автореференциални алюзии, а фикционалният разказвач – като *alteregо* на Кеплер.

16 В разказа на Демона Левания е описана като разделена на две полукълба (*Субволва* – обръщаща се към Земята (Волва) и *Приволва* – обръщаща се от Земята). Тя е населена с огромни същества, които бързо нарастват, но и бързо умират. Макар да са различни по форма и по размери, те имат предимно „змийска природа“. В стремежа си да се скрият от слънцето по време на своя лунен ден, лунните обитатели са в постоянно движение – някои бягат от него „на дългите си крака“, а други го следват, като „плават в лунния океан“. Подобно на лунните създания, и лунната флора и фауна имат кратколетен живот – растат и умират за един ден. Големите облаци и малкото дъжд също защитават Левания от Слънцето, което, по думите на Демона, „може да унищожи всичко по пътя си“. За пълния текст на разказа на Демона вж. Kepler, 1965, p. 111; pp. 155-158).

Разказът на Демона подробно описва пътуването (пренасянето) на хората до Левания в съдържателния и стилов регистър на научния трактат, въвеждайки явления като ускорението при движение, преодоляването на гравитацията, напускането на земната атмосфера, за да отбележи въздействието им върху човешкото тяло.

В разказа си Демонът описва продължителността на пътуването – то трае четири часа и започва преди да настъпи лунното затъмнение. Подредени в колона, демоните хващат всеки човек и го издигат във висините. Първоначалният шок за него е много голям, защото издигането наподобява барутна експлозия и полет над морета и планини. За да бъде преодолян този шок, преди началото на полета човекът трябва да бъде упоен, а крайниците му – защитени, за да не бъдат откъснати от тялото. Новите трудности пред него са силният студ и нарушенията на дишането, облекчено от поставените на носа навлажнени гъби.

След като приключи първата част от пътуването, придвижването става по-лесно: демоните се отдръпват от телата на хората, свити на кълбо заради създаденото налягане. След пристигането на Луната тялото само се насочва към предопределеното му място. Като ускоряват придвижването чрез гравитацията, демоните застават и вървят пред него, за да го предпазят при силния му удар в Луната. Когато човекът се събуди, по думите на Демона, той обикновено се оплаква от неописуема умора, но бързо се възстановява от нея, когато премине ефектът от лекарствата и той отново започне да ходи.[17]

Кеплер съчетава магическия разказ за полета с физични и физиологически описания, допълнени от внушителен свод научни бележки, които реферират към научните открития на неговото съвремие, към собствените му съчинения, дори към забавни анекдотични истории. Въпреки че използва популярния мотив за пътуване с помощта на магически сили, Кеплер изгражда разказа на Демона като *мисловен експеримент* и ясно обособява двата наративни свята – на фикцията и на науката. Както посочва Фредерик Аит-Туати, „двата дискурса са херметически изолирани един от друг: „фикцията е ясно локализирана и

17 Преводът на *Somnium* на английски език има няколко авторитетни пълни издания с критически коментар на бележките на Кеплер. В настоящия анализ е използвано критическото издание на Джон Лиър, в превод на Патрисия Къркууд (Kepler, 1965). За цялостния текст на епизода вж. Kepler, 1965, pp. 104-109). Превод на английски език на „Сънят“, единствено на фикционалната част, без коментиращите бележки на Кеплер, е направен от преподобния Норман Реймънд Фалардо (достъпен на сайта на Фрости Дрю Мемориал) https://frostydrew.org/papers.dc/papers/paper-somnium/

контролирана от мисловния експеримент на съня“ (Aït-Touati, 2011, p. 75), което определя подчиненото място на началния интригуващ литературен разказ спрямо научнописателния наратив.

Фокусът, поставен върху селенографското описание, отдава на историята на Дуракотус и на неговата драматична съдба и чудодейна среща с Демона на Левания вторична роля. „Сънят“ на Кеплер не се стреми към изграждане на системна и завършена фикционална история – премествайки тежестта към научното изложение за Левания (Луната), той превръща разказа в инструмент за репрезентиране на „новата астрономия“ със средствата на фикцията. Авторовата незаинтересованост относно развитието (т.е. *затварянето*) на началния рамкиращ импулс е видима и в краткото внезапно възвръщане на разказвача в настоящето (сред шума от дъжда във вечерна Прага, под отметнатото одеяло на леглото) – неочакваното напускане на фантазния сън оставя историята и на разказвача Дуракотус, и на разказвача, читател на книгата за него, незавършена.

„Сънят“ на Кеплер става особено продуктивен изследователски фокус поради добре оформената система от интертекстуални мрежи: създаден както в диалог със *Siderius Nuncius* на Галилей, така и с литературни образци от античността[18], развили своята протонаучна версия на лунарното пътешествие, краткият текст на германския астроном заема привилегированото *гранично* място между измислените или магико-окултичните разкази и научното описание на емпиричните факти.

Оформен като мисловен експеримент, текстът развива двойна перспектива към лунното пътешествие, съчетавайки литературна фикция и строго научно обяснение. Както посочва Роже Бозето, един от проникновените изследователи на предмодерната научна фантастика (и в частност на *Somnium* на Кеплер), симбиозната природа на творбата действа като „епистемологичен мост“ между текстове, „позоваващи се на чудесното“, и текстове, които „предлагат въображаемо изследване на периферията на реалност, вече дефинирана… от общоприетите научни факти“ (Bozzetto, 1990, p. 372). Двойнственото съчетание на факти и

18 В научните си бележки (бел. № 2) към фантасмагоричния сън Кеплер посочва фикционалните (и нефикционалните) наративни източници, на които се опира. Сред тях са „Истинска история“ на Лукиан от Самосата, съчинението на Плутарх „За двете лица на Луната“, „Сънят на Сципион“ на Цицерон и др. За гръцките източници в „Сънят“ на Кеплер вж. по-подробно у Romm, 1987; Romm, 1988/89.

фикция позволява, от една страна, да се преодолее ограничението на сетивния опит (прякото наблюдение с телескоп) с процедури на технологично изчисление и логико-теоретични разсъждения, оформили цялостната конструкция на текста като *мисловен експеримент*.

От друга страна, фикционалната рамка, изградена като фантасмагоричен сън, дава свободата на изразяване на идеи в полето на чудесното и невероятното, което (макар разказвачите да твърдят обратното) се възприема като неправдоподобно, подобно на смелите хипотези на новата астрономическа наука (коперниканската теория). Във времена, когато непосредственото наблюдение е основна стратегия за установяването на факта, изместването му от научната хипотеза, техническото (математическото) изчисление и логическото разсъждение е ненадеждна верифицираща процедура – както отбелязва Раз Чен-Морис, „хипотези от подобен род масово са възприемани като не по-достоверни от измислиците“ (Chen-Morris, 2005, pp. 229 – 230).

Двойнствената дискурсивна форма на „Сънят“ на Кеплер поставя въпроса и за субординацията на фикционалния и научния наратив. Разказът за лунното пътешествие вплита повествователни позиции, сред които се откроява тази на Демона на Лавания – пред изумения Дуракотус той описва двете полукълба на острова (Приволва и Субволва), като подробно разяснява астрономически явления (движение на планети, слънчево затъмнение, денонощен и годишен цикъл на движение на двете полукълба, слънцестоене, гравитация); описва лунната „география“ и лунните пейзажи, растителния свят като чудовищен по своите размери; представя лунните обитатели като чудновати същества със змиеподобен вид, често търсещи спасение от слънчевите лъчи в пещерите. Разказът на Демона (една алегорична версия на авторитетното знание)[19] включва описания от разнороден порядък – от астрономическите явления до живота на приволвани и субволвани – като често сменя зрителната перспектива, съпоставяйки лунарните и земните астрономически явления.

С фикционалният наратив, придружен от обемен научен апарат на бележките, Кеплер изгражда „преобърнат“ аналитичен фокус към Вселената, насочвайки своя „дескриптивния окуляр“ от Луната към Земята. Ако художествената рамка напластява разкази,

19 В няколко от бележките си Кеплер разяснява връзката на този образ със значението на гръцкото *Daemon* като производно от *daiein*, ‘зная’ – Демонът е ‘този, който знае’. За уточнението вж. бел. 34 в „Сънят“ (Kepler, 1965, p. 97).

илюстриращи постепенното отделяне от историко-хронологичната референциалност (в разказа на първия повествовател указана с време-пространствени локуси) и преход към окултно-магическия наратив (в разказа на Дуракотус за срещата с Демона и последващото пътуване до Луната), в съпътстващия мащабен корпус от 223 бележки Йоханес Кеплер създава мащабно представяне на съвременното астрономическо знание. Пространните бележки функционират като паралелен дискурс (независимо, че в оригиналното издание на латински език те са обособени като самостоятелна част, следваща художествения текст), провокирайки читателя да следи двойния регистър на текста – те едновременно разкъсват повествователната кохерентност на чудноватия разказ за Левания и доизграждат неговия смисъл с научнописателна аргументация.

По този начин фикцията не е просто компенсаторен инструмент, запълващ епистемологична празнота (на липсващия технологичен език), а дискурсивна среда на „разширяване на сетивата“ чрез въображението като инструмент, чрез който се преодоляват физическите ограничения на пространството или „немощта на сетивата“ (Хук). Развитието на новата наука (астрономия) изправя ранномодерното време пред сериозно предизвикателство, като изисква от неговия интелектуален апарат да направи познаваеми феномени, които далеч надхвърлят непосредствения сетивен опит (Bezzola Lambert, 2002). В пресичанията на наука, фикция и технологии в ранномодерната епоха фикционалните наративи и реторическите стратегии трансформират полето на въображението като необходим инструмент за епистемична промяна.

References

Aït-Touati, F. (2010). Thinking the cosmos in the seventeenth century: Fiction, hypothesis and astronomy from Kepler to Huygens. *Annales. Histoire, Sciences Sociales,* 65(2), 325-344. https://shs.cairn.info/journal-annales-2010-2-page-325?lang=en

Aït-Touati, F. (2011). *Fiction of the Cosmos: science and literature in the seventeenth century* (trans. Susan Emanuel). Chicago, London: The University Press.

Bezzola Lambert, L. (2002). Imagining the unimaginable: The poetics of early modern astronomy. Amsterdam: Rodopi.

Bozzetto, R. (1990). Kepler's "Somnium"; or, science fiction's missing link ("Le Songe" de Kepler, ou le chaînon manquant de la science fiction) (A. B. Evans, Ed. & Trans.). Science Fiction Studies, 17(3), 370-382.

Campbell, M. B. (2006). The scientific revolution and the grammar of culture. In K. Park & L. Daston (Eds.), The Cambridge history of science: Volume 3, Early modern science (pp. 749-770). Cambridge University Press.

Chen-Morris, R. (2005). Shadows of instruction: Optics and classical authorities in Kepler's "Somnium". Journal of the History of Ideas, 66(2), 223-243.

de Certeau, M. (1986). History: Science and Fiction. In *Heterologies* (trans. Brian Massumi). Minneapolis: University of Minnesota Press.

Dear, P. (2019). *Revolutionizing the Sciences: European Knowledge in Transition, 1500–1700* Third Edition**.** Princeton: Princeton University Press.

Fuko, M. (1992). *Dumite i neshtata. Arheologia na humanitarnite nauki* [*Думите и нещата. Археология на хуманитарните науки*]. Sofia: Nauka i izkustvo.

Galilei, G. (1610). *Siderevs nvncivs, magna, longeqve admirabilia spectacula pandens* [Published drawings]. Palthenianus. Beinecke Rare Book and Manuscript Library, Yale University. The Pulter Project https://pulterproject.northwestern.edu/curations/c1-early-modern-astronomy.html

Hallyn, F. (1987). *La Structure poétique du monde: Copernic, Kepler.* Vol. 1. Paris: Edition du Seuil.

Hayden, J. A. (Ed.). (2016). Travel narratives, the new science, and literary discourse, 1569–1750. London: Routledge.

Hooke, R. (1665). *Hooke-microscope.png* [Изображение]. Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Hooke-microscope.png

Hutton, S. (2005). The Man in the Moone and the New Astronomy: Godwin, Gilbert, Kepler, Études Épistémè [Online], 7, Online since 01 May 2005, connection on 03 July 2026. URL: http://journals.openedition.org/episteme/2815 ; DOI: https://doi.org/10.4000/episteme.2815

Jowitt, C. & Watt, D. (Eds.), (2002). *The Arts of Seventeenth-Century Science: Representations of the Natural World in European and North American Culture.* Aldershot: Ashgate.

Kepler, J. (1965). Kepler's dream: With the full text and notes of Somnium, sive astronomia lunari, Joannis Kepleri (P. F. Kirkwood, Trans.; J. Lear, Ed.). University of California Press. (Original work published 1634)

Kepler, J. (n.d.). Somnium - A dream (N. R. Falardeau, Trans.). Frosty Drew Observatory and Science Center. https://frostydrew.org/papers.dc/papers/paper-somnium/ (Original work published 1634).

Midgeley, M. (2001). *Science and Poetry.* London: Routledge.

Nicolson, M. H. (1948). *Voyages to the Moon*. New York: Macmillan.

Nicolson, M. H. (1956). *Science and Imagination*. Ithaca, New York: Great Seal Press.

Poole, W. (2010). *Le Songe* de Kepler et L'*Homme dans la lune* de Godwin : naissances de la science-fiction 1593-1638. In A. Tadié (éd.), & C. Miqueu & S. Vasset (trad.). *La figure du philosophe dans les lettres anglaises et françaises*. Nanterre: Presses universitaires de Paris Nanterre. https://doi.org/10.4000/books.pupo.995

Romm, J. (1987 December 12th). Kepler's *Somnium*: A Renaissance Science-Fiction Story and its Greek Sources https://www2.stockton.edu/hellenic-studies/documents/keplers-somnium.pdf

Romm, J. (1988 – 1989). Lucian and Plutarch as Sources for Kepler's Somnium. Classical and Modern Literature, *(*9), 971-07.

Serres, M. (1980). *Hermès V: Le Passage du Nord- Ouest.* Paris: Éditions de Minuit.

Spangenberg, R., & Mouzar, D. K. (2007). Istoria na naukata [The history of science]. T. 1. Sofia: Riva. [Спангенбърг, Р., Моузър, Д. К. История на науката. Т. 1. София: Рива, 2007.]

Shapin, S. (1996). *The Scientific Revolution*. Chicago and London: University of Chicago Press.

Swinford, D. (2006). Through the daemon's gate: Kepler's Somnium, medieval dream narratives, and the polysemy of allegorical motifs (Studies in Medieval History and Culture, Vol. 39). Routledge. https://kyl.neocities.org/books/[ART%20SWI]%20through%20the%20daemon's%20gate%20-%20kepler's%20somnium.pdf

ТЕХНОЛОГИЯТА В СЯНКА: РЕФЕРЕНЦИАЛНИТЕ СЛЕДИ НА АСТРОНОМИЧЕСКАТА ПРАКТИКА В „СЪНЯТ“ НА ЙОХАНЕС КЕПЛЕР

Бисерка Стоименова

TECHNOLOGY IN THE SHADOW: THE REFERENTIAL TRACES OF ASTRONOMICAL PRACTICE IN JOHANNES KEPLER'S *THE DREAM*

Biserka Stoimenova[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/CEWM3023

Abstract: *This article explores the intersection of scientific and fictional discourses in the early modern era and the impact of new cosmographical ideas on the transformation of lunar voyage narratives in one of the period's key works: Johannes Kepler's Somnium (The Dream, or Astronomy of the Moon). By situating the work within the context of the flourishing* travel narrative *genre of the early 17th century, the article analyzes the dichotomous relationships arising from the text's dual generic nature and its position on the epistemological boundary. Drawing on scholarship that characterizes the text as a skillful blend of fictional and scientific discourse, fantastic-allegorical and rationalist narrative, and occult-magical and historical-biographical allusions, the article argues that dichotomous relationships are also structured between scientific-conceptual knowledge and technological-practical experience.*

The article traces how allusions embedded in the work's fictional layer—referencing astronomical observations, technologically innovative instruments, and the activities at the Danish astronomer Tycho Brahe's Uraniborg observatory—serve as referential markers pointing to the substantial body of information upon which Kepler relies when substantiating his scientific concepts in the text's explanatory notes. Within the complex compendium of dichotomies spanning various discursive levels, the episode situated in the work's fictional layer implicitly points to the empirical-technological foundation of the new astronomical ideas. The study argues for the role of fiction within these intersecting discursive fields—not merely as a means of presenting bold scientific concepts in a form accessible and acceptable to the public, but also as a tool for verifying the link between the stages of empirical observation and scientific conceptualization.

Key words: *Johannes Kepler,* Somnium*, Tycho Brahe, lunar voyage, dual structure, astronomical observations.*

1 Dr. Biserka Stoimenova is an assistant professor of Ancient and Western European literature at the *Konstantin Preslavsky* University of Shumen. Her research interests are in the field of cultural history of French enlightenment, the sociology of literature, the new-historical studies, the French libertinage of the 18th century, the literature and the visuals, the postmodern culture. She is the author of "Zapadnoevropeiska literatura na 17 vek (Frantsiya vav Veka na absolyutizma)" (2013) and "Antichna drama i teatar" (2014) and articles on Bulgarian literature, French literature and culture (17-18th century). Email: b.stoimenova@shu.bg

Copyright © 2026 Biserka Stoimenova

Article history: Received: 15 June 2026; Edited: 30 June 2026; Revised: 9 July 2026; Accepted: 19 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

Пресичанията на наука и литература от края на XVI и началото на XVII век намират своето привилегировано поле с развитието на коперниканските идеи в астрономията, съпътствани от технологични открития и утвърждаването на нови методи на познание. Изменението в картината на света, резултат от радикалната научна революция (Shapin, 1996; Dear, 2009; Campbell, 2006; Spangenberg, R., & Mouzar, D. K., 2007) от този период, създава нова концепция за човека, природата и мирозданието на Новото време.

Научните открития стимулират литературното въображение и откриват възможността пред текстове от различен жанров порядък да популяризират новите астрономически идеи, като с това стават арена на конфронтация на теоретични доктрини. Във фокуса застават темите за множествеността на световете, безкрайността на вселената, описанията на луната и планетите, полемиката с геоцентричните теории и аристотелианската космогония.

В обсега на настоящето изследване е поставена една от функционалните проекции в пресичанията на фикционален и научен дискурс в ранномодерната епоха и влиянието на новите космографски идеи върху трансформацията на наративите за лунните пътешествия. Внимателният анализ на един от ключовите текстове от периода – „Сънят, или Астрономия на Луната“ на Йоханес Кеплер, позволява да се проследят разнородни дихотомични отношения, резултат от неговата двойнствена (хибридна) жанрова природа и неговата културна граничност. „Сънят“ на Кеплер умело съчетава фикционален и научен дискурс, фантазно-алегоричен и рационалистичен наратив, концептуално (хипотезно) и технологико-практическо знание, окултно-магически и историко-биографични алюзии. В сложния компидиум от дихотомии на различни жанрови и дискурсивни равнища творбата на Кеплер проектира имплицитно и емпирико-технологичната основа на новите астрономически идеи.

Изследването проследява как вградените във фикционалния план на творбата алюзии към астрономическите наблюдения, технологично иновативните уреди и инструменти в обсерваторията на датския астроном Тихо Брахе действат като референциални следи за сериозния информационен масив, на който стъпва ученият Кеплер за изграждане на научните си концепции, разгърнати в обяснителните бележки към творбата. От тази гледна точка текстът представя и ролята на фикционалния разказ при изграждането на пресичащите се епистемологични полета – този разказ не само позволява новаторски, радикални или дръзки научни концепции да бъдат представени в достъпна (или приемлива) за публиката форма, но и самият той да бъде инструмент на научната верификация.

Симбиозата между фикционален разказ и научно описание поставя въпроса за начините, по които учените (астрономите) от ранномодерната епоха използват художествения текст и неговия изразен език, за да репрезентират своите идеи. Както посочва Елизабет Спилър,

> науката поддържа силна връзка с поетическите фикции, защото... нейната практика произтича от фундаменталното разбиране за изкуството като основа за създаване на знание (Spiller, 2004, p. 2).

Фредерик Аит-Туати изследва пресечните точки на научния и фикционалния дискурс: като проследява връзката на ранно-астрономическата практика с различни литературни наративи, тя аргументира използването на мотива за лунното пътешествие и пътуването в творбите на Йоханес Кеплер и Кристиян Хюйгенс като средство за легитимация и популяризиране на коперниканските идеи (Aït-Touati, 2010). Една дълга изследователска традиция[2], водеща началото си от пионерните изследвания на Марджъри Никълсън (Nicolson, 1948), проследява връзките между научен и фикционален дискурс и трансмисиите на предмодерното научно знание на езика на литературните наративи и поетологическа образност.[3]

И двата наративни пласта притежават ясна функционалност в защита на коперниканската теория, осъществена с различни способи. В първия пласт историята на исландския младеж Дуракотус илюстрира пътя на познанието на *неофита* – от запознат с тайните на окултното знание, предадено от неговата майка, до ученик (и следовник) на астронома Тихо Брахе в обсерваторията на остров Хвен и накрая – до участник в ритуално-магическата епифания и „посветен“ в разказа на Демона за лунарния свят. В пътя на Дуракотус се сливат магическо и научно знание, вещерски ритуали и астрономически наблюдения, но повествованието постъпателно усилва фантазно-окултната линия, поставяйки в центъра разказа за лунното пътешествие. Във фокуса на фикцията застава описанието на коренно различен свят, визуално наситен, действащ като „жив организъм“, чието време протича много бързо, който се изменя и обновява – една визия за свят, едновременно и разпалваща читателското въображение, и полемизираща с докоперниканската научна идея за света и с нейните съвременни адепти.

От друга страна, разказът за странстванията на Дуракотус и неговото пребиваване в обсерваторията на Тихо Брахе задвижва серия внушения на текста: припомня астрономическите наблюдения и научен авторитет на Брахе (отключващи биографичните алюзии за тяхната съвместна работа в Имперския двор на Рудолф II в Прага), легитимира значимостта на системната астрономическа практика с денонощни наблюдения, осъществени с прецизни уреди и инструменти. Като съчетава референциален и фантазен

2 Сплитанията на въображаеми пътувания и ранномодерна космология изследват Фредерик Аит-Туати (Aït-Touati, 2010; Aït-Touati, 2011), Уилям Пул (Poole, 2010), Сара Хътън (Hutton, 2005), Джуди Хайдън (Hayden, 2016). За изследванията в съпоставителен план на мотива *лунно пътешествие* във фикционален и нефикционален контекст вж. Poole, 2004, и Hutton, 2005.

3 Влиянието на реторическия език като когнитивен инструмент на космологичните идеи и измененията във функциите на тропите са проучени от Фернан Халин (Hallyn, 1987) като подстъп към една нова „поетика на науката“ и от Ладина Бецола Ламберт (Bezzola Lambert, 2002) като механизъм за разбиране на „неизразимото“.

елемент в историята на Дуракотус, Кеплер представя различните способи за верификация на новите научни идеи, а структурирането им в разказа за духовното пътуване на героя внася допълнителен смислов нюанс.

Когато въвежда Дуракотус в астрономическото общество на Тихо Брахе на остров Хвен, Кеплер изгражда наратив, напълно редуциращ описанието на прекия опит на героя – обсерваторията[4], средата, регулярните нощни наблюдения, научните изследвания и придобитото знание. Този наратив не представя историческия или фактически проверимия (в самия разказ) Ураниборг, умишлено отказвайки миметичната референциалност към реалната фигура на Брахе и неговата дейност на острова. Описвайки премеждията си по море, Дуракотус посочва своето пребиваване и обучение при датския астроном, като обръща внимание на периферни спрямо същинския опит детайли: отношението на Тихо Брахе към него, средата на помощници и ученици и затрудненото езиково общуване. С бегло споменаване на заниманията Дуракотус изчерпва описанието на петгодишния астрономически праксис, за да отмести мисълта към спомена за своята майка, магьосницата Фиолксхилде:

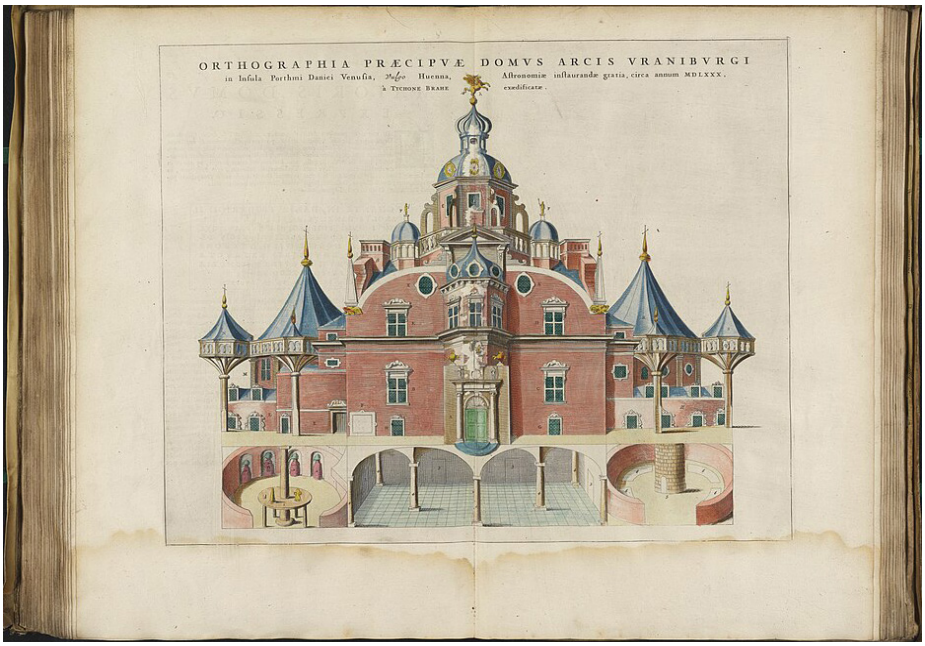
> Астрономическите занимания ми доставяха голямо удоволствие. Брахе и учениците му прекарваха по цели нощи с прекрасни инструменти, насочени към Луната и звездите.
>
> Това ми напомняше майка ми, тъй като и тя имаше навика да общува с Луната (Kepler, 1965, p. 95)[5].

Кеплер умишлено замъглява детайла на прекия опит[6], за да изведе на преден план смисъла на постигнатото знание, което, по думите на героя, школувал вече при знаменития Брахе – е „най-божествената наука,

4 Обсерваторията Ураниборг, построена в периода 1576 – 1580 г. по инициатива на Тихо Брахе и с финансовата помощ на датския крал Фредерик II, е оборудвана с най-модерните за времето си астрономически уреди, проектирани от датския астроном. Изградена като внушителна триетажна сграда, тя се превръща в научно средище за астрономически наблюдения, метеорологически изследвания, астрологически занимания и алхимични опити. В кулите и терасите на сградата са разположени астрономическите уреди за събиране на данни и прецизиране на изчисленията като Големия стенен месингов квадрант, Големия екваториален армиляр, въртящи се азимутални квадранти, астрономически секстанти и др. (За подробно описание на ранните инструменти на Брахе, включително предхождащи изграждането на Ураниборг вж. Wolfschmidt, 2002; Christianson, 2017). С наблюденията в Ураниборг и математически изчисления Тихо Брахе картографира отново небесната сфера, а през 1588 г. систематизира своята геохелиоцентрична теория, известна като *Системата на Тихо*. Именно на основата на усъвършенстваните астрономически данни от Брахе по-късно Йоханес Кеплер формулира своите *закони за движението на планетите*.

5 *The astronomical exercises pleased me greatly. Brahe and his students passed whole nights with wonderful instruments fixed on the moon and stars* (27). *This reminded me of my mother because she, too, used to commune constantly with he moon* (28) – посочените цифри 27 и 28 отбелязват номера на съответните бележки към тази част на фикционалния разказ (бел. моя – Б. С.).

6 Въпреки авторефернциалните щрихи в образа на Дуракотус, Кеплер никога не е пребивавал в обсерваторията на Тихо Брахе на остров Хвен. По покана на датския астроном през 1600 г. той се установява в Прага като негов асистент в астрономическите наблюдения в построените от Император Рудолф II обсерватории. За отношенията Кеплер – Брахе вж. по-подробно у Ferguson, 2002.



Фигура 1. Обсерваторията на Тихо Брахе в Ураниборг[7]

която проправи пътя ми към по-велики неща“ (Kepler, 1965, p. 95). Краткото споменаване на престоя в Ураниборг предава на читателя есенциалната характеристика на астрономическите изследвания, примесена с нескритията възторг на исландския младеж от благоразположението на Брахе и подчертаното любопитство към него. В пресъздаването на този епизод Кеплер отново задейства двойственият наративен регистър на творбата – в бележките той „дограждa“ разказа на Дуракотус с детайли, референциално отвеждащи към реалната изследователска среда на остров Хвен и личността на Брахе. В разясняващия палимпсестен текст Кеплер добавя информация за броя на учениците в обсерваторията (рядко по-малко от десет, понякога до тридесет) и за тяхното обучение „в използването на различни инструменти за наблюдение на звездите, в картографиране, в изчисления, в пирономични (алхимични) занимания и други философски дейности“ (бел. 24) (Kepler, 1965, p. 94). Ако в разказа на Дуракотус прозира наивното възхищение на ученика, то в съпътстващите обяснения Кеплер представя школуването като цялостна обучителна програма на една добре организирана научна общност.

Разясненията в следващата 25 бележка запълват смисловите елипси в разказа на Дуракотус („И така, благодарение на тази щедрост на Брахе, и няколко седмици практика...“) с етико-емоционална апология на датския астроном и в негово лице – на учения от етапа на предтелескопичната астрономия:

7 Южната фасада на замъка Ураниборг на остров Хвен. От *Atlas maior*, от Й. Блау, 1662 (по оригинални чертежи на Т. Брахе, 1598). https://commons.wikimedia.org/wiki/File:Uraniborg_main_building.jpg https://maps.nls.uk/view/103831380

> Той разполагаше с огромно наследено състояние, което щедро влагаше в своите проучвания. Преодолявайки всяка умора, той неуморно се стремеше към цели, които мнозина смятаха за непостижими – доказателство за това са изключително прецизните наблюдения, чрез които той влезе в битка със самата природа на човешкото зрение и я победи (Kepler, 1965, p. 94).

Наблюденията на *гласа* на Кеплер в бележка 26 показват изменения в повествователния регистър – тонът придобива психологически и иронични нюанси. Ако в бележка 24 и 25 коментарът изгражда образа на Брахе като авторитетен учен и щедър благодетел, то в следващата Кеплер демистифицира неговия образ: оформена като реплика на разказа на Дуракотус за радостта от отложеното отпътуване, тя припомня навика на Брахе да връща заминаващите „точно на самия бряг на водата“:

> Сред удоволствията на този човек бе понякога, точно на самия бряг на водата, да разочарова с неочаквана отмяна онези, които бяха на път да напуснат острова и вече бяха изпратени, и да ги задържи по-дълго, отколкото желаеха – освен ако човек не умееше да лети (Kepler, 1965, p. 95).

В този контекст интенцията на Кеплер балансира между закачливия коментар за ексцентричните навици на Брахе и иронията към неговия стремеж за контрол над пространството на острова. Тя едновременно диалогизира с гледната точка във фикционалния пласт, като разрушава наивния устрем на Дуракотус към „най-божествената наука“, и съдържа автореференциален потенциал – с лекия, анекдотичен тон на границата между критиката и театралността Кеплер строи алюзии към собствения си опит по време на съвместната работа с Брахе в Имперския двор на Рудолф II в Прага.

В бележките си за епизода на остров Хвен Кеплер, изглежда, умишлено поставя акценти върху фигурата на Брахе, като оформя ясен етико-емоционален пласт на коментара, изместващ встрани възможното описание на астрономическия праксис. По подобен начин в разкъсания си разказ Дуракотус по-скоро припомня впечатлението си (за наслаждение и радост) от „прекрасните машини“ за наблюдение на звездите, с които боравят учениците на Брахе. И в двата дискурсивни плана – на фикционалния и на фактографския разказ – Кеплер „загърбва“ описанието на астрономическия инструментариум, на тези „прекрасни машини“[8] или „различни инструменти[9], конструирани от Тихо Брахе и монтирани в обсерваторията на остров Хвен.

8 Оригиналният израз на Кеплер на латински – *mirabilibus machinis* – в разказа на Дуракотус е преведен в критическото издание на Джон Лиър като ‘with wonderful instruments’ (‘с чудесни/прекрасни/великолепни/инструменти’). Вж. Kepler, 2014, p. 3. Представата за чудесните (и чудати) машини, насочвани към небето и звездите, потвърждава непосредственото, наивно-идеализиращо възхищение на героя от астрономическия праксис в обсерваторията на Брахе.

9 В съпътстващата 24-та бележка латинският израз *instrumentorum variorum* – в превод на английски ‘various instruments’ (‘разни инструменти’) предава промяната в тоналността на изказа и встъпване в обективно-описателен режим на пределна лаконичност и фактологична констатация.

Отказът от референциалност (особено в бележките) към визуалния облик и използване на уреди и инструменти би намерил разяснение, от една страна, в популярността сред тогавашната научна публика на фундаменталния му труд „Механика на обновената астрономия“ (*Astronomiae Instauratae Mechanica,* 1598*;* с последващи издания през 1601 и 1602 г.), съдържащ графични рисунки на измервателни уреди и инструменти.



Фигура 2. Стенният квадрант на Тихо Брахе в Ураниборг[10]

От друга страна, в бележките си Кеплер видимо измества фокуса от технологичните изобретения на Брахе към неговите астрономически експерименти и методи на изследване. Той не обсъжда и неговата теория (геохелиоцентричната система), встъпваща в разрез със собствените му коперникански възгледи, внимателно избягвайки полемичен сблъсък. Но

10 Гравюра на месинговия стенен квадрант в обсерваторията Ураниборг (със стенопис в цял ръст на Тихо Брахе), нарисувана от Ханс Книпер. Адаптирано от *Tycho Brahe's Mural Quadrant*, от Wikimedia Commons, 1598). https://commons.wikimedia.org/wiki/File:Tycho-Brahe-Mural-Quadrant.jpg

референциалните следи постоянно отвеждат към научните изчисления, направени с инструментите на Брахе – измерването на лунния паралакс, на ъгловите разстояния и диаметрите (радиуси) на слънцето и луната или на рефракцията (пречупването) на светлината – станали възможни благодарение на прецизните данни, получени от квадрантите или секстантите в обсерваториите на датския астроном.

Астрономическите изчисления, приведени в бележките, са съставна част от аргументация на Кеплеровата „лунарна астрономия" при описанието на Левания (Луната) и Волва (Земята) и при съпоставката на зрителните позиции. Както посочва в разказа си Демонът, описващ двете полукълба на Левания (Приволва и Субволва), най-приятното от всички занимания за субволванците е съзерцанието на тяхната Волва (Земята) и те се наслаждават на гледката така, както хората на Земята – на гледката на Луната. Съпоставките в разказа на Демона продължават и с чисто математически величини: пред Дуракотус, вече владеещ *логоса* на Брахе, се разкрива знание за видимите размери (диаметри) при наблюдение на земния и лунния диск. В съпътстващите бележки (бел. 126) Кеплер подема астрономико-математичното обяснение, изяснявайки зависимостта между лунния паралакс и радиуса на Земята за наблюдател, намиращ се на Луната. Описанието на математическите зависимости и изграждането на „лунарната астрономия" и на цялостната епистемологична концепция на Кеплер в „Сънят" се опира на данните за измерването на лунния паралакс и паралакса на планетите, осъществено от Тихо Брахе с прецизните инструменти, монтирани на обсерваториите (Wolfschmidt, 2002) и обобщени в неговите ръкописи и работни дневници.

В двата плана на повествованието (фикционалния и научния) Кеплер осъществява диалога с експерименталния компидиум данни на Брахе, пресъздаден с описанието на видимите параметри на небесното тяло (в разказа на Демона) и действителните размери, аргументирани в математическите изчисления на бележките. За Кеплер, който разполага с Дневниците на датския астроном, данните, получени от измерванията с уредите в Ураниборг, стават основа за математическа обработка, научна интерпретация и теоретическо аргументиране на коперниканските идеи.

С напластяванията на фикционалните рамки на повествование в „Сънят" епизодът на обучението на Дуракотус в Ураниборг изглежда като бегло щрихиран. Разказът на исланския младеж още по-бегло придърпва фигурата на Брахе, отбелязвайки повече впечатленията от пребиваването, възхитата от авторитета на Тихо и значимостта на постигнатото знание. Липсата на пространен референциален наратив към действителната астрономическа практика на Брахе и работата на кръга ученици и помощници обаче само привидно създава празноти в представата за емпиричната основа на Кеплеровите математико-астрономически изследвания. Извлечените данни от измерването на паралакса на небесните тела или

на ъглите по небесната сфера са непосредствен резултат от работата със сектантите и квадрантите на Брахе – изглеждащи в очите на Дуракотус като „чудати“, „прекрасни“ машинни. Съставените таблици на рефракцията, предназначени да прецизират получените данни и да коригират грешките при измерването, допълнително подпомагат изчисленията на Кеплер. В този контекст е обяснима апологията към Брахе от началните коментиращи бележки в текста – за неговите *изключително прецизни наблюдения* и за победата му над самата *природа на човешкото зрение*.

References

Aït-Touati, F. (2010). Thinking the cosmos in the seventeenth century: Fiction, hypothesis and astronomy from Kepler to Huygens. *Annales. Histoire, Sciences Sociales,* 65(2), 325–344. https://shs.cairn.info/journal-annales-2010-2-page-325?lang=en

Aït-Touati, F. (2011). *Fiction of the Cosmos: science and literature in the seventeenth century* (trans. Susan Emanuel). Chicago, London: The University Press.

Bezzola Lambert, L. (2002). *Imagining the unimaginable: The poetics of early modern astronomy*. Amsterdam: Rodopi.

Brahe, T. (1598). *The mural quadrant* [Engraving]. Wikimedia Commons.

Blaeu, J. (1662). *Atlas maior, sive cosmographia blaviana* [Hand-colored engraving of Uraniborg south facade, originally by T. Brahe]. Wikimedia Commons. wikimedia.org https://maps.nls.uk/atlas/blaeu-maior/browse/1/page/120 https://maps.nls.uk/atlas/blaeu-maior/browse/1/page/121

Campbell, M. B. (2006). The scientific revolution and the grammar of culture. In K. Park & L. Daston (Eds.), *The Cambridge history of science: Volume 3, Early modern science* (pp. 749–770). Cambridge: Cambridge University Press.

Christianson, J. R. (2017). Tycho Brahe's earliest instruments. In B. B. Johannsen, K. Kryger & K. Skovgaard-Petersen (Eds.), *God latin – Festskrift til Peter Zeeberg* (pp. 131–144). *Renæssanceforum*, 12. https://www.njrs.dk/oversigt.htm https://www.njrs.dk/12_2017/12_christianson_brahe.pdf

Dear, P. (2019). *Revolutionizing the Sciences: European Knowledge in Transition, 1500–1700.* Third Edition. Princeton: Princeton University Press.

Ferguson, K. (2002). *Tycho and Kepler: The Unlikely Partnership That Forever Changed Our Understanding of the Heavens*. New York: Walker.

Hallyn, F. (1987). *La Structure poétique du monde: Copernic, Kepler*. Vol. 1. Paris: Edition du Seuil.

Hayden, J. A. (2016). Introduction. In J. A. Hayden (Ed.). *Travel narratives, the new science, and literary discourse, 1569–1750* (pp. 1–16). London: Routledge.

Hutton, S. (2005). *The Man in the Moone* and the New Astronomy: Godwin, Gilbert, Kepler, *Études Épistémè* [Online], 7, Online since 01 May 2005, connection on 03 July 2026. URL: http://journals.openedition.org/episteme/2815 ; DOI: https://doi.org/10.4000/episteme.2815

Kepler, J. (1965). Kepler's dream: With the full text and notes of Somnium, sive astronomia lunari, Joannis Kepleri (P. F. Kirkwood, Trans.; J. Lear, Ed.). University of California Press. (Original work published 1634)

Kepler, J. (2014). Ioh. Keppleri Somnivm seu opvs posthvmvm de astronomia lvnari [Сънят, или посмъртен труд за лунната астрономия] (L. Kepler, Ed.). Det Kongelige Bibliotek. Internet Archive. https://archive.org/details/den-kbd-pil-130011021345-001 (Original work published 1634)

Nicolson, M. H. (1948). *Voyages to the Moon*. New York: Macmillan.

Nicolson, M. H. (1956). *Science and Imagination*. Ithaca, New York: Great Seal Press.

Poole, W. (2004). Francis Godwin, Johannes Kepler, Robert Burton, and the Origins of English Science-Fiction, *Philological Quarterly*, pp. 189 – 210.

Poole, W. (2010). *Le Songe* de Kepler et *L'Homme dans la lune* de Godwin : naissances de la science-fiction 1593-1638. In A. Tadié (éd.), & C. Miqueu & S. Vasset (trad.). *La figure du philosophe dans les lettres anglaises et françaises*. Nanterre: Presses universitaires de Paris Nanterre. https://doi.org/10.4000/books.pupo.995

Spangenberg, R., & Mouzar, D. K. (2007). *Istoria na naukata* [The history of science]. T. 1. Sofia: Riva. [Спангенбърг, Р., Моузър, Д. К. История на науката. Т. 1. София: Рива, 2007.]

Spiller, E. (2004). *Science, Reading, and Renaissance Literature: The Art of Making Knowledge, 1580 – 1670*. Cambridge: Cambridge University Press.

Shapin, S. (1996). *The Scientific Revolution*. Chicago and London: University of Chicago Press.

Wolfschmidt, G. (2002). The observatories and instruments of Tycho Brahe. *Analytica Chimica Acta - ANAL CHIM ACTA* (16), pp. 203 – 216. https://www.researchgate.net/publication/253561731_The_observatories_and_instruments_of_Tycho_Brahe

THE HEART INSIDE THE MACHINE. TECHNOLOGY VERSUS HUMANITY IN REVIEWS OF *FRANKENSTEIN*

Raluca-Andreea Nechifor[1], *Vasile Alecsandri* University of Bacău, Romania

https://doi.org/10.46687/LOSC9806

Abstract: *The main purpose of this article is to explore the evolving tension between technology and humanity through film reviews concerning Guillermo del Toro's Frankenstein. These concepts and critical observations place the film within broader cinematic reinterpretations of Mary Shelley's novel, while exploring the duality of humanity, between technological advancements and the organic and ethical side of the process. By analysing a variety of contemporary film reviews, the study examines del Toro's signature visual style and thematic preoccupations in reshaping the Creature's narrative into a meditation on artificial creation, empathy and moral responsibility. Reviewers frequently highlight the film's emphasis on emotional depth, framing the Creature not as a technological monstrosity but rather as a reflection of human vulnerability and longing. The analysis identifies a recurring critical discourse that compares mechanistic ambition with ethical accountability, suggesting that del Toro reframes technology as an extension of human desire rather than its opposition. Through attention to cinematography, character construction and narrative tone, critics argue that the film challenges conventional contrast between creator and creation. Instead, it proposes a concept in which technological innovation is inseparable from human intention and consequence. Other elements playing a major role in this respect were the meaning of colours, their association with different characters, as well as the usage of organic items, opposing scientific discoveries.*

All in all, the article concludes that del Toro's Frankenstein reshapes the enduring conflict between progress and compassion, as film reviews enhance the idea of revealing the manner in which contemporary audiences observe and assess the boundaries between the artificial and the human.

Keywords: *critical discourse, discursive techniques, technology and humanity, film reviews, colour assessment*

---

1 Raluca-Andreea Nechifor is a third-year PhD student in English Philology at "Vasile Alecsandri" University of Bacău, Romania. She received a bachelor's degree in English and French from "Vasile Alecsandri" University of Bacau, as well as two master's degrees (in English Language. Communication Practices and in French Language. Communication Practices). She is currently employed as an assistant professor at the Faculty of Letters of the same institution. She is interested in language of art critique, register analysis, varieties of English, speech acts, discursive techniques. Email: nechifor.raluca@ub.ro

Copyright © 2026 Raluca-Andreea Nechifor

Article history: Received: 6 June 2026; Edited: 8 June 2026; Revised: 30 June 2026; Accepted: 2 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

Introduction

The question concerning the issue of progress and humanity has long been a central topic of discussion around ethics and morality. Over the centuries, technological progress brought significant improvement in the intricate process of shaping and enlarging industries, its primary goal being the improvement of everyday life. As people began to use various technologies in different areas, the conflict between the manifestation of human traits and technological progress became the ethical dilemma defining the modern era. Once the technological capability grew exponentially, human morality seemed to stagnate behind it, even forcing the society to grapple with maintaining an ethical balance in order to ensure that innovation respects human dignity and does not degrade it in any form, as Lorenzo Magnani mentions: "morality is distributed in our technological world in a way that makes some scientific problems particularly relevant to ethics: ecological imbalances, the medicalization of life, and advances in biotechnology – themselves all products of knowledge – seem to me to be especially pertinent topics of discussion" (Magnani, 2007, p. x).

This issue dates back to the beginning of the conflict between technology and humanity, more specifically, to the beginning of the technological process, as it is considered an artificial representation of reality, of the natural side, which is humanity; therefore, this topic is easily recognisable in various works of art, ideas and even concepts of guiding one's life. All have in common the human identity as a means of existing within a society:

> "Referring to the origin of identity, the identity can be distinguished as the innate natural attribute identity and the acquired social attribute identity. The congenital identity is the identity of blood kinship determined by blood relationship. The brand of social attribute identity full of acquired experience is an individual behaviour pattern related to social position and conforming to social requirements constructed in the process of social activities" (Dong. W., Ge, Y., Chen, X., Yang, O., Yu, L., Yang, W., 2024, p. 237).

As Dong et al. argue, throughout history there may be observed the distinction between the three categories of selection, which explain the dynamics between technology and humanity, these being natural selection, the one occurring naturally within various ecosystems, including human society; the ethical selection, which divides the society in various categories, in order to position the human being as the "measure of all things"[2] (acting as a rational, logical being, capable of judgement); and the scientific selection , the one related to ideological and technological accomplishments, concerning human life: "Science selection covers two aspects: one is the use of human development science; the other is the transformation and expansion of human life, such as gene cloning and ivf, which are the examples of human development science and

2 According to Pythogoras' words, from Ancient Greece, enhancing the fact that the man or the human being serves as the arbiter of reality.

accepting the influence of science on itself"(Dong. W., Ge, Y., Chen, X., Yang, O., Yu, L., Yang, W., 2024, p. 238).

These three categories enhance the fact that there are multiple domains in which the ideas concerning the dichotomy technological progress-human morality is explored, such as philosophy, art, technological design and technological innovation, sociology, medicine, theology etc.

In this respect, this paper explores the manner in which film critique, as part of art critique, analyses and exploits the conflict between technology and humanity, with a focus upon/ on a case study concerning the film reviews of Guillermo del Toro's 2025 *Frankenstein*.

1. Technology versus humanity in artistic culture

1.1. Literature

As mentioned, technology represents both an opportunity for progress and a risk for human degradation, as numerous specialists in various domains acknowledged the power and the inertia of the technological impact upon their area of expertise: "New technologies promise thrilling new advances, but they usually have potentially negative side-effects or risks as well, which means that societal controversies often surround these technologies" (Roeser & Alfano & Nevejan, 2018, p. 276). Although the benefits promised by machinery are easily identifiable, voices in various fields also recognised the potential for danger and moral corruption in terms of ethics and morality: "These approaches have been criticized over the last decades by social scientists, psychologists, and philosophers, because they oversimplify the societal and ethical implications of risks and uncertainty" (Roeser & Alfano & Nevejan, 2018, p. 276). Therefore, this impact can be easily observed even in the manifestation of art and its critique, under various forms and in different contexts.

The interest towards/ in this topic has also been explored in art, in various branches, including literature, philosophy, films, video games and other cultural forms: "Even after presenting numerous benefits to the art industry, artists, and society, the combination of art and technology together face some challenges too. If we talk about the challenges faced by it on social grounds, a certain amount of rejection can be seen regarding the blend of art and technology" (Singh Dhunna & Singh, 2021, p.289). Therefore, works such as *Frankenstein* by Mary Shelley or *The Island of Dr. Moreau* by H.G.Wells managed to create an uncanny ground for philosophical and ethical debates regarding the usage of technology in playing a role initially reserved to/ for God: "Life and death appeared to me ideal bounds, which I should first break through" (Shelley, 2025, p. 53). Often considered the first major novel of science fiction, Shelley's work explores the process of creation performed without taking responsibility for one's actions, as it is accompanied by scientific ambition, alienation, as well as the consequences of technology outpacing ethics. As for Wells' novel, the plot follows the path of a scientist who

performs questionable actions by grotesquely reshaping animals into human-like beings: "I could not persuade myself that the men and women I met were not also another Beast People" (Wells, 2025, p. 167). The story directly inquires about the ethics of scientific experimentation and playing God, in a similar manner Victor Frankenstein did when trying to "beat" death: "The myth of Prometheus in its Frankenstein form belongs to the rhetoric surrounding genetic research, especially genetic engineering for enhancement. Here is how Michal Sandel writing in the Atlantic Monthly alerts us to the threat of unregulated genetic enhancement" (Peters, 2018, p. 146).

Other novels exploring the dynamics between technology and humanity are the dystopian works of Aldous Huxley (*Brave New World*) and George Orwell (*1984*), in which technology contradicts morality when used for surveillance and control purposes. In Huxley's text, there the novel depicts an engineered rather than a naturally created society: "All conditioning aims at that: making people like their unescapable social destiny" (Huxley, 2006, p. 25). The tools used for the process are shaped by biotechnology, as their main aim is to ensure the conditioning of the population and the control over pleasure as a chain reaction for the collective mentality. In this context, technology becomes the element triggering humanity to lose its individuality in exchange for stability and comfort, fact which may also be observed and discussed with regards to Orwell, as in *1984*, technological advancement becomes a tool for surveillance, propaganda and psychological domination, heavily employed for unethical purposes: "The ideal set up by the Party was something huge, terrible, and glittering—a world of steel and concrete, of monstrous machines and terrifying weapons" (Orwell, 2025, p. 94). Other works, such as Keith Sharee's *Gulliver's Fugitives* managed to spook audiences with the manner in which technological progress declutches a solitary, cold attitude in certain people by annihilating their instincts and emotional side of the psyche: "That was never a person at all, that was a programmed automaton" (Sharee, 2000, p. 178). Known as the 11th novel of the Pocket Books, which constructed the script for the well-known TV series, entitled *Star Trek*, *Gulliver's Fugitives* was written by Keith Sharee and finally released in 2000. In this novel, the plot focuses upon the mission of the Enterprise, that stumbles across a forgotten colony of human beings on Rampart, a mysterious planet.

Additionally, Gibson's *Neuromancer* depicts human autonomy eroded and even destructed by a cyberpunk society, established on artificial intelligence and cyber corporations: "Wintermute was hive mind, decision maker, effecting change in the world" (Gibson, 1986, p. 263).

1.2. Visual arts

Apart from literature, other forms of art indulged into/ engaged with the same questions and dilemmas. In this respect, visual art is considered every piece inspired by the traditional art techniques, as *New York State Learning Standards for Arts* mention:

> "As defined by the National Art Education Association, includes the traditional fine arts, such as drawing, painting, printmaking, photography, and sculpture; media arts, including film, graphic communications, animation, and emerging technologies; architectural, environmental, and industrial arts, such as urban, interior, product, and landscape design; folk arts; and works of art, such as ceramics, fibers, jewellery, and works in wood, paper, and other materials" (*New York State Learning Standards for Arts*, https://www.nysed.gov/sites/default/files/programs/standards-instruction/nys-visual-arts-glossary-final-high-res.pdf).

In this respect, there are numerous examples of visual art pieces depicting the process of dehumanization or humanity damage, belonging to various eras, styles, artists and artistic movements. The issue of mechanised humanity may be observed in paintings such as *The Iron Rolling Mill* (by Adolph Menzel, 1872–1875, **Figure 1**.), in which the heavy and continuous work in factories created the proper environment for humans to lose their essence and to become pieces and even tools within a perfectly functioning mechanism. Their humanity was lost, in order for them to become functional and useful for the society, exactly as small parts and bits within a heavy factory machine: "Most of the characters are focused on their own activities, however, one young boy is looking straight at the viewer and he gives quite a heavy, pitiful look. Yet Menzel's main concern was not a social critique, but the artistic challenge of portraying the production process and the various groups of people involved in it" (Wojtczak, 2026).



Figure 1. *The Iron Rolling Mill,* by Adolph Menzel,1872–1875, found at https://www.dailyartmagazine.com/adolph-menzel-the-iron-rolling-mill/, accessed May 18th, 2026.



Figure 2. *The Iron Rolling Mill,* by Adolph Menzel,1872–1875, found at https://www.dailyartmagazine.com/adolph-menzel-the-iron-rolling-mill/, accessed May 18th, 2026.

Another example focuses upon the chaos provoked by the industrial era, capable of transforming crowds into a violent mechanical movement, as seen in *The Funeral of the Anarchist Galli*, by Carlo Carrà around 1911 (**Figure 2**). The painting depicts the mechanical movements adopted by humans, as they, similarly to the previous painting, become an autonomous machine, acting and responding accordingly. The painting depicts an important confrontation between workers and law enforcements and their manner of reacting reflects the style in which they work, automatic and violent, even dangerous: "Carrà's painting has become an emblem of Futurism, both for its violent subject and formal novelty" (McKever, 2026).

1.3. Cinematographic art

The same issues and themes have been heavily exploited/ explored in films, as part of cinematographic art. This particular branch focuses upon the method of overlapping frames and pictures in order to create movement, therefore, a plot or a story: "Cinematography is more than just photography—more than just recording what is in front of the camera; it is the process of taking ideas, words, actions, emotional subtext, tone, and all other forms of nonverbal communication and rendering them in visual terms" (Brown, 2022, p.2).

As for the audience attracted by this specific type of art, there has been a rising trend beginning with 1987 and the number of people deciding to go to the cinema rose. This increase may be observed by analysing the fluctuations in number of cinema screens: from 1295 in 1987 to 4309 around 2017, in UK, according to UK Cinema Association (see Table 1.).

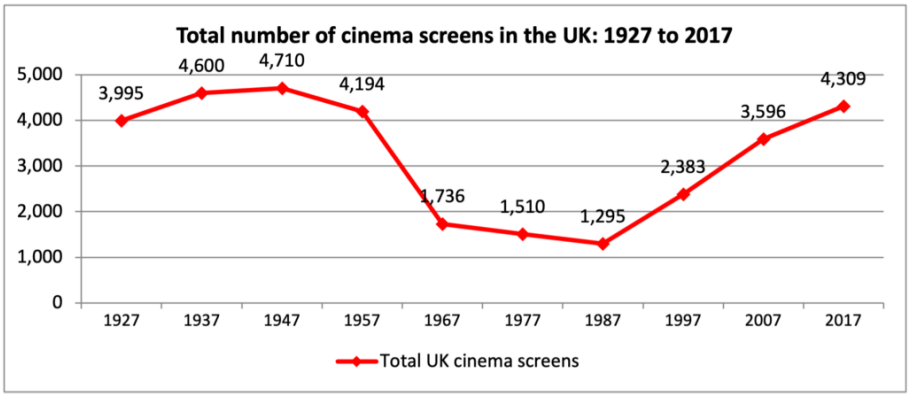


Table 1. *The Total number of cinema screens in the UK: 1927 to 2017* (https://www.amsr.org.uk/the-fall-and-rise-of-cinema/).

The same may also be observed around the world, as films have become not only a manner of passing time, but an opportunity to witness a story and a piece of art. As a result, the variety of movies has increased considerably, including cinematographic depictions of technological progress affecting humanity, in films such as *Blade Runner* (1982), *Blade Runner 2049* (2017), *The Matrix* (1999), *2001: A Space Odyssey* (1968), *Dune* (2021/2024), *Ghost in the Shell* (animation-1995), *Arrival* (2016) etc.

At a first glance, we may include in this category all films related to futurism and highly technologized environments; however, there are even more simpler options, heavily acclaimed and well recognised, such as Guillermo del Toro's *Frankenstein*, released in 2025.

In this respect, as previously mentioned, this study focuses on the manner in which film critique depicts the dynamics between the involvement or usage of

technological advancements and the human morality, which suffers alterations due to the former's involvement. These ideas have been analysed in film critique of del Toro's screen adaptation of Shelly's modern Prometheus.

2. Research methodology

We selected a number of 4 pieces of film critique that were created by specialists in this domain, with concerns to the 2025 Guillermo del Toro's *Frankenstein*. After studying them, we observed the recurrence of a wide variety elements and themes in connection to the dynamics between technological processes and human morality, including the dangers of scientific ambition, the presence of humanity in unexpected places (the humanity and morality of the Creature), the duality of technology, both as an instrument of wonder and horror, the figure of Frankenstein's Creature as a precursor of modern artificial intelligence, etc.

Additionally, the majority of the identified lexical elements served as dual entities encompassing both negative and positive connotations, serving as markers of dehumanization and morality all at once.

These pieces of critique proved to be instances in which reviewers frequently highlight the film's emphasis on emotional depth, framing the Creature not as a technological monstrosity but rather as a reflection of human vulnerability and even empathy.

2.1. Research questions

By studying these elements, there was a need for a proper theoretical framework that would be fit for the type of research conducted, which started from a list of research questions, as follows: In what manner does the language used to assess Frankenstein's artistry portray the conflict between technological progress and human morality?; Do the selected texts identify and discuss artificial intelligence and modern technology as tools in conveying difference or resemblance between science and morals?; Are the themes of isolation, compassion, or identity discussed via specific linguistic choices used to critique scientific ambition and Victor's desire to "play God"?

2.2. Hypothesis

The discussion concerning the dichotomy between technology and humanity in film critique for the 2025 Guillermo del Toro's *Frankenstein* revealed a complex and highly intricate elements depicting various themes and symbols related to the topic, as well as of being accompanied by certain lexical choices and discursive strategies.

2.3. Methodology

In order to create the necessary framework for this analysis, we have searched for a few names in the industry of film critique, a branch of art, as William Guynn would argue: "In a general sense, we call something "art" when we attribute a high cultural value to it. Thus, in principle, and from a historical perspective, no

film has an intrinsic, universally valid, artistic value. Its value depends on it (and us) being embedded in cultural discourse that gives it value, that tells us why it is good" (Guynn, 2011, p. 27). Therefore, the artistic value of films lies in their capacity of conveying and even triggering dialogue, discussion and discourse.

In order to create the corpus, as mentioned we have selected four reviews created by specialists in order to analyse their discourse and to assess the capacity of conveying information concerning the human dynamics with technology and the impact the latter has over morality and ethics.

The reviews identified and used may be observed in the following table:

Critic	Title of review	Date	Source	Website/Webpage
Alissa Wilkinson (1)	*Frankenstein' Review: Guillermo del Toro's Creature Rises* *The director's interpretation of Mary Shelley's classic novel is the movie he was born to make*	Oct 16th, 2025	The New York Times	https://www.nytimes.com/2025/10/16/movies/frankenstein-review.html
Peter Debruge (2)	*Frankenstein' Review: Guillermo del Toro's Dream Project Has Been Gestating So Long, the Master's Creation Arrives Overstuffed and Unwieldy* *What should have been the perfect pairing of artist and material proves visually ravishing, but can't measure up to the impossibly high expectations del Toro's fans have for the project.*	August 30th, 2025	Variety	https://variety.com/2025/film/reviews/frankenstein-review-guillermo-del-toro-1236502741/
Michelle Santiago Cortés (3)	*Guillermo del Toro's Technological Sublime*	November 10th, 2025	Art Review	https://artreview.com/guillermo-del-toros-stunted-techno-sublime-opinion-michelle-santiago-cortes/
Titus Techera (4)	*The Monster and the Critics*	May 13th, 2026	Law and Society	https://lawliberty.org/the-monster-and-the-critics/

Table 2. *The reviews selected for this study, as well as their additional details*

These reviews were selected as relevant to the topic of our discussion, as they provided strong criteria and samples of professional evaluative discourse. Those texts were created by well established critics and they were published in specialised outlets, ensuring credibility and editorial accuracy. We have analysed various names in this domain and selected a short list of 4 texts relevant to our study. After gathering this collection, we have focused our research on identifying common elements and grams that would offer details regarding the opinion of critics, as well as their assessment of value and artistry. Therefore, we have focused upon identifying key terms that support the argument in the favour of the hypothesis. Other elements included collocations, grams of various sizes, as well as expressions and similarities. The first step was to identify the terms of vital importance, specialised to the domain in question. Following the identification of key words, we have studied the usage of those terms, in various forms of grams of two to four words, collocations, phrases, etc. The examples we identified were compared to the ones generated by SketchEngine. Finally, the elements selected from these lists were used when analysing the choice of language and the intention behind them. The choice of terms can be further studied starting with the following chapter of our paper.

Additionally, this collection of texts concerning the 2025 screen adaptation of Shelley's *Frankenstein* has proven to explore the tension and the complex dynamics between science and human emotion, as across these reviews and opinion articles, science and progress are often presented as sources of wonder and a force of destruction, while humanity is associated with purer concepts, including emotion, morality, suffering, compassion, etc. Therefore, when assessing the language of art critique, we must take into consideration the variety of diverse concepts, as art comprises not only aesthetic expression, but social reaction, cultural message and philosophical ideas, all transmitted via artistic media.

The discussions repeatedly return to the central question inherited from *Frankenstein* and managed to introduce concepts of major importance, including symbols, themes and overall manifestations of the topic in question.

3. Choices of terms and their usage

We have identified terms that make a complex comparison between scientific progress and human morals and we begin with terms, such as: "AI"/ "AI generated": "like Pan's Labyrinth (2006), has never been shy about expressing his disdain for ***AI-generated*** 'art', as he refuses to call it" (4); "electricity": "into a crucified figure made of body parts harvested from hanged criminals and Crimean War casualties. Steam, ***electricity*** and anatomy are, of course, near requirements for any *Frankenstein* screen adaptation" (3); "creation": "thee, Maker from my Clay / To mould me Man? Did I solicit thee / From darkness to promote me?" Did I ask you to make me? the ***creation*** demands of his creator" (1); "experimentation":

"while others – including Shelley's central concerns around scientific "ambition", her word for the unchecked ***experimentation*** that leads man to play God – seem of relatively little interest" (2); "technology": "time become a teacher, a source of intelligence to a creature made up of fragments of humanity destroyed by that very war ***technology*** –then we would have to say that the monster would be ***AI***" (4), etc.

3.1. Technology as progress and destruction

In this respect, we may mention that key terms often act as lexical and ideological anchors for ideas and prove indispensable tools in proving points or persuading interlocuters. For instance, we have studied the usage of "technology" in various contexts throughout these texts. From the perspective of a noun and as head of various noun phrases, the term is modified by adjectives, such as "war (technology)", innovative (technology)", "life-giving (technology)", "certain (technology)", "new (technology)", "very new (technology)". As a result, this noun acts as an anchor detailing the dynamics between science and ethical rules, expressing the duality of technology as a positive marker in the humanity's timeline, as well as major risk for moral values, breaching the limit between right or wrong. Being modified by the term *war* (in the structure "war technology"), an attributive noun modifying the central noun of the phrase, technology reflects the issues that may arise when used improperly, against humanity. Even though it suggests advancement and progress, here signals a probable regression towards more "primitive" and violent times, as the instrument developed for improving human life quality can potentially become the weapon to take it away. In this respect, by using this noun phrase in the structure: "to a creature made up of fragments of humanity destroyed by that very war ***technology***- then we would have to say that the monster would be AI" (4), the issue of moral possibility and opportunity is raised, as it is believed that under the pretext of eradicating death and creating life, the man meddles with the role of a higher entity and may create a path for exploiting this revolutionary discovery for negative occurrences. The creature is both a miracle and a sin, a miracle for achieving an extraordinary point in innovation and making the impossible possible, and a sin, for breaching the role of a mere mortal.

Once again, the manner in which Frankenstein's Creature was created alludes to the eventuality of creating a war machine, an indestructible individual which would fight for the right interests. Once again, *war* is a term reminding about the manner in which humans transformed an innocent pastime into a conquering practice, as Johan Huizinga mentioned the idea according to which game is combat and combat becomes game: "Ever since words existed for fighting and playing, men have been wont to call war a game" (Huizinga, 1949, p. 89), an reference to the fact that in various contexts throughout history, what is touched by humans may transform into an evil "doppelganger" of the former concept.

On the other hand, other voices describe technology as "life-giving" or "innovative", positive connotations alluding to the progress offered by the

innovation in this domain. These groupings may be studied in contrast with the previous noun phrase, the one referring to warfare and danger, as "innovative" highlight the qualities that the human mind possesses, the focus being placed on creativity, progress and the human ability to develop new solutions. Additionally, it suggests the fact that it is the advancement that improves society and reflects the optimistic side of scientific achievement, the main aim being to create a better world accessible to all: "the display of innovative ***technologies*** ranging from telegraphy to photography, railways to steamships, and ironclads to sanitary hospitals" (3). Furthermore, the premodifier *life-giving*, being a compound adjective formed from a noun and a present participle, has an interesting form and usage. It is an element which retains a verbal hint due to its ability to express an action or function, concentrated within the present participle, while *life* acts as the object or complement of that action. This makes the adjective dynamic rather than descriptive only and when glued to the noun *technology*, this lexical choice acts as reminder of the duality of scientific breakthrough. In a similar manner to warfare but opposing its final meaning, the structure personifies technology as a nurturing and beneficial element for human life, emphasizing care, survival, even human welfare. It may be understood as the lighter side of science, returning to the main intention with which it was created in the first place. It also signals the intention of people employing it, as seen in the reviews' text: "furnished with the latest and greatest in medical and electrical tech made by Henrich Harlander (Christoph Walz), an arms manufacturer who will spare no expense in his quest for life-giving ***technologies***" (3).

With respect to the other structures identified, "new technologies", we may argue that the modifier here stands as a standard descriptive adjective, in contrast to the previous compound adjective, *life-giving*. As a result, the modifier in this structure indicates a more recent development or innovation, as it encompasses the role behind the noun by describing the state or age of the technology. From a semantic point of view, *new technology* often carries associations with change, either beneficial or detrimental. The usage is neutral as the adjective describes the natural, objective quality of technology, without offering it a certain emotional or ideological hue, as seen in the cases of using *war* or *life-giving*. The overall meaning depends heavily on the manner in which an individual uses it, understands it or places it. In discussions about science and morality, this structure may reflect both hope and uncertainty: "the awesome and frightening grandeur that the Romantic poets,' (and, I'll add, del Toro) 'associated with nature' and now 'became attached to new ***technologies***" (3). *new technology* may improve human life, but it may also create ethical dilemmas or unexpected consequences.

These phrases are accompanied by adjacent structures expanding on the complexity of technology, with terms that we have already mentioned, including "AI", "electricity", "creation" or "experimentation". The first acronym, *AI*, serves as a marker for modernity, a symbol of advanced scientific and technological development. Being used as a noun, it often emphasizes the intelligence created

by humans by reflecting the human mind and copying what God created in the first place, rather than making something of its own. This particular usage reflects both fascination and anxiety, effects of duality and dichotomy. AI is considered a tool which represents efficiency and the expansion of human capability; however, it presents also a risk by raising concerns regarding the possible replacement or manipulation of human judgment. In the context of the conflict between science and morality, AI symbolizes scientific progress which challenges traditional moral values: "Guillermo del Toro is using his Frankenstein press tour to spread the *anti*-**AI** *gospel*" (3), "the filmmaker described generative **AI** as a tool with a demonstrable ability to create "semi-compelling screensavers" (3); "**AI** itself has never been the issue. The problem has always resided in the people who've built it into the "insult to life itself" it's now become" (3).

The noun *creation* is perceived as a term having strong philosophical and emotional associations. It may be believed as a lexical item carrying various connotations, including divine or power-related ones in order to suggest the moral burden put on scientists and specialists alike, who possess the necessary knowledge to create something new, maybe life. Therefore, creation is both an opportunity and a sin: "the ***creation*** demands of his creator. I never asked to be here, and now you condemn me to this life of pain" (1); "Adam, a ***creation*** abandoned by his creator in a world he doesn't understand" (1); "then petulance when his ***creation***-slash-child refuses to cater to his whims(1)"; "the Master's ***Creation*** Arrives Overstuffed and Unwieldy" (2); "As del Toro sees it, Frankenstein's pitiful ***creation*** has been cursed with life, cannot be killed (even bullets don't stop him) and must face the same existential crisis that confronts us all" (2).

With regards to the term "experimentation", there may be observed its quality of emphasizing the process of scientific testing and discovery, specific to any specialist involved in the process of creation and advancing technology: " del Toro casts ***technology*** as a source of awe and fear, too often haunted by spectres of unbridled greed and ambition" (3); "This is in one sense very realistic, war being the father of ***technology***" (3); "sentimental without awareness of the true objects of human emotion, and completely devoid of concern for the power and dangers of making or ***technology***" (4). It may be analysed from the perspective of an abstract noun, suggesting curiosity and the pursuit of knowledge, central motifs to scientific advancement, whereas "electricity" is used as a powerful scientific concept strongly related to energy and various forms of transformations, either at a public level (technology, society) or at an individual level (personal development, knowledge). In contrast to the more abstract nouns, "electricity" is perceived as a concrete force, often carrying symbolic meaning in discourse by representing the power of science to transform society, a source of life itself: "Steam, ***electricity*** and anatomy are, of course, near requirements for any Frankenstein screen adaptation" (3); "it also turned ***electricity*** into 'an image of the romantic spirit itself" (3).

3.2. The human side of discourse

On the other hand, we have also identified and analysed markers related to humanity and the state off being human, as part of a more ethical and moral framework, including: "trauma/traumatizing": "thrusting our faces in with the scalpels and bone saws (the sound may actually be more ***traumatizing***)" (2); "Hence, we get the other big theme del Toro takes from decadent feminism, "intergenerational ***trauma***" (4); "emotion/al": " sentimental without awareness of the true objects of human ***emotion***" (4); "Lush, melodramatic, sweepingly romantic and achingly ***emotional***, it is a tale of fathers and sons" (1); "love/rs": " Lush, melodramatic, sweepingly romantic and achingly emotional, it is a tale of fathers and sons, of ***lovers*** and outcasts, of men as the true monsters" (1); "but I get the sense, for this creation's creator, it represents his own grasping, imperfect, longing act of ***love***" (1); "humanity": "become a teacher, a source of intelligence to a creature made up of fragments of ***humanity*** destroyed by that very war technology—then we would have to say that the monster would be AI" (4); "human": "Unlike "Pinocchio" — which dealt with similar ideas of man creating life without the involvement of woman (or anything approaching ***human*** connection" (1); "del Toro has balked at Enlightenment hubris all while marveling at ***human*** innovation with fearful delight" (3): "His Elizabeth, played by Mia Goth, is less concerned with the 'aerial creations of the poets,' and more easily moved by the symmetries of the ***human*** spine" (3).

These terms play an important role in discourse, in order to portray the manner in which the concept of humanity is reflected, even in contexts of technology and progress, as we may observe from the identified collocations or phrases.

For instance, we may discuss the term *human*, which appears not one but seven times as an adjective modifying a number of other nouns. This particular choice in discourse may hint to the fact that the focus is placed on the characteristic of human inspired adjacent concepts rather than its own meaning. The usage of human may be observed in the following structures: "(human) being"; "(human) emotion"; "(human) spine"; "(human) innovation"; "(human) life"; "(human) connection". Therefore, we may divide these structures into two categories, the ones related to the human body and the ones related to the abstract side of human being. Syntagms or collocations including "(human) emotion"; "(human) innovation"; "(human) connection"; "(human) life" may be perceived as markers of abstract and emotion, side inherited within the human psyche and behaviour. By introducing concepts such as *emotion*, we may understand that humans are perceived as dual beings, with a strong delimitation between sentiment and instict, to create a meaningful source for the moral values to occur. There can be affirmed the fact that human emotion is the primary reaction generated by the instict filtered by the brain. It perceives it correctly and assimilates it in a proper manner. In film critique discourse, *emotion* is used in the complex sentence: "It's altogether an anti-patriarchy fit, sentimental without awareness of the true

objects of ***human*** emotion, and completely devoid of concern for the power and dangers of making or technology" (4) in order to amplify the effects and the instinctual nature of human sentiment. By being accompanied by expressions such as *sentimental awareness*, it opposes the dangers and even the concerns regarding the ethical aspects surrounding technological progress as a source of power and control, the word describing best this risk being *danger*.

Used alongside *life* or *connection*, it highlights the manner of living and the social relationship between people: the process of creating contact and interactions with others from various social groups or strata. Concerning the usage of *life* with *human*, we can observe the fact that this lexical composition is used as a common point for contrasts, beauty and brutality as vivid parts of the state of being human: "Del Toro has always had an eye for the ways beauty and brutality weave themselves together in ***human*** life, and "Frankenstein" is an ideal text for that interest" (1). It reveals that *Frankenstein* is the opportunity of blending together the natural sides of humanity with the help of technology. Human life is the already existing medium in which both positive and negative concepts created by artists/scientists may be introduced. Therefore, science, the origin of Frankenstein's Creature, can be beauty, the art of creating aesthetically pleasing and scientific progress out of the given resources, in this case, human life: "I collected the ***instruments of life*** around me, that I might infuse a spark of being into the lifeless thing that lay at my feet" (Shelley, 2025, p. 63); however, beauty can be also found in grotesque and brutality: "the human and monstrous simultaneously exist with one another (Lane, 2016), as both aesthetic categories function as extensions of beauty, even though, in reality, there convey a negative connotation: "But the movie also spotlights something he understands intuitively: the difference between the **destruction of life** — *nasty*, *brutish* and *quick*, as when an unhinged act of violence results in the twisting of limbs or the cracking of bones or a bullet to an eyeball — and **the heartbroken and lovely form** that life can take at its end" (1). The lovely form that life may take in the end is a reassurance that in the hearts of people, hope remains for the best.

Used together with the term *connection*, the syntagm alludes to the difficulty of creating a relationship between life and death itself: "Unlike "Pinocchio" — which dealt with similar ideas of **man creating life** without the involvement of woman (or anything approaching ***human*** connection) — longer doesn't necessarily mean deeper" (2). The reference to the manner in which life is created in these two situations, Pinocchio's and the Creature's, contradicts the traditional paths for humans, hence the direct usage of the term *connection* and not *marriage*. Human connection is ignored, therefore, the natural rhythm of events from a person's life is ignored in order to create life. Technology and science act as substitutes not offering the "product" (the new "being") a proper place or identify in the society: "Once the human identity is formed, people must fulfill the obligations and responsibilities given by their identity" (Dong. W., Ge, Y., Chen, X., Yang, O., Yu, L., Yang, W., 2024, p. 238). It expands the idea the

film critique analyses and understands from the beginning the complexity of the dynamics between humanity and technology and the ethical implications of such an interaction, even before formulating opinions and verdicts on art.

As for the other structures related to the biological or anatomical composition of the human body: "(human) being"; "(human) spine"; those work in close connection to the issue of human parts used in the process of creating life and the ethical implicatures surrounding this topic: "And then an old blind man in a hut in the woods (David Bradley), in whose home he takes refuge, whose family he helps survive the winter, and from whom he learns to read, as well as to feel like a ***human*** being" (4). The term being becomes a staple for the role one has in order to be welcomed within society. In this respect, the society rejects the improper being resembling a human and it does not call it as a member of its own group. The creature starts to assimilate the essence of being human when it tries to blend in, to learn to read and speak, as the critic acknowledges. Therefore, being is not only an identifier for species recognition, it accompanies the term *human* and becomes a marker for identity within an entire species.

The critical discourse acknowledges the precision with which elements from the film allude and return, in a circular manner, to the game of imitation. Nouns with anatomical reference (spine) create a special environment for developing human resemblance, a strategy to attract the newly formed being into the human society: "His Elizabeth, played by Mia Goth, is less concerned with the 'aerial creations of the poets,' and more easily moved by the symmetries of the ***human*** spine. An amateur entomologist, she encourages Victor to think of science as a means of approaching the "beauty" and "purity" of "God's creations"" (3). The language becomes highly nuanced and explicit, conveying various meanings. The spine acts as a central element for humans, it is in fact, the structure which offers people the privilege of distinguishing themselves within the animal kingdom, especially the category of mammals, the vertical posture serving as a functional and aesthetic support. The spine forms the central axis of the body by being the vital element of sustaining the axial skeleton, to which other structures bind (the appendicular skeleton). Humans differentiate even from other apes due to their position and vertical alignment of the spine, as the majority of other classes of anthropoids usually do not possess this ability of staying upright: "The adaptation to bipedalism represents the primary change during human evolution that permits to diagnose fossils as our ancestors, the hominids" (Tardieu & Haeusler, 2019, p. 23). The spine serves as a symmetrical elevating element for the human race; build with the help of technology in the Creature's case. The lexical choices in this part of discourse are meant to describe a tension between traditional Romantic beauty and a more physical, scientific understanding of the process of creation. Once again, technology accompanies the idea of structuralism and interacts with the ethical side of human values and morals.

"Aerial creations of the poets" uses a highly elevated tone, as we observed in the usage of *aerial*. This adjective suggests the existence of an intangible and imaginative item which is removed from the existent realm. It lingers rather than it exists. From a lexical point of view, it belongs to the semantic field of Romantic poetry, portraying idealised beauty. In contrast, the discourse uses the syntagm "human spine", to create a subtle shift from abstract art to real human anatomy, as the central noun, "spine", grounds the concept of beauty within the physical structure of a person rather than imagination. This particular overlapping of meanings suggests that Elizabeth finds a pleasing aesthetic taste not in fantasy, but in the mechanics of the human body. She is the one to wear a structural dress, with details imitating the spine, in order to emphasise the quality of being human. This emphasis enhances themes of mortality and embodiment and it reminds the audience about Victor's scientific ambitions, rooted in the morally questionable process of manipulating actual flesh for achieving personal success in his quest of creating life. The lexical field is enriched, as it becomes increasingly detailed from an anatomical and scientific point of view, with the addition of specific terms: *entomologist* and *science*. However, the scientific pattern opposes the spiritual and human side of the discourse, with religiously charged lexical markers such as *beauty*, purity, *God's creations,* etc. They belong to the field of divinity and moral perfection, one that imitates the divine power of almighty deities. Therefore, by using the term *creations,* it creates a specific ideological environment for combining natural life and Victor's own desire to become a creator. It enhances that science becomes a quasi-religious instrument, a reminder.

With regards to the other terms identified alongside the usage of *human*, we observed the fact that words such as *trauma*, *emotion* or *love* trigger a powerful response in opposition to *progress*. The usage of *trauma* and its variations (*traumatizing*) outlines the manner in which scientific pursuits are regarded as more than mere progressive forces. They become sources of psychological and intergenerational suffering, a stigma placed on those who believe and follow their ambitions in this direction. Syntagms including "the sound may actually be more ***traumatizing***" or "intergenerational ***trauma***" merge scientific procedures and technological intervention with violence and emotional damage in a direct relationship of reciprocal causality, therefore referring directly to the complex interaction between scientific progress and morals. In a similar manner, the employment of *emotion* determines a process enhancing a certain opposition between logical thinking (rational processing of mechanical and electrical phenomena in science) and authentic human feeling triggered and experienced within this framework. Structures containing and expanding on the identified terms: "true objects of *human* ***emotion***" and "achingly ***emotional***" reinforce the fact that one's emotional experience is a concept capable of remaining fundamental to human identity, deeply marked within human thought. In this context involving narratives expanding on

creating life via artificial means, scientific experimentation in the anatomical and physiological world and the technological progress are items of progress and ethical questioning.

Overall, these lexical choices are intended to create a rigorous discourse oriented towards the theme of humanity placed at the crossroad of emotional richness and ethical grounding, while technology embodies both progress and risk for ethical values.

Conclusions

In line with the analysis presented, we may argue the fact that the lexical choices of the four selected pieces of cinematographic critique create a frame which depicts both central concepts, technology and humanity in opposition and in reciprocal complementation, comprising opportunities and threats. In this respect, the scientific language employed gradually takes the place of emotional and spiritual pathways of acknowledging life. Terms and expressions ranging from *technology* to *electricity*, *experimentation* have the capacity of reducing the composition and structure of the human body to an observable and a mechanical mechanism, implying that technology is a complex medium which encourages a certain detachment from human feelings. In contrast, the usage of terms including *emotion*, *human*, *humanity*, enhances the sense of belonging to a semantic field of spirituality and morality, which brings to light a more humane and reverent openness toward life itself. By combining these opposing lexical lists of items and by analysing the choice of terms in relation to the message conveyed and the piece of art itself, we observed that technology serves as a trigger for numerous ethical internal discussions. Science and technological progress are presented in a highly intricate manner, being characterised as more than pure knowledge, a force which seeks control over the process of creation itself and of the creator. It assimilates the process and the maker, enforcing the arising tension, as seen in the clinical examination of the body conflicts with the sacred values traditionally intertwined with human life.

All in all, we have reached the conclusion that these pieces of film critique enhance the fact that Guillermo del Toro's 2025 screen adaptation of Shelley's *Frankenstein* reframes technology as an extension of human desire rather than its opposition. The two concepts heavily depend one on the other and complement each other in meaningful ways. The presence of various anatomical and spiritual elements, accompanied by the terms referring to technological advancement and scientific breakthrough managed to create the proper environment for discussing ethical values and morality of playing God, between opportunity and exaggeration.

References

Brown, B. (2022). *Cinematography. Theory and Practice for Cinematographers and Directors*. Oxon: Routledge.

Debruge, P. (2025). "Frankenstein' Review: Guillermo del Toro's Dream Project Has Been Gestating So Long, the Master's Creation Arrives Overstuffed and Unwieldy. What should have been the perfect pairing of artist and material proves visually ravishing, but can't measure up to the impossibly high expectations del Toro's fans have for the project", on *Variety* Available at: https://variety.com/2025/film/reviews/frankenstein-review-guillermo-del-toro-1236502741/ (accessed May 28th, 2026).

Dong. W., Ge, Y., Chen, X., Yang, O., Yu, L., Yang, W. (2024). Technology and Ethics; Human and Non-human. The Ical Considerations of Clara and the Sun in the Criticism of Literary Ethics. Proceedings of the 5th International Conference on Language, Art and Cultural Exchange (ICLACE 2024), Advances in Social Science, Education and Humanities Research, 855. Available at: https://doi.org/10.2991/978-2-38476-265-1_29 (accessed May 24th, 2026).

Gibson, W. (1986). *Neuromancer*, New York: Ace books.

Guynn, W. (2011). *The Routledge Companion to Film History*, New York: Routledge.

Huizinga, J. (1949). *Homo Ludens. A Study of The Play-Element in Culture*, London: Routledge & Kegan Paul.

Huxley, A. (2006). *Brave new world*, New York: Harper Perennial.

Lane, M.B. (2016). 'Art From the Holocaust': The Beauty and Brutality in Forbidden Works" *The New York Times*. Available at: https://www.nytimes.com/2016/01/23/arts/design/art-from-the-holocaust-the-beauty-and-brutality-in-forbidden-works.html (accessed May 28th, 2026).

Magnani, L. (2007). *Morality in a Technological World. Knowledge as Duty*. Cambridge: Cambridge University Press.

Maninder S. D., Garima, S. (2021). Challenges Faced by Art and Technology on Social and Ethical Grounds. *International Journal of Research Granthaalayah*, 9(3), 288-290. https://doi.org/10.29121/granthaa, accessed May 28th, 2026.

Mckever, R. (2015). Carlo Carrà, Funeral of the Anarchist Galli. *SmartHistory. The Center for Public Art History*. Available at: https://smarthistory.org/carlo-carra-funeral-of-the-anarchist-galli/ (accessed May 28th, 2026).

New York State Learning Standards for Arts. Available at: https://www.nysed.gov/sites/default/files/programs/standards-instruction/nys-visual-arts-glossary-final-high-res.pdf (accessed May 26th, 2026).

Orwell, G. (2025). *1984*, e-book, found at https://www.planetebook.com/free-ebooks/1984.pdf (accessed May 28th, 2026).

Peters, T. (2018). Playing God with Frankenstein. *Theology and Science*, 16(2), 145–150. Available at: https://doi.org/10.1080/14746700.2018.1455264 (accessed May 28th, 2026).

Roeser, S., Alfano, V. & Nevejan, C. (2018). The Role of Art in Emotional-Moral Reflection on Risky and Controversial Technologies: the Case of BNCI. *Ethic Theory Moral Prac,* 21, 275–289. Available at: https://doi.org/10.1007/s10677-018-9878-6 (accessed May 26th, 2026).

Santiago Cortés , M. (2025). Guillermo del Toro's Technological Sublime. *ArtReview*. Available at: https://artreview.com/guillermo-del-toros-stunted-techno-sublime-opinion-michelle-santiago-cortes/ (accessed May 28th, 2026).

Sharee, K. (2000). *Gulliver's Fugitives*. New York: Pocket Books.

Shelley, M. (2025). *Frankenstein*, e-book, found at https://www.planetebook.com/free-ebooks/frankenstein.pdf (accessed May 24th, 2026).

Tardieu, C., Haeusler, M. (2019). The Acquisition of Human Verticality, in S*agittal Balance of the Spine: From Normal to Pathology: A Key for Treatment Strategy*. New York: Thieme.

Techera, T. (2026). The Monster and the Critics, on *Law and Society*, https://lawliberty.org/the-monster-and-the-critics/ (accessed May 28th, 2026).

Wells, H. G. (2025). *The Island of Dr. Moreau*, e-book, found at https://www.planetebook.com/free-ebooks/the-island-of-doctor-moreau.pdf (accessed May 28th, 2026).

Wicken, G (2023). Have we witnessed the fall and rise of cinema? *The Archive of Market and Social Reasearch. Making History* Available at: https://www.amsr.org.uk/the-fall-and-rise-of-cinema/ (accessed May 26th, 2026).

Wilkinson, A. (2025). Frankenstein' Review: Guillermo del Toro's Creature Rises. The director's interpretation of Mary Shelley's classic novel is the movie he was born to make. *The New York Times*. Available at: https://www.nytimes.com/2025/10/16/movies/frankenstein-review.html (accessed May 28th, 2026).

Wojtczak, K. (2026). Masterpiece Story: The Iron Rolling Mill (Modern Cyclopes) by Adolph Menzel. *DailyArt Magazine* Available at: https://www.dailyartmagazine.com/adolph-menzel-the-iron-rolling-mill/, (accessed May 28th, 2026).

MEDIA RECEPTION AND INTERCULTURAL READING: IVO ANDRIĆ IN THE DIGITAL AGE

Dragana Litričin Dunić[1], Faculty of Teacher Education, University Educons, Serbia

https://doi.org/10.46687/OCLS8327

Abstract: *This paper examines the ways in which contemporary media and digital technologies shape the reception of the literary work and public persona of Ivo Andrić among students. Proceeding from the assumption that literature in the digital age is no longer perceived exclusively through the written text, but also through diverse media representations, the study encompasses three complementary levels: literature, media, and digital adaptation. The first part of the paper analyzes the attitudes of students of the Faculty of Teacher Education toward the possibility of completing Andrić's unfinished novel, as well as their reception of a digital monodrama as a contemporary interpretation of a literary text. The second part examines the perception of Andrić as a media figure through an analysis of nonverbal communication in a television interview, based on a sample of students from the Department of Journalism and Mass Communications and the Bulgarian Studies and Media programme at Konstantin Preslavsky University of Shumen, as well as students from the Faculty of Teacher Education at Educons University.*

A particular emphasis is placed on the comparative dimension of the research, which offers insight into the differences and similarities in reception between Serbian and Bulgarian students. The paper contributes to a broader understanding of the relationship between technology and the humanities by highlighting the transformation of reading practices in the contemporary media environment. All sections of this paper are united by a common research objective: to examine how contemporary audiences perceive Ivo Andrić beyond the boundaries of the printed text, through digital media, public performance, and intercultural reception.

Key words: *digital age, literature, Andrić, media, imagology*

Introduction

The contemporary digital environment has significantly transformed the ways in which literature is read, interpreted, and transmitted. The text is no longer the sole or dominant bearer of meaning; rather, it has become part of a broader media system in

1 Dragana Litričin Dunić, PhD, Associate Professor at the Faculty of Teacher Education, University Educons. She holds a PhD from the Faculty of Philosophy, University of Novi Sad. Her academic interests include media discourse analysis, literary criticism, and comparative literature. She is a collaborator on the international research project Andrić-Initiative *: Ivo Andrić in the European Context*. She has delivered guest lectures at the Jagiellonian University in Kraków, Eötvös Loránd University in Budapest, Konstantin Preslavsky University of Shumen and the guest lecturer at the Sorbonne University in Paris. E-mail: ddunic@gmail.com

Copyright © 2026 Dragana Litričin Dunić

Article history: Received: 30 April 2026; Edited: 3 May 2026; Revised: 30 June 2026; Accepted: 3 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

which literary works are reshaped through various forms, ranging from audiovisual content to digital representation. In this context, the boundaries between author, work, and audience have become increasingly fluid, while the process of reception more frequently involves the active participation of readers and viewers.

This paper is divided into two parts. Through a literary-critical interpretation of Andrić's unfinished novel *Na sunčanoj strani* (*On the Sunny Side*), this paper explores how complex literary texts can be understood in contemporary digital contexts. It examines how computational approaches may highlight different ways of reading Andrić's work and open up alternative interpretations of the text. Finally, it presents the results of a reception study conducted with students of the Faculty of Education at Educons University in Serbia.

The second part of the paper focuses on reception and imagological interpretation among students in Bulgaria. The literary work of Ivo Andrić occupies a distinctive place within the broader European cultural sphere. As the recipient of the Nobel Prize in Literature in 1961, Andrić became an author whose work transcended national literary frameworks and entered the international literary canon. His prose is frequently interpreted in relation to the historical, cultural, and identity-related questions that characterize the Balkans.

The aim of this section is to examine how students in Bulgaria and Serbia perceive Andrić's literary work, as well as his public presence in the media sphere. Special attention is given to the analysis of communication in a television interview from 1967 and to the interpretation of literary intervews through an imagological approach.

I. Contemporary Reception of Andrić's Work Among Students

The contemporary reception of Andrić's work among students represents an important aspect of studying the literary canon within the academic environment. The ways in which young readers interpret classical literary works may reveal how cultural values and literary models are transmitted and transformed in the context of contemporary education. Andrić's unfinished novelistic fragment *On the Sunny Side* occupies a distinctive place within his so-called prison cycle. Although formally fragmentary, the text possesses remarkable internal cohesion and symbolic density. This paper proceeds from the thesis that the unfinished nature of the novel opens the text to new forms of reading, interpretation, and media transformation.

The aim of this section is to demonstrate how the intersection of literary hermeneutic and pedagogical practice can offer a new reading of Ivo Andrić. Particular attention is devoted to the female figure as the central semantic node of the novel. As Andrić reflected, his works were not originally conceived as complete books, but emerged gradually through the accumulation of separate and initially disconnected texts that were later organized, with varying degrees of coherence, into novels or collections of short stories (Andrić, 2017, p. 9).

The reconstructed novel *Na sun*čanoj *strani, On the Sunny Side*, edited by Žaneta Đukić Perišić, belongs to the broader prison cycle of Andrić's prose. These texts are united by the experience of imprisonment and by the figure of Toma Galus (Perišić,2007), thereby forming a novelistic structure, an open sequence that may be read as a fragmented novel.

Within *On the Sunny Side*, the motif of the woman stands out as the central semantic node. A fleeting female presence at the window, repeatedly appearing and disappearing, introduces an image of fragile visibility that interrupts the monotony of imprisonment (Andrić, 2017). When she later appears carrying a birdcage, the scene acquires symbolic force: the female figure becomes associated with light, hope, and the possibility of spiritual transcendence within a confined and oppressive space (Andrić, 2017). Such motifs demonstrate that Andrić's work already contains an inherent potential for intermedial and transmedial interpretation.

Within a semiotic framework, the structure of meaning may be understood as organized around several interconnected symbols that form a unified semantic field. Within this network, the female figure emerges as the central narrative node and bearer of the text's fundamental meaning.

Her appearance in direct relation to the motifs of the sun and the window indicates a specific position within the symbolic structure of the work and in this context, the window functions as a liminal space, a mediating point between the closed and the open world. As such, it becomes a symbolic stage upon which the key moment of narrative development is articulated and it is precisely at this point that the central motifs intersect and the deeper semantic structure of the text is revealed. This paper proposes the stage form of a digital monodrama that combines live performance with digital layers. It is not a conventional theatrical production, but rather an experimental form that transforms the text into a performative event.

The structure of the performance is conceived as follows: Prologue – the algorithm reads Andrić's unfinished sentences; Dialogue – the performer engages in conversation with a "virtual Andrić"; Climax – the woman with the birdcage appears alongside the projection of the window as a stage; Epilogue – the algorithm concludes the story by positioning the woman as the symbolic outcome.

The issue of completing unfinished literary works raises several ethical and philosophical questions. Is it justified to "supplement" the intention of a writer who deliberately left no ending? Or is unfinishedness itself part of the poetics of the work? Do new media undermine the authenticity of Andrić's style, or do they provide a new layer of interpretation?

Certain aspects of the research developed in this paper were presented at the 17th "Andrić Virtual" Symposium, held at the Complutense University of Madrid within the framework of the international research project *Andrić-Initiative : Ivo Andrić in the European Context*.

In the educational process, this form enables students to experience the text through multiple media and stage performance. Such an approach develops media literacy grounded in creative reading as a precondition for creative writing.

In this context, a comparative reading of *Na sunčanoj strani (On the Sunny Side*) and *Prokletaj avlija (The Damned Yard)* eveals a deeper structural affinity that transcends the shared theme of imprisonment. In both texts, confinement does not produce passivity; rather, it activates compensatory mechanisms of meaning. In *Prokleta avlija, (The Damned Yard*), that mechanism is language storytelling, mythomanic speech, and the endless multiplication of narratives that replace the freedom of movement with the freedom of speech.

Just as speech in *The Damned Yard* is continuously renewed, varied, and expanded, so too in this fragment the visual scene is repeated, though without narrative evolution. In this sense, the female figure in *On the Sunny Side* represents the visual equivalent of the mythomanic story. Each new appearance of the woman at the window is not new information, but a new illumination of the same meaning.

The paradise dreamed of by all mythomaniacs is filled with women. Similarly, the woman at the window does not refer solely to the external world as a stable reality, but to an inner space in which that reality is transformed into meaning.

In *The Damned Yard*, one encounters many of the obsessive motifs of Andrić's prose: guilt, unreflective speech, imprisonment, fatal women, and the all-knowing story. According to Petar Džadžić, a leading authority on Andrić, *The Damned Yard* is indeed the "matrix cell" of his entire oeuvre. (Džadžić, 1996). Albert Thibaudet argues that, within the complete oeuvre of every great writer, there is one work that functions as a profound message and behaves like a stem cell (Thibaudet, 1961, p.305). *The Damned Yard* appears to be precisely such a work. In *The Damned Yard*, a symbolic vision of all prisons is condensed, including that of life lived in constant fear as an imaginary prison. (Litričin, 2020, p. 388).

> "If, in his anxiety to be free at least for a moment from Karagöz's pressure, the cornered, tormented man began to beg and assure him of his innocence, with either genuine or feigned tears, Karagöz could all at once change his behavior, smacking his palm against his brow.
>
> What are you saying, you're completely innocent? Ah, why are you telling me now, for god's sake, man. Pshee... If you'd told me you were guilty, I could have let you go, because there are a lot of guilty people here. They're all guilty. But it's precisely an innocent man that we need. So I can't let you go. If you hadn't said so yourself, something could have been done. But as it is, now you'll have to say here until I find another innocent man somewhere, someone like you, to take your place. Now, sit still and keep quiet!" (Andric, 1992, p. 26).

Therefore, there are no innocent ones. Andrić's literary characters escape through storytelling into imaginary spaces of freedom. Many of Andrić's characters search for an ideal woman that constantly eludes them. In *The Damned*

Yard, the sun is associated only with the story about women. The sun has barely appeared, and the conversation is already flowing...

In *On the Sunny Side*, this role is assumed by the image: the gaze, the scene, the visual epiphany that substitutes movement through the repetition of the same motif.

This poetic boundary between traditional interpretation and innovative intervention becomes particularly clear in the reception among students in teacher education, with whom a study was conducted focusing on attitudes toward the digital representation of Andrić and the possibility of scenic and algorithmic "continuation" of the unfinished novel.

The survey was conducted among 100 students at the Faculty of Teacher Education of Educons University. More than half of the surveyed students (54%) expressed interest in the possibility that artificial intelligence might offer a model continuation of the unfinished novel. However, this position was not motivated by a desire for textual closure, but by curiosity and pedagogical interest. For this group, algorithmic continuation did not represent a substitute for Andrić, but rather experimental material that could enable comparisons of style, deepen understanding of the poetics of unfinishedness, and encourage critical reflection on authorship.

At the same time, a significant proportion of respondents (20%) explicitly rejected the idea of AI "finishing" Andrić, emphasizing that such intervention would violate the authorial integrity and artistic authenticity of the text. The remaining 26% remained undecided, indicating the presence of an ethical and poetic dilemma that cannot be easily resolved and requires further theoretical and pedagogical consideration.

This distribution of attitudes demonstrates that the question of completing the novel is not merely technical, but fundamentally poetic. The closer the digital intervention approaches the body of the text itself, the stronger the resistance becomes. Even when students display openness toward experimentation, they intuitively recognize that the unfinishedness of the novel is not an empty space to be filled, but a structural condition of its meaning.

Interestingly, as many as 83% of respondents expressed a desire to see a "virtual Andrić" on stage. Only 17% rejected this possibility.

Particularly significant is the fact that students draw a clear distinction between visual reconstruction and textual intervention. While the digital "presence" of Andrić on stage was perceived as an acceptable and inspiring form of media mediation, rewriting his text remained problematic. This distinction reveals a high degree of poetic awareness: Andrić's text is perceived as inviolable, whereas the authorial figure remains open to interpretation.

For students, this form does not represent dramatization in the classical sense, but rather a media expansion that enables the visual, auditory, and

symbolic revitalization of the central motif. Such reception confirms that stage interpretation does not undermine the poetic structure of the unfinished text, but is instead perceived as a legitimate and pedagogically stimulating mode of reading.

II. Reading Andrić: Andrić in the Media Sphere – The Interview as Genre

While the first part of the paper explores the possibilities of digital interpretation and stage transformation of Andrić's work, the second part shifts attention to the reception of the author himself as a media figure and cultural symbol in different academic environments.

Andric rarely gave interviews, did not like public exposure and was cautious when it came to public speaking. The interview, as a journalistic genre, represents a specific form of communication in which the writer, the journalist, and the media audience encounter one another. In such a context, what is transmitted is not only information about the author and his work, but also particular cultural and symbolic models of representation.

Although the interview is fundamentally a journalistic genre, within literary studies it occupies a special place as a distinctive literary-cultural form, since it does not merely convey information, but also constructs discourse about the writer, the work, and the broader cultural context. It is precisely this dual nature that makes the interview a relevant object of study within literary history and theory.

The very concept of the interview belongs to the broader European tradition of dialogue, whose roots may be traced to Ancient Greece, where dialogue was not merely a form of communication, but also a method of thinking and searching for truth. Knowledge was not transmitted as a finished fact, but formed through the exchange of viewpoints.

The essence of the interview, therefore, lies not only in the sequence of question and answer, but in the act of encounter itself. The interview is a space in which two consciousnesses, two perspectives, and two cultural positions meet.

Here, it is particularly important to introduce the imagological dimension. Imagology examines representations of the "Other" in literature and culture and that is, the ways in which one culture portrays another, while simultaneously constructing its own identity through that representation. In the interview, this process becomes especially visible: discourse about the Other simultaneously becomes discourse about the self.

The Other in an interview is never neutral. It is always culturally shaped, selected, and interpreted through the speaker's system of values. When discussing the interview as a literary form, it is necessary to understand its dual nature: it is simultaneously a journalistic instrument and a literary-cultural text. It is precisely this duality that enables its study within literary scholarship.

For this reason, the interview becomes a space of autopoetic expression. In an interview, the author does not merely communicate facts, but constructs his own literary persona. He chooses what to emphasize, what to omit, how to interpret his work, and how to position himself within culture. The interview thus becomes a form of self-representation and self-interpretation.

In this study, a television interview with Ivo Andrić, broadcast in 1967 on Radio Television of Serbia, was analyzed. Students observed the manner in which the author spoke, his gestures, facial expressions, and his overall mode of communication before the camera.

The nonverbal communication displayed in this interview was frequently interpreted as an expression of calmness, concentration, and intellectual reserve. Students noted that Andrić spoke in a slow and thoughtful tone, with minimal gestures, which contributed to the impression of seriousness and authority. Such an interpretation demonstrates how the media appearance of a literary author may shape the perception of both his work and his personality within the contemporary academic environment.

In Gérard Genette's theory, an interview with a writer may therefore be interpreted as a form of "public authorial epitext." (Genette, 1997, p.323). It also points to the significance of the autopoetic dimension. In an interview, the author often explains the genesis of the work, poetics, the relationship to tradition or cultural context, and their own position within the literary field. In this way, the interview becomes an additional interpretative framework. The reader no longer approaches the work solely through the text, but also through the author's subsequent self-reflection.

In the prose of Ivo Andrić, complex relations among different cultural communities in the Balkans frequently appear. For this reason, his work provides a particularly suitable framework for imagological analysis. Imagology, as a methodological approach in literary studies, examines the ways in which literature represents both one's own identity and the identity of the Other. In this sense, the literary text becomes a space in which cultural images and stereotypes concerning different peoples and cultures are formed. "Indeed, the opposition between an abstract East and West has been as old as written history" (Todorova, 1997, p.12).

During the course, students read Andrić's texts in Bulgarian translation, which enabled a different perspective on the interpretation of his literary world. The discussion following the reading was focused on questions of identity, cultural difference, and the ways in which literature may contribute to a deeper understanding of other cultures.

The empirical part of the study is based on a survey conducted among students at the University of Shumen, as well as among students of the Faculty of Teacher Education in Serbia. It should be noted that the students in Shumen were previously prepared within coursework. They were also familiar with Andrić's

works in Bulgarian translation, as well as with imagological studies such as Maria Todorova's *Imagining the Balkans*. Data for this study were collected in January 2026 during the guest lectures delivered by the author, held at the invitation of Shumen University *Bishop Konstantin Preslavski*. The seminar brought together students from the Department of Journalism and Mass Communications at *Konstantin Preslavsky* University of Shumen: bachelor's students in Journalism and Advertising, Public Relations, and Bulgarian Studies and Media, as well as master's students in PR in Public Administration.

Before completing the survey, students had:

1. read Andrić's texts in Bulgarian translation; while the students in Serbia were already familiar with Andrić's work;
2. become familiar with the basics of media genres, particularly the interview as a genre;
3. watched the 1967 television interview with Andrić;
4. analyzed excerpts from a television series about Andrić.

Afterward, a survey was conducted in which students responded to questions concerning:

- their perception of Andrić's personality in media appearances;
- the significance of his nonverbal communication;
- interpretations of his literary texts;
- the possibilities of imagological readings of literature.

The analysis of student responses reveals several noteworthy tendencies. First, students in both academic environments perceive Andrić as an author who represents the cultural and intellectual tradition of the region. His public appearance in the interview was frequently described as calm, thoughtful, and dignified.

Students particularly emphasized the importance of nonverbal communication in shaping the image of the author. Restrained gestures, a slow speaking tempo, and a serious facial expression were interpreted as signs of intellectual authority. In their interpretation of the literary texts, students often highlighted the universal themes of Andrić's prose, such as historical destiny, cultural encounters, and the complexity of identity in the Balkans.

The research focused on nonverbal communication, that is, the way respondents perceive Andrić's speech and overall appearance. The survey included five questions, and the respondents answered each question by choosing "Yes" or "No." The questions referred to whether Andrić appears reserved, whether he speaks calmly, whether he speaks slowly, whether he pauses while speaking, and whether the respondents like his manner of speaking. In this way, the research

covered several important elements of nonverbal communication, such as calmness, speech tempo, pauses, and the general impression the speaker leaves on the audience. Words are not the sole bearers of meaning. Gesture, facial expression, tone, sound, gaze, pause, and silence also participate in communication. In *Poetika knji*ževnog razgovora (*The Poetics of Literary Conversation)*, Jovan Pejčić, drawing on Jakubinsky, demonstrates that dialogue cannot be reduced merely to its verbal content, since meaning is formed through the totality of the interlocutors' verbal and bodily behaviour (Pejčić, 1982, p.78).

The survey was conducted among a total of 100 students. Serbia: 43 out of 50 affirmative responses. Bulgaria: 46 out of 50 affirmative responses. These findings indicate that students perceive Andrić as a writer who speaks calmly and thoughtfully. Such a perception confirms that the author's media appearance plays an important role in the contemporary interpretation of his work and in shaping the image of the writer within an academic context.

The results of the study confirm that contemporary students perceive Andrić's work as relevant within today's cultural context. The combination of literary analysis and media materials proved to be an effective method in literature teaching. The analysis of the interview enabled students to connect the literary work with the author's personality and his public presence. At the same time, the imagological approach encouraged students to reflect on questions of identity and cultural perception.

Conclusion

Literature teaching in the contemporary period must develop new modes of reading and interpreting literary texts, in which traditional approaches are complemented by contemporary media and digital forms of reception. The results of the research show that students are generally receptive to such innovative approaches, particularly when the literary text is examined through different media forms and contemporary interpretative frameworks. At the same time, a certain degree of reservation is observed regarding the idea of completing a literary text, whereby its unfinished nature is understood as an important aspect of its poetics and meaning.

On the basis of the above, it can be concluded that the combination of literary interpretation, media approaches, and digital forms represents a meaningful and productive model of contemporary literature teaching, which encourages more active and in-depth reading of literary works.

In the second part of the paper, the study of the reception of Andrić's work among students in Bulgaria and Serbia demonstrated that literary classics continue to hold an important place in contemporary education. The combination of literary analysis, media materials, and empirical research enables a deeper understanding of the ways in which young readers interpret literature.

The results indicate that Andrić's work may serve as a productive framework for an interdisciplinary approach connecting literary studies, media studies, and imagology. Such an approach contributes to the understanding of literature as a space of dialogue among different cultures and identities. In this way, Andrić's work confirms its enduring openness to new readings, while at the same time underscoring the need to preserve the integrity of the authorial text in contemporary forms of interpretation.

Viewed together, the results of both research directions demonstrate that Andrić's work and authorial figure retain strong cultural relevance, yet in the contemporary era they are increasingly interpreted through multimedia, interdisciplinary, and intercultural frameworks.

References

Andrić, I. (1992). *The Damned Yard* (C. Hawkesworth, Trans.). London & Boston: Forest Books; Belgrade: Dereta. [Андрић, И. *Проклета авлија*. Превела C. Hawkesworth. Лондон и Бостон: Forest Books; Београд: Дерета, 1992.]

Andrić, I. (2007). *Na sunčanoj strani* (Ž. Đukić Perišić, Ed.). Beograd: Akademska knjiga. [Андрић, И. *На сунчаној страни*. Приредила Ж. Ђукић Перишић. Београд: Академска књига, 2007.]

Džadžić, P. (1996). *Sabrana dela: O Prokletoj avliji.* Beograd: Zavod za udžbenike i nastavna sredstva. [Џаџић, П. *Сабрана дела: О Проклетој авлији*. Београд: Завод за уџбенике и наставна средства, 1996.]

Genette, G. (1987). *Seuils*. Paris: Seuil.

Litričin Dunić, D. (2019). *Tamnička hladnoća u Prokletoj avliji*. In Zbornik sa simpozijuma „Kriopoetika Andrića i ruskih nobelovaca" (pp. 387–394). Grac: Univerzitet „Karl Franc".

Pejčić, J. (2012). *Poetika književnog razgovora.* Beograd: Službeni glasnik. [Пејчић, Ј. *Поетика књижевног разговора.* Београд: Службени гласник, 2012.]

Thibaudet, A. (1961). *Istorija francuske književnosti*. Sarajevo: Veselin Masleša.

Todorova, M. (1997). *Imagining the Balkans.* Oxford: Oxford University Press.

"A LITTLE OVERDRAMATIC". MODERATED ASSEMBLAGES OF THE SELF IN HANNA BERVOETS' *WAT WIJ ZAGEN*

Delia Grosu[1], University of Bucharest, Romania

https://doi.org/10.46687/JFDK3887

Abstract: *This article examines Hanna Bervoets' novella "Wat wij zagen" (published in English as "We had to remove this post") through a new materialist framework, treating content moderation on social media platforms as a relational phenomenon in which the human 'custodians of the internet' (Gillespie, 2018), protocols, interfaces, markets, and digital ecosystems are understood as assemblages. The novella offers insight into content moderation, the effects of such a work environment on those involved, and how censorship has altered meanings since the rise of platform capitalism. Although their work remains 'largely invisible to the user' (Gillespie, 2018, p. 114), it opens the way for a myriad of 'intra-actions' (Barad, 2017), creating a 'relational agency' (Barad, 2017). By foregrounding the material and affective dimensions of moderation work, Bervoets' novella exposes how digital authority is enacted through the concealment and fragmentation of responsibility across human and nonhuman actors. Drawing on the assemblage theory and Barad's concept of the apparatus, the article shows how content moderation reorganizes the protagonist's perception, memory, judgment, and capacity to witness, with her distorted letter functioning as the residue of this transformation. The novella's fragmented and unreliable narration thus becomes an argument in its own right, revealing both the intimate psychological effects of moderation work and the broader structural conditions of platform labor that remain largely concealed.*

Keywords: *content moderation, new materialism, assemblage, apparatus, platform capitalism*

Introduction

This article offers a new materialist reading of Hanna Bervoets' novella *Wat wij zagen* (2021), translated into English as *We had to remove this post* (2022). This pioneering literary work engages with content moderation on social media platforms and the psychological effects of this professional activity on workers. Published as a *boekenweekgeschenk* [book week gift], Bervoets' text was given

1 Dr. Delia Grosu is an Assistant Lecturer at the Dutch Studies Department, University of Bucharest. Her research interests include decolonial studies, digital colonialism, and memory studies. Email: delia.grosu@lls.unibuc.ro

Copyright © 2026 Delia Grosu

Article history: Received: 30 April 2026; Edited: 3 May 2026; Revised: 21 June 2026; Accepted: 27 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

away to the public during Book Week, an annual event held in the Netherlands, during which a writer is asked to write a book, usually a novella, specifically for this event.

The speculative novella, written in the form of a letter, follows Kayleigh, who has worked for a technology company, Hexa, and whose job was to review graphic images, such as violence in its multitude of forms and suicide, and to evaluate them against strict guidelines and regulations. The letter she writes is a response to a lawyer who helps her former co-workers win a legal case against their former employee. Throughout the novella, her work tasks are juxtaposed with her private life as she starts a queer relationship with a co-worker, Sigrid, and the reader witnesses how their work has deep implications for their private lives and for their interactions with other co-workers. Simultaneously, the novella shows how looking at gruesome images for longer periods of time can have long-lasting effects on the psyche of the moderators, the so-called "custodians of the internet" (Gillespie, 2018), as well as on how censorship alters meanings, particularly since the rise of social media platforms.

In Bervoets' text, platforms become digital ecosystems, in which protocols, interfaces, and markets come together. In this paper, I propose an analysis of the text as an "assemblage". The letter Kayleigh writes to the lawyer purports to offer usable testimony, but it is written by someone the reader gradually comes to understand is unreliable. The narrative form itself – the distorted retrospective testimony, the unreliable interiority – poses an assemblage effect: the letter is what the Hexa machine produced from Kayleigh's psyche, even as she believes she is offering a neutral account. The question that arises here is what kind of subject does the content moderation assemblage produce, and how does Bervoets' narrative form enact rather than merely describe that production?

The novella can be read as an assemblage: the Hexa workplaces as a human-machine institutional configuration that reshapes the moderators' cognition, affect, and moral judgment, without their awareness. In this process, the letter becomes a formal trace. I propose that the human and the mechanical elements assembled by social media content moderation shape both the user's and the moderator's situated experiences and knowledge, while deepening the ethical ambiguities of social media. Although the focal point of this paper is the psychological toll this job takes on the worker, assemblage thinking can help us understand that our social media feeds are not mere images and videos we watch, but rather a curated selection shaped by algorithms, data, devices, human actors, and practices. All these elements have a multitude of 'intra-actions', which create a 'relational agency' (Barad, 2017). In this approach, I suggest that viewing the phenomenon from the vantage point of "assemblages" will contribute to a comprehensive understanding of an ongoing phenomenon often rendered as "invisible work", as one rarely questions who is behind the screen. For the scope of this paper, I will draw on the Deleuzoguattarian assemblage theory and Karen Barad's new materialist approach to entanglement to show

how assemblages produce subjects. The subject is a contingent gathering of heterogeneous elements – bodies, discourses, built environment, habits, norms, affects, infrastructures. What makes a subject an *assemblage* rather than a system is that its components retain a degree of exteriority relative to one another; they are not fused but rather plugged together. Moreover, as my analysis of Bervoets' text will show, the arrangement of the components produces the exact kinds of subjects that can inhabit it, as I read the moderators' bodies and psyches as nodes in this assemblage: they train the algorithm while being trained by the content they process.

Assemblages

Derived from Gilles Deleuze and Felix Guattari's *A Thousand Plateaus, Capitalism and Schizophrenia* (1987), the concept of *assemblage* was originally articulated in French as *agencement*, meaning *arrangement* or *disposition*. The concept was translated into English as *assemblage*, a choice that has produced both productive ambiguities and significant misunderstandings (Ohls, 2022). Scholars have drawn on Deleuzoguattarian thought to interrogate how heterogeneous elements (human and non-human, material and discursive, analog and digital) blend into provisional formations capable of producing effects in the world. At the heart of assemblage theory lies a rejection of hierarchical or essentialist models of causality in favor of what Deleuze and Guattari call a *flat ontology* – a plane of immanence on which entities at all scales, from atoms to nation-states, are understood as assembled configurations rather than natural kinds (Ohls, 2022). The assemblage is constituted by the relations among the intrinsic properties of its components: "the parts fitted together are not uniform either in nature or in origin, and the assemblage actively links these parts together by establishing relations between them" (DeLanda, 2016, p. 2).

Crucially, the assemblage is not merely the sum of its parts. Assemblages are configurations of heterogeneous elements that produce effects, not simply descriptions of complexity but accounts of power and emergence. As Ohls notes, drawing on both Deleuze and Guattari and Ian Buchanan, the assemblage is "active at every level" (p. 160) and is best understood by what it produces rather than by what it is composed of: "Assemblages are not defined by their components; they are defined, rather, by what they produce, and what they produce, ultimately, are complex forms and objects that populate contemporary society" (Buchanan, 2021, p. 47). Buchanan's claim resonates in today's capitalist world, in which humans become data, and the digital turn has taken hold of what they can produce. If we consider how Artificial Intelligence has spread its tentacles in everyday life, we should ask who trains whom? Are we, as users, training AI, or is it rather an intra-action in which humans train AI so that AI can then train us, via curated feeds on social media, extending toward news journals, politics, and everyday decisions? However, even in this gloomy context, it remains important to note how the components are factored in, particularly in questions regarding agency, as is the

case in this article. Buchanan's articulation of a productive or machinic dimension is equally central to Neely's (2026) psychotherapeutic application. Drawing on Deleuze and Guattari's claim that "everything is a machine" (1983, p. 9) – ranging from atoms to marriages to nation states – Neely frames the psychotherapy encounter as a site of assembled machines, including "affective-machines", "social-machines", "physical-machines", and "psychological-machines", whose interaction produces subjectivity, desire, and clinical affect. Hence, affective capacities become the most important, as they emerge from assembled relations.

On the other hand, McFarlane and Anderson (2011) argue that this ontological reorientation challenges linear and deterministic models of causality in human geography. They contend that the contributors to their special section consistently deploy assemblage to "capture a sense of the uncertainty, non-linearity and contingency of change in political, urban, cultural and historical geographies" (p. 162). In opposition to what they call the "billiard ball image of cause and effect" (p. 162), assemblage thinking cultivates a more *radical openness* – an orientation to the possibility that social-spatial formations might always be otherwise within particular historical and material constraints (McFarlane & Anderson, 2011).

Desire, Desiring-Production, Territorialization, Deterritorialization, Surveillance

A central, often underemphasized, dimension of Deleuzian assemblage theory is its philosophy of desire. In contrast to the psychoanalytic reduction of desire to lack – the Lacanian model in which desire is always desire for an absent object – Deleuze and Guattari present desire as a productive and connective force, a "production of production" that is fundamentally social rather than individual (Deleuze & Guattari, 1983, p. 4). In this account, desire functions like a machine or factory, engaged in the cyclical production of new connections among bodies, objects, and flows.

As Buchanan (2021) argues, the assemblage concept depends fundamentally on desire's productive dimension: "they have in common the fact that they are all arrangements of desire" (Buchanan, 2021, p. 79). Neely's clinical application makes this philosophical commitment concrete. Using a case of a patient he encountered in the medical practice, whose psychic and relational difficulties were deeply entangled with compulsive social media engagement, Neely turns to the concept of *desiring-production* to map the flows of longing, attachment, and loss that permeate the patient's various techno-social assemblages without reducing those flows to a singular libidinal narrative. Neely argues that this patient's compulsive engagement with the Facebook-machine can be understood as a "neurotic territorialization" (p. 18) within Deleuzoguattarian logic, an attempt to stabilize desiring-production around the fantasy of unbroken connection with former lovers, in which "the machine of Facebook afforded them

a means to territorialise a mode of desiringproduction—and a corresponding network of digital relationships without the trauma of the past or the alienation of the present" (Neely, 2026, p. 18). This analysis avoids both the tendency to pathologize digital engagement and the tendency to idealize it, instead situating the patient's online activity within the broader assemblage of their affective and relational history. Deleuze and Guattari argue that every assemblage exhibits a double movement: on the one hand, a tendency toward stability, consistency, and the consolidation of its parts into a recognizable form (*territorialization*); on the other, an inherent tendency to extend beyond its current configuration, to build "lines of flight" toward other assemblages that risk both creative transformation and destructive dissolution (*deterritorialization*). The *reterritorialization* that follows any line of flight represents an attempt to recapture and restabilize the assemblage under new conditions (Ohls, 2022). Simultaneously, Buchanan suggests that "Territorializing is world-making" (2021, p. 98); every act of knowledge production is, in this sense, an assemblage practice.

Returning to the *new conditions*, the concept of *surveillant assemblage* (Haggerty & Ericson, 2000) has become a central framework in surveillance studies for understanding how modern systems of observation, data collection, and governance operate (Linder, 2019; Enemen et al., 2025). Drawing on Deleuze and Guattari's philosophy, this framework describes surveillance as a dynamic, decentralized, and rhizomatic phenomenon, driven by the convergence of previously discrete systems. Haggerty and Ericson (2000) argue that surveillance in the contemporary world cannot be understood solely through examples from Orwell's novel *1984* or Foucault's concept of the *panopticon*, as these presuppose a hierarchical, top-down architecture of observation. Rather, they contend that surveillance in late modernity operates as an assemblage: systems that were once discrete (police databases, financial records, medical files, consumer data, etc.) function together under a single coordinating authority – "we are witnessing a convergence of what were once discrete surveillance systems to the point that we can now speak of an emerging 'surveillant assemblage'" (Haggerty & Ericson, 2000, p. 606). The surveillance system described by Haggerty and Ericson is simultaneously everywhere and nowhere, lacking fixed boundaries or a single point of control.

Central to their account is the concept of the *data double* (Haggerty & Ericson, 2000, p. 611). The surveillant assemblage operates by abstracting the human body from its territorial context, breaking it down into discrete data flows – chemical, visual, financial, behavioral – that are then reassembled in different institutional locations as virtual representations of the individual (p. 606). These data doubles circulate across centers of calculation (Latour, 1987), such as forensic laboratories, financial institutions, and police databases. It is these virtual proxies, rather than the embodied subject, that become the objects of governance, risk management, and commercial targeting. Haggerty and Ericson are careful to note that the data double is a pragmatic instrument, distinguished by its usefulness

in enabling institutions to discriminate among populations. The implications are significant: the individual is effectively split into two entities – the flesh-and-blood person and the informational double – and the latter increasingly determines how institutions respond to the former. As the authors observe, data doubles serve as markers for access to resources, services, and power in ways that are often entirely unknown to their referents.

Returning once again to Buchanan, he argues that "Not everything we encounter is an assemblage, or part of an assemblage" (2021, p. 73), as otherwise we risk collapsing into an "endless chain of ‚mapping' things that can never be finished" (Ohls, p. 161). However, it is worth examining the role that new materialist perspectives play in interrogating assemblages. For this purpose, the writings of Karen Barad will prove useful, as she draws on quantum entanglement and quantum field theory in her texts on agential realism, particularly focusing on the passivity of matter. For this paper, I will turn to Barad's concept of *intra-action*: "With each intra-action, the manifold of entangled relations is reconfigured. And so consequentiality, responsibility, and accountability take on entirely new valences" (Barad, 2015, pp. 393-394).

In *Meeting the Universe Halfway. Quantum Physics and the Entanglement of Matter and Meaning* (2007), Karen Barad develops her theory of *agential realism*, which offers a fundamental rethinking of agency, subjectivity, and ethical responsibility. Barad argues against the assumption that discrete entities (persons, objects, institutions) exist prior to and independently of their relations, and claims that they emerge through *intra-actions*: "space, time, and matter do not exist prior to the intra-actions that reconstitute entanglements" (Barad, 2007, p. 74). Unlike interactions between pre-constituted things, intra-actions are the very processes through which boundaries, identities, and differences are produced, as "individuals do not preexist their interactions; rather, individuals emerge through and as part of their entangled intra-relating" (Barad, 2007, p. IX). Central to Barad's framework is the concept of the *apparatus*, which is not merely a physical instrument but an entire configuration of material and discursive elements that produces phenomena:

> Apparatuses are the practices of mattering through which intelligibility and materiality are constituted (along with an excluded realm of what doesn't matter). Or to put it another way, apparatuses are material (re)configurings or discursive practices that produce material phenomena in their differential becoming (p. 170)

Barad also notes that apparatuses "are to be understood not as mere laboratory instruments, static instrumental embodiments of human concepts, but as open-ended and dynamic material-discursive practices" (p. 334), in that they produce meanings and material beings while simultaneously excluding the production of others. One question that arises concerns agency and what happens to it in this context. According to Barad, agency is similarly redistributed. Rather than a capacity possessed by human subjects, "agency is a matter of intra-acting; it is an enactment, not something that someone or something has. It cannot be

designed as an attribute of subjects or objects (as they do not preexist as such). [...] Agency is "doing" or "being" in its intra-activity" (Barad, 2007, p. 178). This formulation extends agency beyond the human: matter itself is agentive, and subject and object are co-produced through the relational event rather than brought to it.

Barad calls the boundary-making moments within these relational processes *agential cuts*: "apparatuses enact agential cuts that produce determinate boundaries and properties of "entities within phenomena" (p. 148). Agential cuts are temporary stabilizations that enact distinctions between inside and outside, observer and observed, while remaining part of a broader entanglement (Leonardi 2013; Warfield, 2016). Such cuts are never innocent: because they determine what is included and excluded from what counts as real or meaningful, they carry irreducible ethical weight: "everything around us affects everything else, which makes everything change and be in a continuous process of becoming" (Lenz Taguchi, 2010, p. 15). This leads to Barad's concept of *response-ability*, which enables the Other's response (Kleinman, 2012). It reformulates ethical responsibility as the ongoing capacity to respond within entanglements one is already part of. Ethics is more than a response to the other, as it involves responsibility and accountability for the relationalities of becoming of which we are a part. To contribute to this framework, Barad draws on *agential realism*, which "provides an understanding of the role of humans *and* nonhuman, material *and* discursive, and natural *and* cultural factors in scientific and other social-material practices" (p. 26). Agential realism thus situates ethical life in the intra-active processes through which subjects, objects, and worlds are continuously and materially co-constituted.

Hexa's Assemblage: Reading the Novel's World

In this section of the paper, I will analyze how Hexa, the company, is an assemblage: the platform guidelines, the algorithmic queue, the quota system, the collegial bonds, the NDAs that employees are required to sign, and the subcontractor structure of the work environment do not simply describe working conditions but are accounts of power and emergence. Kayleigh started working for Hexa for financial reasons, as did her co-workers, because the salary was higher: "their hourly rate was twenty percent higher than at the call center" (Bervoets, 2022, p. 12), where she had previously worked.

After applying for the job without clearly knowing what the requirements were – they were looking for *quality assurance workers* – it was only during the interview that she learned more about the job: "In actuality, I would be "evaluating content" for a large and powerful tech company whose name, they told me before I'd so much as touched a contract, I was not ever, under any circumstances, allowed to mention" (Bervoets, 2022, p. 13). Platform moderation is usually done via subcontractors (or, more recently, AI machines), which allows the big company – Meta, TikTok, YouTube – to outsource these tasks to smaller

companies located in different countries. These companies are particularly located in countries from the Global South, or, even if they are in the Global North, their workers are mostly immigrants[2] or people who, like Kayleigh, have financially precarious backgrounds. This way, the workers "exist in a similarly liminal territory, with the added confusion of being housed side-by-side with their higher-status counterparts" (Roberts, 2019, p. 127). This, of course, may be a "source of dissatisfaction and frustration for the contractors" (Roberts, 2019, p. 127), particularly because of the high accuracy scores they usually need to reach, as I will discuss later in this paper. At Hexa, Kayleigh was one of the nineteen people who formed "the October cohort" of content moderation (p. 11), and they met for the first time during a work training. It was not uncommon for people to work here only for a few weeks or months, as the work gradually became more emotionally and psychologically challenging.

One crucial aspect of the work at Hexa is the set of guidelines for moderators that they received on their first workday. They received little information about them, and they "didn't know at the time that those guidelines changed constantly and that the tome we received was already outdated" (p. 14). The guidelines were not meant to be taken home, so it was expected that new employees would learn everything at the office. These guidelines are opaque, contested, and unevenly applied; they are "discursive performances" (Gillespie, 2018, p. 47). They do not describe reality but produce decisions that feed back into the platform. Their primary scope "is not arbitration" (Gillespie, 2018, p. 47), yet they are "performances that make legible the anxieties and assumptions of the platform providers" (Gillespie, 2018, p. 47). Content moderators are expected to follow these guidelines to determine whether a video or image complies with them, even though "the plurality of policies and enforcement options often becomes a source of unfamiliarity for moderators" (Chatterjee et al., 2025, p. 10).

The uneven application of the guidelines compounds the opacity. Different teams, with different supervisors, make different decisions about identical content at different points in the platform's development. This inconsistency is epistemologically corrosive, undermining the moderators' ability to build reliable interpretive frameworks and leaving them dependent on rules they cannot fully understand or trust. Nevertheless, Bervoets goes beyond a simple critique of bad policy. In the novella's logic, the guidelines are productive, generating the categories through which content is sorted and accumulating sorting decisions into training data, precedent, and platform behavior. They produce the reality they claim to regulate. Every decision Kayleigh makes feeds back into the system, shaping what the algorithm learns, what future moderators are instructed to do, and what counts as *normal*. The platform's standards are constructed from within, using labor and its most precarious workers as raw material. The moderators are not executing policy; they are, unknowingly, writing it.

2 See, for example, Elaine Castillo's novel *Moderation* (Atlantic Books Ltd., 2025), in which the narrator, who has a Filipino-American background, works for a tech company situated in Las Vegas, Nevada.

This force of institutional authority, along with employees' irrelevance, is evident in how Kayleigh and her coworkers relate to the content they must moderate. They must flag inappropriate content in the correct category with the appropriate justification; otherwise, their quota – "score" – would be too low, with consequences: "If we selected the wrong category, our assessment was considered incorrect, regardless of whether or not the post needed to be taken down" (Bervoets, 2022, p. 15). They were expected to maintain "an accuracy score of 97 percent" (Bervoets, 2022, p. 15). This strict policy led to disturbing incidents at work, as there was no security on their floor. Kayleigh describes one particularly disturbing event in which a coworker threatened an SME (subject matter expert, who had to audit the employees' work) with an electroshock weapon to raise his score after it had been too low. In this way, content moderators become data, as their decisions will fuel future guidelines and influence the company's decisions regarding the work environment. Simultaneously, their human bodies are also subtracted in this process, and they become data.

This episode illustrates how precarious work affects content moderators. Even though Kayleigh is an untrustworthy narrator, as I will show later, one of the novella's most formally controlled threads, though handled timidly, is the gradual ideological shift among Kayleigh's colleagues. A striking example is the conversation about Holocaust denial that begins with a discussion of the Hungarian-American investor George Soros, who is ironically described as "our good old philanthropist" (Bervoets, 2022, p. 106). After complaining about him, Cap, one of the employees, says that "that whole Holocaust probably never happened" (Bervoets, 2022, p. 106), later calling it "the biggest lie in history" (Bervoets, 2022, p. 109). In another conversation, a coworker argues that the Earth is flat – "there's no proof it's round" (p. 91), a conspiracy theory that, as Kayleigh says, they see frequently on social media at Hexa: "I saw a lot of flat Earth material during my time at Hexa" (Bervoets, 2022, p. 90). None of this violated the company's rules, so they did not have to flag it. These conspiracy theories voiced by employees do not appear randomly; they may reflect claims made by someone who has spent long periods processing the edges of human expression.

The transformations are not sudden, and Bervoets does not portray them as individual pathologies or as cases of people lacking the resilience to process what they see. Instead, the drift toward conspiracy theories is presented as a collective event, driven by the conditions of their labor. Bervoets does not write about trauma in a clinical sense but as the slow reorganization of a group's epistemic common ground. During a therapy session, Kayleigh briefly discusses the concept of "secondary trauma" (Bervoets, 2022, p. 124), which can be "caused by long-term exposure to shocking images" and can lead to depression, anxiety, and paranoid thoughts (Bervoets, 2022, p. 124). The mechanism Bervoets traces is cumulative exposure operating within a closed interpretive community. The moderators spend their working hours immersed in content that the rest of the platform's users encounter only accidentally and briefly, if at all. The repeated

act of viewing the content, applying the criteria, and making judgments is cognitively distinct from passive exposure (Spence et al., 2022). It produces a kind of familiarity that, over time, subtly erodes the automatic rejection such content would otherwise trigger.

Nevertheless, the most unsettling dynamic is what happens between colleagues rather than within individuals. The shared workspace, full of restrictions – "cell phones were strictly forbidden on the floor, because they didn't want us to take pictures or video of the content we viewed" (Bervoets, 2022, p. 37) – the shared vocabulary of the guidelines, and the shared experience of epistemic instability create conditions in which strange ideas can circulate with a legitimacy they would not carry elsewhere. There is an implicit credibility conferred by shared suffering and shared disorientation (Funk et al., 2004). The group becomes, in this sense, a petri dish for epistemic contagion because the structural conditions of their labor have loosened the social and cognitive anchors that ordinarily keep such ideas at a distance.

What Bervoets stages in the moderation office is not a neutral instrument through which preformed agents act, but a material-discursive arrangement (Barad, 2007) that actively constitutes what counts as real, knowable, and sayable. The workplace produces epistemic subjects through intra-action (Barad, 2007), in which agencies that had no independent existence before their entanglement are mutually constituted. Similarly, the moderation team is a multiplicity of elements (bodies, technologies, affects, guidelines) whose epistemic effects are emergent properties of their conjunction, authored by no single component. Suffering is produced at a level the individual cannot access, by an apparatus that continues to operate whether the participants are aware of it or not.

However, the same apparatus does not produce identical subjects, as evidenced by the divergent relationship between Kayleigh and her coworker, Sigrid. As Barad notes, "It is through specific agential intra-actions that the boundaries and properties of the components of phenomena become determinate and that particular concepts [...] become meaningful" (2007, p. 139). Hence, subjects are outputs of the apparatus, constituted through entanglement. If assemblage theory holds that subjects are produced within material-discursive configurations rather than simply responding to them, it must also account for the fact that configurations are never experienced from a single position. This positional difference within the same apparatus can produce different subjectivities. Kayleigh and Sigrid work in the same place, moderate the same content, use the same guidelines, and are bound by the same institutional logic. However, they react differently. Kayleigh develops a progressive numbness as she becomes less shocked by what she sees. By contrast, Sigrid begins to develop something akin to hypersensitivity, which is rendered as dysfunction in the workplace. In Barad's terms, the apparatus performs different agential cuts through them: it separates, differently in each case, what can be seen as self, what is tolerable, and what is not.

At the beginning, their relationship was casual, starting with evenings spent out for drinks with other coworkers. Drinking itself became a coping mechanism for everyone in the office: "we all started drinking more" (Bervoets, 2022, pp. 53-54). Drinking "became a habit" (Bervoets, 2022, p. 87), not only after work but also at the office. As employment at Hexa drew to a close, "people transferred the contents of their hip flasks into discreet plastic bottles and by July pot use was at an all-time high" (Bervoets, 2022, p. 86). Both Kayleigh and Sigrid started doing this, but Sigrid's deterioration is also charted in her body. After they move in together, Sigrid becomes increasingly interested in "nutrition and the mind" (Bervoets, 2022, p. 69), arguing that eating healthier would make them feel better before they know it, a comment Kayleigh does not understand. The two start fighting more often, and they also have sex in the office building, something almost everyone in the workplace used to do before "Hexa sprang a bunch of new rules" (Bervoets, 2022, p. 83), including the prohibition of sex at work. However, Kayleigh and Sigrid continue to do this, for example, in a supply closet or an elevator.

At one point, Sigrid watches a video of a self-harming boy, and she is reminded of a video "of another child" (Bervoets, 2022, p. 29), a girl she had seen a few months earlier. They discuss it, and Kayleigh remains reluctant, completely numbed. Sigrid begins searching for this girl online, against the company's rules, and learns that her name was Nona and that she had died. Kayleigh immediately makes the connection that it was around this time that Sigrid started hitting on her (Bervoets, 2022, p. 81). Not long after this event, Sigrid's "nightmares had begun" (Bervoets, 2022, p. 81), along with insomnia, excessive drinking, early bedtimes, palpitations, and a dwindling and eventually stopped sex life. While Kayleigh describes having "done such a good job of keeping this crap out of this house" (Bervoets, 2022, p. 76), with "feigned indifference" (Bervoets, 2022, p. 77), Sigrid is unable to perform this self-preservation. In Deleuzoguattarian terms, her reaction would constitute a *line of flight*: not an escape from the assemblage, but a vector of destabilization that reterritorializes it into productivity. Sigrid finally leaves, switches to the night shift, cancels her shifts, and ultimately disappears. Only then does it become clear that her position within the configuration resists the flattening required by the apparatus.

Still, this divergence's most devastating rendering occurs in the novella's final confrontation. After Sigrid changes shifts, Kayleigh begins stalking her, waiting for her behind the building to finish her shift. At one point, Sigrid appears and plays a video on her phone, a recording Kayleigh later understands to be of the two of them, and asks her to evaluate it as a work ticket. At first, she cannot see what she is looking at – "I don't see anything" (Bervoets, 2022, p. 125). However, Sigrid forces her to continue the evaluation, and eventually Kayleigh says: "Sexual content [...] No female areola, no genitalia, so leave it up" (Bervoets, 2022, p. 125). When two other coworkers approach and look at the video, Sigrid asks them to categorize it, and they do: "What is the one on the left saying? [...] I can see her

shaking her head no, but what is she saying? [...] What the fuck, you guys? That's you" (Bervoets, 2022, p. 126). The scene becomes a formal enactment of what the apparatus has produced: a subject so deeply constituted by the machinery of moderation that she cannot locate herself outside it, cannot perceive her own image except as content to be processed and cleared. Bervoets' novella refuses the moral comfort of assigning resilience to one woman and weakness to the other. Both responses are produced and experienced equally, as what is operating is a systematic, if uneven, process of subject-formation that sorts bodies into those the apparatus can use and those it cannot, generating the appearance of individual difference where what is actually at work is the differential pressure of a shared entanglement.

The Letter as Assemblage Effect: Narrative Form and Unreliable Testimony

As previously mentioned, Bervoets' novella is written in an epistolary form. Kayleigh writes a letter to Mr. Stitic, a lawyer hired by her former colleagues in a civil lawsuit against the company. On its surface, the letter reads as a document of testimony, measured, retrospective, and organized. Reluctant to be part of this legal action, Kayleigh agrees to tell him about her experience at Hexa and the duties she had, "the rules, the famously deplorable working conditions" (Bervoets, 2022, p. 7). However, she states from the beginning that "this letter is not an official testimony" (Bervoets, 2022, p. 8), and, by doing so, she expects the lawyer to "keep quiet" (Bervoets, 2022, p. 8) and leave her alone for good. Kayleigh argues that her letter is objective and that she will be "honest, completely honest" (Bervoets, 2022, p. 8). However, the letter only *performs* objectivity and coherence, while the reader accumulates evidence of distortion as they read. The first sign of distortion appears at the beginning of the novella, when Kayleigh argues that this letter is not official because she "won't be mentioning the name of the defendant at any point", since that would be "a violation of my contract" (Bervoets, 2022, p. 8), even though she was already working in a different place. Hence, she cannot escape the Hexa machine.

Kayleigh begins her letter by introducing herself: "I knew what I was getting myself into. I knew what I was doing, and I was pretty damn good at it" (Bervoets, 2022, p. 4). She also claims that "part of me is still proud of how well I knew the guidelines" (Bervoets, 2022, p. 5), a pride she still feels as she watches social media content, even though she now works at a museum. At the same time, she believes there is a difference between her view of the workplace and her colleagues': she believes her view is more nuanced because she is less affected than they are, a belief that is, in itself, a symptom, as she positions herself as categorically different from her colleagues. Kayleigh tells Mr. Stitic that

> After all the news about the lawsuit you're filing on behalf of my former colleagues, people believe that we all sat there in front of our screens like zombies, that we didn't know what we were doing, had no idea what we'd gotten ourselves into, that out of the blue we were bombarded with thousands of sickening images that

> short-circuited the synapses in our brains almost instantly — well, it wasn't like that. At least not entirely, and not for everyone. (Bervoets, 2022, p. 4)

Kayleigh writes from a position of apparent distance, deploying the grammar of a self-aware witness: she qualifies, contextualizes, and acknowledges complexity. It is precisely this performance of coherence that is the most persistent evidence of distortion. Through the letter, the reader watches someone construct a self capable of delivering the information, and that construction is visible on every page of the novella. While Kayleigh believes she is offering Mr. Stitic a nuanced account, viewing herself as an exception makes the letter read as the most complete symptom of her absorption into the assemblage. The moderator who knows she is affected becomes the one most thoroughly remade, having incorporated critical distance itself as a feature of her new self, thereby disabling the alarm that might otherwise have sounded. The letter's retrospective structure seems promising for clarity, since Kayleigh can look back and the narration will produce understanding.

Nevertheless, what the reader gets is a retrospective account narrated by the self that emerged from past experiences. The temporal distance between experience and account is not a space of recovery; it is the space in which the remade self has consolidated the story it wants to tell. Hence, retrospective narration does not produce clarity; rather, it produces a rationalized account of a self that has already been remade. A key component in the process of producing this account is represented by secondary trauma and, subsequently, by PTSD, as Kayleigh cannot move beyond the videos she watched, and her former workplace still influences every decision she makes, even if this happens unknowingly until the last page of the novella, as I will show later.

Perhaps the novella's most formal argument is that the letter is not testimony about the assemblage but the assemblage itself, with the form itself serving as the argument. By writing the letter retrospectively, Kayleigh can organize and reorganize the information, anticipate possible objections, and neutralize them. While her former coworkers exhibit physical symptoms – "Robert sleeps with his taser these days, afraid that terrorists will come and kidnap him at night [...] I know that my former colleagues flinch when someone comes up behind them in the supermarket" (Bervoets, 2022, p. 6) – she shows other cognitive habits cultivated by extended content moderation work. Long exposure to other people's traumas can be detrimental to content moderation (Gerinacher et al., 2019; Spence, 2023). Her letter is similar to moderation because it is what moderation shaped in the mind that wrote it. Kayleigh argues that Mr. Stitic has long attempted to convince her to write a testimony: "I haven't replied to any of your emails. I haven't returned any of your calls, either" (Bervoets, 2022, p. 5), and yet she eventually agrees to write it.

This structure of compelled return resonates with the logic of traumatic repetition as theorized in the literature on trauma (Freud, 1920; Herman,

1992; LaCapra, 2001; Luckhurst, 2008). The subject does not choose to return to the scene, but the scene returns to the subject, insisting that the encounter remains unmetabolized. In my reading of Bervoets' novella, the letter functions simultaneously as avoidance and acting-out, as Kayleigh processes difficult content again on behalf of an institutional interlocutor while translating affective and ethical disorders into a legible form. Her compulsion to write the letter is another iteration of the structure that produces the trauma. The reader is thus faced with an epistemologically unstable relation to the narrator, a central formal strategy in the novella. Kayleigh's account seems plausible, but distortions accumulate as small misalignments. The final confrontation between her and Sigrid shows that Kayleigh is not entirely different from her colleagues; instead of showing bodily symptoms, she has become a perpetrator, forcing Sigrid to have sex at work. She eventually sees this as problematic, as she states that

> The images that keep me up at night, Mr. Stitic, aren't the gruesome pictures of bleeding teenagers, or the videos of stabbings or decapitations. No, what keeps me awake are images of Sigrid, my dearest former colleague. Sigrid held up against a wall, limp and gasping for air—those are the images that I would like to forget. (Bervoets, 2022, p. 7)

Hence, she acknowledges at the beginning of the letter that she is not superior to her colleagues, yet she cannot accept this condition. Instead, she faces a condition of *cruel optimism* (Berlant, 2011), in which the object of attachment is itself an obstacle to flourishing. However, the attachment persists because what it is attached to is not simply an outcome but a cluster of affects, a sense of what it means to have a place in the world. For Kayleigh, the community at Hexa provided this affective density. Her relationship with Sigrid was the emotional infrastructure that made the work tolerable, particularly because they shared the work environment and conditions. The letter is thus a form of grieving for that world, perhaps for the relationship with Sigrid most of all.

Ethics and Response-Ability: Invisible Labor of Cognitive Assemblages

One question that haunts the reader while reading Bervoets' novella is who bears the cost of content moderation assemblages: the subcontractor structure, the NDAs, or the invisible workers? The structural concealment of content moderation is engineered to allow large multinationals like Meta and YouTube to remain safe in the event of legal action (Roberts, 2019). The whole structure is based on disposability. As Bervoets shows in her book, everyone who worked for Hexa did so for financial reasons, and no one stayed there for long. Companies need new workers who have not developed the cumulative trauma load of experienced workers, and they can be paid entry-level wages. In 2019, Mark Zuckerberg, co-founder of Facebook, called Facebook moderators "over-dramatic" (Leskin, 2019) when they complained about the multitude of disturbing videos they had to watch, and he took no action to improve working conditions. The platforms' infrastructure remains the same, regardless of its invisible employees. As Sarah

T. Roberts showed in *Behind the Screen* (2023), the work of content moderators is psychologically devastating, structurally precarious, deliberately hidden, and distributed along axes of global inequality (cheap labor markets in the Global South). When Kayleigh fails to read ordinary interactions, the reader experiences the mechanism of occupational damage from the inside. The categories that were supposed to contain the content have themselves become contaminated. This is not necessarily a plot development, but rather an epistemological demonstration of content moderation work. As Bervoets reverses the architecture of this work, the reader experiences Kayleigh's fatigue and relational damage, the taxonomies of what she has seen, and her attempts to separate her private life from her work life. The platform remains in the background, while labor itself becomes the narrative center.

There is no redemption arc in Bervoets' novella. The ending shows Kayleigh illegally entering a foreign house, which was "a four-hour drive" (Bervoets, 2022, p. 130) away from her house. The home belongs to the parents of the dead child, Nona, whom Sigrid had searched for on social media. While driving, Kayleigh considers various scenarios in her head: "I assumed Nona's parents were home. I was a friend of someone who'd seen one of Nona's last videos [...] Worst-case scenario, Nona's parents would kick me out" (Bervoets, 2022, p. 131). By doing this, she hopes that Sigrid, whom she had not seen since their last fight, would see her gesture as a noble one. Soon Kayleigh realizes that there is no one home, and she finds a way to get inside the house, where she sees a stairwell full of photographs of Nona. She makes her way to the child's room and starts looking around at photos and objects. At one point, she asks herself "and what kinds of things did I see?" (Bervoets, 2022, p. 134), hence reversing the question that opens the novella, a question people constantly asked her about her work: "so what kind of things did you see?" (Bervoets, 2022, p. 1). This question marks the circular form of the novel, while it also indicates that there is no escape from her work as content moderator, the act of looking becoming a fetishization of work. Kayleigh's response to the death of the child echoes an assemblage of a self that has been traumatized and re-traumatized by the things she saw online.

While still in the room, she hears the door opening, followed by footsteps, and she asks herself, "What the hell am I doing?" (Bervoets, 2022, p. 134), which appears to be the only ethical response she is capable to have. This is the first – and only – moment in the novella when Kayleigh questions her actions. It remains unclear what she will do next, just as the reader never finds out whether her moderation decisions were correct. Across the novella, Kayleigh is presented as a worker produced by the system, whose epistemic reliability is structurally unknowable, even to herself. Her final action – her breaking in the house – indicates that the assemblage does not require reliable judges in the decision-making process. It requires fast processors to handle high workloads. At the same time, her final question show that she is becoming aware of her actions, as she starts considering her reasons for being in a foreign house. This questions

indicates the collapse of the boundary between screen and reality, as Kayleigh's job has trained her to sit at a remove from human suffering without having to act on it in the physical world. The whole moral architecture of content moderation depends on that distance, but when she breaks the rule of never looking into who the people on the feed were, she becomes a participant instead of an observer. This moment is also one of the rare moments when her detachment does not hold, and she is startled by her own behavior. Finally, her question can be read as leaking from underneath her curated performance – the frame of the confession – even as she controls her narrative for an audience, she cannot fully explain the motives of her actions. This final act works as a dramatization of the disorientation that Kayleigh has been accumulating from the content itself.

Conclusions

Informed by two complementary frameworks, the Deleuzoguattarian concept of assemblage and Karen Barad's new materialist reading of the apparatus, this article has shown how Hanna Bervoets' *We had to remove this post* stages the content moderation assemblage as both a social or psychological phenomenon and, perhaps more importantly, as a narrative one: the distorted letter is the residue of what the machine has made of Kayleigh. The main character becomes deeply problematic, evident not only in her relationship with Sigrid but also in her unawareness of how much she has been affected by the content moderation work. In this reading, Kayleigh becomes a subject whose capacity to witness, to sequence, and to mean has been reorganized by the apparatus she served. This method facilitates a comprehensive discussion of assemblage theory, cognitive assemblage research, and trauma frameworks. Together, they allow a reading of the novella's form – of a letter – as an argument, hence it is no longer a vessel of content. Assemblage theory reveals the human worker as a node within a larger machine configuration: they are no longer autonomous, as they cannot separate from the platform's logic. Cognitive assemblage research shows how repeated exposure to violent material reorganizes perception, memory, and judgment at the level of cognition itself. At the same time, trauma frames the affective surplus that cannot be processed, which resurfaces as distorted narration and intrusion. Together, these lenses allow us to read the novella's formal choices as an argument.

This raises a question the novella does not fully answer: if Kayleigh is not a reliable witness, what does that mean for the thousands of actual content moderators whose accounts would be necessary to hold platforms legally and ethically accountable without risking dismissal as overdramatic? Bervoets' novella does not resolve this problem, and whether this is a limitation of the book or its most honest gesture remains open to debate. *We had to remove this post* only scratches the surface of what it narrates. The novella gestures toward the global scale of content moderation without dwelling there. It renders one woman's unraveling with considerable care (de la Bellacasa, 2017), but leaves largely unexamined the structural conditions that make her unraveling predictable and repeatable. The

assemblage, as theorized, is a collective and distributed formation. By contrast, the novella remains intimate, at times even solipsistic. This is not meant to be read as a failure but as an invitation to supply what the text withholds: the broader landscape of labor, infrastructure, and corporate accountability against which Kayleigh's letter is only one distorted signal among many.

References

Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Durham: Duke University Press.

Berlant, L. (2011). *Cruel Optimism*. Durham: Duke University Press.

Bervoets, H. (2022). *We had to remove this post*. (E. Rault, Transl.). London: Picador.

Buchanan, I. (2021). *Assemblage theory and method*. London: Bloomsbury Academic.

Castillo, E. (2025). *Moderation.* London: Atlantic Books Ltd., 2025.

Chatterjee, T., Gupta, A., & Thomas, P. N. (2025). To let content be or not be: Understanding the decision-making process of content moderators on social media platforms. *New Media & Society*, *0*(0).

De la Bellacasa, M.P. (2017). *Matters of Care. Speculative Ethics in More Than Human Worlds*. Minneapolis: University of Minnesota Press.

DeLanda, M. (2016). *Assemblage theory*. Edinburgh: Edinburgh University Press.

Deleuze, G., & Guattari, F. (1983). *Anti-Oedipus. Capitalism and Schizophrenia*. Minnesota: University of Minnesota Press.

Deleuze, G., & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia*. Minnesota: University of Minnesota Press. (Original work published in 1980).

Eneman, M., Ljungberg, J., Miranda, D., Urquhart, L., & Webster, W. (2025). The ontological shift in surveillance: Revisiting the "surveillant assemblage" in the age of facial recognition. *Surveillance & Society*, *23*(4), 1-7. https://doi.org/10.24908/ss.v23i4.20070

Freud, S. (1920). *Beyond the Pleasure Principle*. London: Hogarth.

Funk, J. B., Baldacci, H. B., Pasold, T., & Baumgardner, J. (2004). Violence exposure in real-life, video games, television, movies, and the internet: is there desensitization? *Journal of Adolescence*, *27*(1), 23-39. https://doi.org/10.1016/j.adolescence.2003.10.005

Gillespie, T. (2018). *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media.* New Haven: Yale University Press.

Greinacher, A., Derezza-Greeven, C., Herzog, W., & Nikendei, C. (2019). Secondary Traumatization in first responders: A systematic review. *European Journal of Psychotraumatology, 10*(1), Article 1562840. https://doi.org/10.1080/20008198.2018.1562840

Haggerty, K., & Ericson, R. (2000). The Surveillant Assemblage. *British Journal of Sociology*, *51*(4), 605-622.

Herman, J. L. (1992). *Trauma and recovery.* New York: Basic Books.

Kleinman, A. (2012). 'Intra-actions' (Interview with Karen Barad). Mousse *34*, 76-81. Retrieved from https://breathingwith.multiplace.org/_media/intra-actions_interview_of_karen_barad.pdf

LaCapra, D. (2001). *Writing History, Writing Trauma*. Baltimore: Johns Hopkins University Press.

Latour, B. (1987). *Science in Action.* Cambridge, MA: Harvard University Press.

Lenz Taguchi H. (2010). *Going beyond the theory/practice divide in early childhood education: Introducing an intra-active pedagogy*. London: Routledge.

Leonardi PM. (2013). Theoretical foundations for the study of sociomateriality. *Information and Organization*, *23*(1): 59-76. https://doi.org/10.1016/j.infoandorg.2013.02.002

Leskin, P. (2019, October 1). *Mark Zuckerberg calls reports about Facebook content moderators ‚a little overdramatic,' leaked audio reveals*. Business Insider. Retrieved from https://www.businessinsider.com/mark-zuckerberg-calls-facebook-content-moderator-reports-overdramatic-leaked-audio-2019-10

Luckhurst, R. (2008). *The Trauma Question*. London: Routledge.

McFarlane, C., & Anderson, B. (2011). Thinking with assemblage. *Area, 43*(2), 162-164.

Neely, M. (2026). Conceptualising the digital "subject": A Deleuzoguattarian framing of social media, desire and becoming in psychotherapeutic assemblages. *Theory & Psychology*, *36*(1), 3-27.

Nichterlein, M. (2018). Putting the Deleuzian machine to work in psychology. *Annual Review of Critical Psychology*, *14*(7), 7-19.

Ohls, H. (2022). The artwork as assemblage: New materialist perspectives on aesthetics. *Revista de Estudios Globales y Arte Contemporáneo*, *8*(1), 156–184.

Roberts, S. (2019). *Behind the Screen. Content Moderation in the Shadows of Social Media.* New Haven: Yale University Press.

Spence, R., Bifulco, A., Bradbury, P., Martellozzo, E., & DeMarco, J. (2023). The psychological impacts of content moderation on content moderators: A qualitative study. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 17*(4), Article 8. https://doi.org/10.5817/CP2023-4-8

Warfield K. (2016). Making the cut: An agential realist examination of selfies and touch. *Social Media + Society*, April-June, 1-10. https://doi.org/10.1177/2056305116641706

ТЕХНОЛОГИИ И СОЦИАЛИСТИЧЕСКИ РЕАЛИЗЪМ В РОМАНА „ПОКРИВЪТ“ ОТ ГЕОРГИ МАРКОВ

Дияна Боева

TECHNOLOGIES AND SOCIALIST REALISM IN THE NOVEL *THE ROOF* BY GEORGI MARKOV

Diyana Boeva[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/KZYR8437

Abstract: *In his novel The Roof („Покривът“) Georgi Markov reproduces with fictional, and documentary means the role of the technologies during the 1960s in Bulgaria. Markov's first literary works were within the artistic frame of socialist realism but in The Roof he breaks with the ideological cliches. The writer fails in deceiving the censorship, though; the falling farms, the motif of the stopped clocks and the big underground rumbling sound are a warning that any form of naiveté before a totalitarian system is detrimental for our lives. This article traces and comments on the processes and events led to the fatal crumbling of the roof in Markov's eponymous novel based on a true case related to the building of a new ward of the metallurgical plant "Lenin" in Pernik, which also crumbles. The article demonstrates that Markov's novel functions not only as a fictional reproduction of the tragedy in question but also as a reaction against the "permitted art" called and known as "socialist realism". More broadly, the novel emerges as a critique of the ideological and structural foundations of the socialist system, exposing the weaknesses and contradictions that socialist realism sought to conceal. In this sense, The Roof challenges the possibility of rehabilitating the existing social order through technological progress and instead points to the need to question the very structures on which that order is built.*

Key words: *technologies, socialist realism, totalitarian practices, Georgi Markov*

Романът „Покривът“ от Георги Марков излиза за първи през 2007 г., както отбелязва Светлозар Игов – четиридесет и четири години след своето написване (Igov, 2008). Книгата не е могла да бъде публикувана нито преди 1989 г., нито скоро след това. Причините могат да са различни:

1 Diyana Boeva is a doctoral student at *Konstantin Preslavsky* University of Shumen at the Department of History and Theory of Literature. The topic of her dissertation is "Georgi Markov in the Literary and Educational Discourse". She teaches Bulgarian language and literature at *Geo Milev* Language School, Dobrich. She is also the author of three novels forming a trilogy published by "Ergo" Publishing House, delineating the first modern Bulgarian trilogy in modern times: 1950s-1980s in *Letters for Origami* (2016); 1990s in *Innocents* (2020); and *The Freezing* (2023) related to the tumultuous events of Zhan-Videnov's winter of 1996 (all original titles are in Bulgarian). Email: 2419331007@shu.bg

Copyright © 2026 Diyana Boeva

Article history: Received: 6 May 2026; Edited: 10 May 2026; Revised: 24 June 2026; Accepted: 10 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

заводско-работническата проблематика не е на фокус вече, както по времето на соцреализма, и особено през 60-те години на XX век; партийните секретари, началниците, бригадирите, доносниците не са персонажи, които представляват интерес, както и взаимоотношенията, които разглежда Марков, не вълнуват особено много съвременния писател и читател; дълбинните нива на текста ни водят и към по-различни изводи: в книгата *покрив* няма, разклатени са устоите на *соцреализма*. Чисто технологичната укрепваща конструкция липсва – това се оказва добра метафора на срутващата се тоталитарна система, която писателят предвижда, че ще падне доста преди да се случи. Открит е въпросът защо толкова късно е издаден този роман. Фокусът на изобличителната му сила е видим: Марков ненавижда насилието над човека от страна на властта, ненавижда всяко насилие над свободата.

Първо, бих искала да отбележа няколко факта около ръкописа на романа. През 1990 г. Блага Димитрова разказва за своята случайна среща с Георги Марков в началото на 60-те години на XX век, както разбираме от бележките на Цвета Трифонова към романа „Покривът“ (Trifonova, 2007, pp. 318-319), в София, където писателят ѝ споделя, че заминава за ДМЗ „Ленин“, за да провери какво точно се случва там и да провери дали слуховете за страшната авария са верни. Блага Димитрова припомня факта, че Марков е инженер по образование и обича тази професия. Усетила е, че е дошъл неговият час – часът на инженера и писателя едновременно. На 8 февруари 1963 г. Георги Марков споделя пред своите колеги, че от година и половина работи върху един роман, свързан с падането на прокатения цех в ДМЗ „Ленин“ през 1959, май месец: „тогава аз бях командирован от Съюза на писателите в Димитрово и присъствах, бях свидетел на това нещастие“ (Markov, 2022, p. 19). В началото на 60-те Марков вече пише своя роман, а в самия край на 50-те е в командировка на мястото на трагедията. Цвета Трифонова (p. 318) и Светлозар Игов (Igov, 2008) твърдят, че първоначалният вариант на романа със заглавие „Великият покрив“ е завършен и даден за печат през 1964 г. в издателство „Народна младеж“, но е бил отхвърлен. Мисля, че тази година е, предвид фактите, логична. От чужбина писателят продължава да редактира текста си, през 2007 г. романът вижда бял свят благодарение на неуморния труд и разчитането на записките на Георги Марков от страна на Цвета Трифонова. През 2021 г. в Държавния архив – Перник постъпват писма и документи, свързани с Георги Марков. Подарени са от негови наследници и представляват нецензурирани версии на авторските му творби от преди 1969 г. Сред документите има сценарии, повести; сред тях е и романът „Покривът“, разработен също така като сценарий (Georgieva, 2021).

Фокусът на настоящото изложение обаче е върху литературно-технологичното единство, което създава обща сплав от изобличителни метафори и динамика. Романът „Покривът“ е забранен през 60-те, защото излиза извън представите за соцреализъм и допустима „критика“ към обществените недъзи. Марков е дълбоко изобличителен, моделът му на

писане в „Покривът“ може да бъде сведен до структурните единици, които създава Хана Аренд в своето изследване „Тоталитаризмът“ (Arendt, 1993). Настоящата статия се опира и на тази изследователка, която ни напомня, че светът на реалността и истината зависи от нетоталитарното и човешкото. А за технологичните измерения на един строеж и покрив е нужна именно здрава връзка с реалността, свързана с добри изчисления от специалисти в областта.

Редно е да се подчертае, че в рамките на близо половин век мащабът на подчинение на изкуството и литературата на идеологическото начало у нас има различни измерения. Едвард Можейко в книгата си „Социалистическият реализъм. Теория. Развитие. Упадък“ (Mozheyko, 2009, p. 102) изтъква, че към понятието „социалистически реализъм“ спадат редица идеологически и естетически категории, за да може чрез този „творчески метод“ да се придаде значение на културната политика, която се задвижва от държавната машина. Категориите са: *партийност, типичност, въпросът за положителния герой, романтичността и народността* (p. 102). Тези характеристики водят до същинско наводнение от схематични образи, а колективното начало в литературата – до житейски неправдоподобни герои, включително и в българската литература.

Както следващите страници ще покажат, Марков създава нюансирана и (не)правдоподобна творба извън догматизма на соцреалзма. Интересно е твърдението на Можейко, че социалистическият реализъм получава живот по административен път, за да упражни натиск върху твореца (p. 32). Логичен е въпросът може ли да се роди нещо стойностно в сферата на изкуството и литературата чрез натрапения „творчески метод“. Освен „нахалната правилна литература“, както казва Целина Юда (Yuda, 2006, p. 309), която литература Можейко нарича „социалистически натурализъм“ (Mozheyko, 2009, p. 208), е възможно да се открият и други произведения от различни области и жанрове, но те остават премълчани и/ или се маргинализират, или са неразбрани от цензурата, затова и са допуснати тогава. Това обаче не се отнася за „Покривът“ от Георги Марков – книга, която цензурата спира от печат.

След като разбира, че няма да има роман за убиеца покрив, Марков решава да направи филм по името на „Великият покрив“, както е първоначалното заглавие. За този момент намираме свидетелство в репортажа със същото заглавие, където писателят споделя, че книгата му е оставена за други времена, но с режисьора Вили Цанков се заемат да създадат филмова продукция. Впоследствие и това се проваля. Ефектът на падащите ферми действително е щял да произведе небивало въздействие, епическият мащаб е можело да излезе на преден план, а камерното усещане за работника от новия свят, свързан с човешкия ужас пред жестоката смърт, е нямало как да не въздейства. Затова и познат началник на Марков, който е от идеологическо ведомство, му казва:

> Представяш ли си какъв ефект ще имат тези падащи ферми на кино! Това ще бъде филм на разрушението, това ще бъде и алегория, и документ на разрухата, защото не само фермите падат! И да се снима този филм, никога няма да бъде пуснат (Markov, 2016, p. 317).

За визуалната сила на репрезентативната архитектура в художествената литература и нейната символика ни напомня и Христо Боев в статията си за ролята на небостъргача при Джон Дос Пасос (Boev, 2016, pp. 26–36). Макар и небостъргачите в това произведение на видния американски модернист да не падат, те потискат индивида със своята устременост към небето и горда непобедимост – символ на триумфиращия ранен капитализъм. При Марков индивидът е буквално смачкан от провалилия се нов строй, който обещава равенство на всички и който символично се срутва отгоре.

Очевидно властта се страхува от визуалната интерпретация на романа, както и от самия текст. Технологията на падането би събудила страх и усещане за край. А никоя власт, преди и сега, не желае да мисли за своя край. Инженерната мисъл на Марков изобретателно пресъздава всякакви технически детайли, видимостта на книгата е ярка и без филмова версия, защото технологичното начало превръща *литературата в нелитература* – това е модерното постижение на Марков, и то към днешна дата. Животът е пълнокръвен, но не по законите на соцреализма; механиката и всякакви детайли от производството се оказват по-истински. А всевъзможните инструменти в ръцете на работниците, монтажниците, елтехниците са тяхната истинска сила. Именно възможността на Марков да вмъква технически детайли в писането си и да се придържа към *технологичното* начало го превръща в свободен писател, а работниците – в хора, от които нещо някъде зависи. Да строиш покрив и да умреш под развалините, се свързва с нечий цинизъм, отсъства всякаква *романтика*, ако се позовем на критиката на Можейко и стиховете на Вапцаров за строителството.

Един от персонажите в романа „Покривът“ – фанатикът Иван Донков, иска да строи, а всъщност постоянно руши. Писателят образцово разгръща символиката на покрива в романа, като разказва и за юношеските години на Донков: когато съучениците му го заплюват в двора на училището по команда на директора, настъпва суматоха, всички започват да гледат *покрива* на гимназията, където се вее „малко червено знаме“ (Markov, 2007, p. 58). В духа на своето време романът е и психологически; повествователната позиция на Марков е свързана с желанието да разбере причините за постъпките на своите герои – дори на фанатика Донков. В онзи момент на заплюване героят произнася единствено: „Ще се измия“ (p. 58). Червеното знаме „стои“ над Донков, когато излиза от затвора след 9-ти септември 1945, а първото нещо, което прави, е да намери директора и да го разстреля насред ливадите.

Донков не е само жертва на системата, той е жертва на собствения си избор и безчовечно отношение към другите. Марков не просто отрича и

изобличава жестокостта на тоталитарния свят, а разказва за начина, по който човек успява, или не, да се справи с трудни и невъзможни обстоятелства. Въпреки че писателят се старае да е дистанциран разказвач, ясно се вижда разграничението, което прави: едно е заплюване в лицето, друго е разстрел насред ливадите. Директорът на училището не само е убит, той е хвърлен в запустелия кладенец, който Донков смята, че трябва да се напълни с вода догоре. Очевидно в очите на фанатика една смърт за директора на някогашната гимназия е недостатъчна. Донков не забелязва опасностите по строежа. Някога е искал да върши нещо, защото е измъчван от самотата си, сеща се за Димшин, който е строителен инженер, и решава да се занимава като него със строителство:

> Ще строя! – каза им той. – И ще строя така, както никой не е строил! Беше толкова чистосърдечен, че му разрешиха. Една година курсове, малко стаж и му дадоха ръководството на един малък строеж (p. 118).

Очевидно е, че Донков няма голяма подготовка да бъде началник на строеж, на който ще отговаря за две хиляди души: техници, инженери, работници. Тоталитарната власт изпитва презрение към фактите и реалността (Arendt, 1993, p. 113), а дейността на специалистите, разбиращи от нещо конкретно, се явява излишна – строителният инженер Димшин е отстранен чрез доноси; подчертава се, че най-старият строителен инженер на строежа е Тошков, завършил след Първата световна война. Чрез вярност към партията всеки може да израства в кариерата си – това е и предпочитана тема за Марков, зададена още в „Покривът". Когато се застъпват пред Донков за един лекар, фанатикът започва да крещи неистово, че не им трябват *специалисти*, а ако има нужда да бъдат спасявани от такива като лекаря, по-добре „да мрем". *Партийността* е не просто изобличена, тя е сведена до гротеска.

Логиката на бившия концлагерист Луко, който работи на строежа, е изразена така: „Всеки си има своя биография" (p. 111), т.е. нищо не започва съвсем отначало, колкото и да му се иска на Донков. Самият Димшин има усещане за време: изплува споменът за баща му и майка му; седемте години лагер, животът преди и след това – строителният инженер има и свое „днес". Очевидно не е толкова лесно да се създаде човек без памет, дори с жестокост. Александрийски ридае за хората след падането на покрива – нищо, че е с класов произход, защото баща му е имал пари. Марков описва хора, свързани с конкретното време, в което живее самият той, чрез тях напомня, че обикновеното и жизнеутвърждаващото са повече от която и да е идеология или система. Технологично невъзможно е да се случи: небето няма как да бъде покрито с „моя" покрив.

Хана Аренд казва, че тоталитарните идеологии целят не само преобразуване на външния свят, не и революция в обществото, а промяна на самата човешка природа, както и на хода на времето (Arendt, 1993, p.

210). Донков твърди, че неговата задача е да разрушава, а после другите да градят отново с други материали – той иска да зачерква историята, имената, календарите, да сменя летоброенето, вековете, ерата дори, очевидно вижда цялата планета като бъдеща територия на собствените си безумни идеи: „И Донков си казваше: трябва да сменим и есента, и облаците, и дъжда!“ (Markov, 2007, p. 59). Есента се оказва същата. Това е разочароващо за всеки фанатик. Строежът в „Покривът“ е плод на тоталитарната убеденост, че *всичко е възможно* (Arendt, 1993, p. 210).

Затова и за Донков другите са еднакво ненужни освен ако не строят под негова команда. Като антитеза на убедеността на Донков са думите на Мишката: „Ако нещо е на Донков, то е измама и не може нищо да покрие“ (Markov, 2007, p. 76). Или онова, което казва Батев: “Свършихме този покрив – повтаря Батев, – все едно покрихме небето!“ (p. 40). По същество Марков изобличава всички тези фиксации на *донковците* около себе си, но и доказва, че към тоталитаризма човек не може да се отнася простодушно и наивно, защото това би му коствало живота. Донков презрително отказва помощ и съвет за строежа, не желае да чуе мнение, свързано с безопасността на работата. Защото в условия на тоталитаризъм мненията и убежденията се оказват ненужни, а човек с характер и свое отношение към случващото се е заплаха за системата (p. 208). Тоталитарното управление е в безопасност, докато успява да *мобилизира индивидуалната сила на волята на хората* с цел доброволно да се включват в гигантското движение на историята или природата (Arendt, 1993, pp. 231-232). Човекът се използва за материал – не се признава раждането и смъртта; работниците в романа пристигат в малкия планински град и променят бита и хода на живота на местните, новите строители идват с поръчения да строят и преизпълняват нормата.

Само че Димшин пристига доброволно, със свое минало и спомени – това е съмнително за тоталитарната власт. Бившият партизанин Димшин вече има здрава връзка с действителността, защото е разбрал истината, откроил е лъжите на Донков. На Киро Невестата всичко му се вижда прекалено и си тръгва; работници „изчезват“ в тъмното след падането на покрива, Бъчвето също иска „да си вдига чуковете“ (p. 128), както се изразява самият той. Димшин пристига. Това „идване“ и „напускане“ в романа създава допълнителна динамика в книгата и още едно ниво на възприемане. То кара читателя да се запита възможно ли е бягство от тоталитарно устроения свят, от предварително зададеното, което се очаква от човека *типаж*. На седми обект, чийто ръководител отсъства, половината от хората изчезват в тъмнината. Към това се добавят смълчаването и огънчетата на цигарите на инженери и техници, които се чудят как да доложат за ставащото. Като че не загубата на човешки живот е от значение, а изчезналите от страх работници.

Ако персонифицираме покрива на строежа, можем да кажем, че и той „си тръгва“, но „скалите останаха“ (p. 128) – допълва повествователят. На моменти Марков използва и *поток на съзнанието* като техника на

разказване; антитезисното противопоставяне задава противоречието и безсмислието в човешкия живот. Именно в един такъв момент се появява описание на гледка от прозореца, от която се вижда внушителен ъгъл на покрива, от който сякаш стърчат скалите като естествено негово продължение. За Донков не е ясно защо покривът *не остава*, въпреки че е негов, както и не разбира защо Димшин *се връща* доброволно на строежа, след като се е опитал да го унищожи и унижи докрай.

Марков не спазва *изискванията* за положителен и отрицателен герой – представени са различни социални прослойки хора, които имат свои въпроси, често звучащи екзистенциално. Персонажите не искат да сменят обществения строй, партията не се критикува директно, но *смъртта* под покрива е ужасяващ факт. Не се вижда открито гражданско съзнание: няма как обаче да прочетем за безобразията на Донков и себеподобните му и да не се запитаме, докога и защо може да се търпи унижението над човешката личност. Още през 60-те години на XX век Марков описва едно загниващо общество, писателят звучи и *социално*. Според Светлозар Игов „Покривът" впечатлява със своята концептуална зрялост да погледне по нов начин една идеологизирана преди това социална проблематика („Два нови стари романа").

Хората в тоталитарния свят биват подготвяни за господство чрез *чувството за самотност* (Arendt, p. 237): строителният инженер Димшин е сам; Надежда е сама в своите грешки спрямо Димшин, когото обича. В своето безумие Донков също е сам. Вече споменах, че Марков описва как „изчезват" работници в тъмното – от страх и невъзможност да се справят с разрухата, дошла от небето, те си тръгват от строежа незабележимо сами. Важна подробност е, че тоталитаризмът *свива пространствата*, премахва желанието за уединение, което човек пожелава понякога лично (p. 237). На строежа животът е общ (това също е вид принуда и самота), защото работници, инженери, бригадири и партийни кадри имат една цел – покрива, чиято сянка дебне отвсякъде. Няма как в роман, замислен в традициите на соцреализма (въпреки че ги надхвърля), да не присъства идеята за *колектива*. Заедно в работата, заедно и в смъртта – цялата бригада на Харизана пропада надолу. Само Калоян успява да се измъкне от моменталната хватка на смъртта, той се намира най-накрая и гледа след жена си, която се отдалечава. Онзи, който мисли за човешки неща, не е споходен от ненадейна смърт, той има възможност и да прояви своя рефлекс, да се опита да се измъкне. Оказва се, че *обикновените мисли* са бдителност към живота и смисъла му.

Киро Невестата слиза от покрива и падането започва. Така както е при Димитър Димов, и при Марков се усещат производствените моменти: Киро е смазан „защото се чувства много виновен, че единствен от всички е останал жив" (Markov, 2007, p. 124). Показва се, че това групово дело е важно, а и всички са част от нещо голямо, истинско, за което „другите" едва ли не дават живота си. Марков прави компромиси, защото знае на какво ще бъде подложена

книгата му. Никакви производствени клишета не успяват да заблудят цензурата: не му вярват, че описва жертвоготовността на социалистическия човек, защото не го прави напълно – по-скоро задава *самотата му под натиск*, неговата унесеност, желанието, но и невъзможността му да живее както иска. Израз на най-голямата самота, но и на съпричастност, е сцената с пострадалия на строежа монтажник Луко, когото Димшин взема на ръце и се опитва да спаси, като го носи към лазарета. В съзнанието му изплуват думите на Луко, че горе на строежа е „по-лошо от Ге-девет", че началството има срокове и с години ще им изкарва душите. Оказва се, че няма да е с години. Тоталитарна е убедеността, че всичко е възможно – в това силно вярва Донков, затова и издевателства над подчинените си.

Натуралистичната сцена показва какво е останало от Луко, след като е премазан от покрива: „Кръв, бетон и желязо са се смесили така, че не е възможно това да бъде тяло на човек. Щръкналите счупени ребра продължават да стърчат." (p. 174) – несъмнено графично зловещо пресъздаване на безформено разрушение, в което разрушената сграда се проектира в унищожението на строителите ѝ. Носейки на ръце Луко, Димшин ретроспективно отключва в съзнанието си спомена – момента, в който инженерът е предложил на Луко да го премести. Бившият концлагерист отговаря на Димшин, който също е „бивш", че са гледани под лупа, че му е неудобно пред момчетата. Димшин измива тялото на мъртвеца с памук със спирт, спира се на малките му гърди. Като на кинолента се връщат думите на Луко за онова „там", от което той не помни много, докато е било ден, но ясно си дава сметка за нощите. Неслучайно Хана Аренд твърди, че концлагерът е лаборатория за изпитване на измененията в човешката природа, че това е срам за цялото човечество, както и за господстващите над хората (Arendt, 1993, p. 210). Димшин и Луко се спасяват от този експеримент „отвъд злото", а у самия Луко остава съмнението: „А бе, невинен си бил, невинен, но кой те знае! Па може и да е било истина!" (Markov, 2007, p. 174). Луко се чувства белязан, има усещането, че трябва да работи непосилно и повече от другите, за да докаже, че няма вина. Сринати са границите на човешкото, а самият Луко, докато е жив, започва да се пита дали случайно не е виновен за нещо.

Може да се припомни древногръцкият мит за сина на изобретателя Дедал. Икар си направил криле от пера и восък, пренебрегнал и предупреждението на баща си да не лети високо. Икар се издига към слънцето, което разтапя восъка, и той пада в морето. Човешкият устрем и мечтателност в историята могат да бъдат заменени от безумие и липса на въздържаност, но в тоталитарния свят стремежът нагоре е доказателство за власт, не за полет. Предупреждението за предстоящото срутване е като пукнатината по една от фермите, която Марков чисто графично отбелязва така: ПЪРВА ПУКНАТИНА! (Markov, 2007, p. 78). Това е реално предупреждение, че нещо ще се случи, че предстои катастрофа. Ясно е, че

няма как работници и монтажници, веднъж започнали по заповед строежа на покрива, да спрат изграждането му. Действителността е изменена дотам, че реалното е спряло да има значение. Никакви факти не могат да откажат Донков от собствения му строеж. Следва обяснението за пукнатината в бетона:

> Фермата бавно и сигурно започва да се огъва, нищо не може да възстанови смазаните сили на равновесието. Пръв оберлихтът, който стърчи два метра над покрива, потръпва, после един от средните панели започва леко да поддава и нова, вече видима, много тънка пукнатина се появява в бетона... (р. 78).

В случая процесът на разпад е забавен, но и необратим, подобно на противоестественото в живота. Натискът върху бетона, човека и машината е част от ненадейното сгромолясване: бетонът е натрошен, гърдите на Луко са разбити, а част от все още здравите машини под покрива трябва да бъдат спасени. Като изключим Димшин, всички, от които зависи, отказват да забележат предупреждението – *пукнатината*. Голяма е радостта на онези, които се фотографират и се катерят надолу-нагоре, опиянени, че са част от нещо безспорно и голямо. Открива се почти трагическата ирония на писателя, което напомня, че освен автор на фантастика, новели и разкази, Марков е и драматург.

Чисто стилистично в романа могат да се открият абзаци в близост, които са антитезисно представени или диалогично си противоречат, или иронията се допълва с отрицанието на покрива на Донков. Мишката си мисли, че не може да е вярно: този покрив не е на Донков, защото той не може нищо да покрие. Работникът се съмнява, мисли си, че всичко е измама, и се оказва прав. Следват описания с театрален привкус, чрез които Марков представя елегантния фотожурналист, дошъл да снима с огромния си обектив строителите. Моната е застанал в поза на мечтател, Киро Сома се смее широко, Толчо е вдигнал щанга и чук. Очевидно е, че грешка при разпределяне на славата не трябва да има (р. 77). Всички тези драматургични похвати забавят действието, носят напрежение. Става ясно, че тази пукнатина във фермата е само начало на нещастието, което предстои. Трагическата ирония се засилва още повече чрез незнанието на работниците, които са жертви – независимо дали са под руините, или понасят загубата на своите другари. След като фотографът изрича: „Внимание!“, Мишката се чувства чужд на чудесния покрив, усеща фалша, като че някой иска да изведе напред нещо нездраво (р. 77). Байчо говори за новата си къща с Асен и Петър. Става ясно, че електротехниците са от съседните села, до преди година-две са пасли наоколо говеда, а Валентин, най-добрият електротехник, ги е научил на занаят. Никой, нито горе на строежа, нито долу, не забелязва очевидните изменения на фермата. Следва последен миг – двете стрелки лягат една върху друга. След това рязко се сменя темпоралният пласт, забавянето продължава с разказ за Надежда.

Марков владее различни наративни и драматургични техники, чрез които не просто пресъздава ситуации, а на структурно ниво показва човешкото колебание. Забавя и смъртта в разказа, която в никакъв случай не е романтична. (За разлика от филма „На всеки километър“, където смъртта е по необходимост романтична, но впоследствие името на Георги Марков е изличено от сценария.) Последната ферма не издържа на натиска, гигантското тяло се пречупва, всичко започва да пада, срутва се. Донков не може да повярва, че покривът му се е срутил – полудява, мисли, че някой тайно го саботира и иска да вземе онова, което му принадлежи: славата за строежа на нещо толкова велико в неговите очи. Донков живее без съвест, след като разстрелва директора на училището, в което е учил. Мисълта му е откъсната от логичното и човешкото. Включени в гигантското движение на работниците и историята, бившите селяни и обикновени мирни хора намират смъртта си под руините заради фалшиви каузи, в които са се опитвали да вярват по различни причини: най-често им се обещава по-добър и материално устроен живот с парите, които ще спечелят от строежа. Оказва се, че това е невъзможно.

В съзнанието на Димшин изплува първата постройка, която е създал: новата сграда от червени тухли е стърчала над старата капиталистическа фабрика (p. 65). Тънка е иронията на Марков: комунистите искат всичко, което създават, да е голямо и високо, за да се забелязва. Повествователят пресъздава разпита на Димшин, преди да влезе в лагера: „Какво ще кажеш за твоята вражеска и антипартийна дейност?“. „Аз строих!“ „Ти си строил, за да ни измамиш. Какви са били твоите истински планове?” „Да строя“. „Лъжеш!“ (p. 65). Следват седем години лагер, докато се разбере „грешката“, която е допусната, а Димшин се опитва да проумее лъжите на Донков. Инженерът не може да повярва, че е живял в грешка, че се е жертвал напразно за партията, че признанието му за нещо, което не е извършил, е безсмислено. Тази чудовищна изобретателност на тоталитарното се дължи на отстраняването от действителността, на неприемане на очевидното. Хана Аренд говори дори за презрение към всякакви факти (Arendt, 1933, p. 119). Затова обикновената човешка реалност зависи от нетоталитарния свят – зависи едновременно от наивността и издръжливостта на Димшин, от неговата почуда, че са успели да го излъжат, но не и да го смачкат, т.е. преживяното и паметта имат смисъл. Цинизмът на мъчителите на Димшин е показан чрез подлите усмивки, които се виждат при освобождаването му – оказва се, че затворниците и надзирателите имат една и съща усмивка. В романа „Покривът“ героят Димшин, излизайки от затвора, ясно усеща, че е бил в клопка – че е *ничий*. Бившият партизанин е личност със свои преживявания и заблуди.

Облечен за първи път от седем години с костюм, инженерът започва своя безцелен ход по софийските улици. Почти като същински фланьор установява, че градът е истински – мръсен и с новогодишна украса, с Дядо Мраз, който на моменти е все още Дядо Коледа. Появява се идеята

за *спрялото време* и *спрелите часовници*, по подобен начин е озаглавен един от репортажите на Марков: „Когато часовниците са спрели“ (Markov, 2019, p. 38). Димшин си задава въпроса дали онова, което му се е случило, е действителност, има ли го Донков всъщност? Реалността е „спасена“ именно от инженера, на когото му трябва време да проумее и осмисли случващото се. Въпросите без отговори са връзката на човека с реалното, а технологичното начало се явява част от тази реалност, защото Димшин е специалистът, който прозира, че покривът вещае смърт.

Повествователят симпатизира на инженера, изградил е прототипа му някъде по обектите, където е работил. Марков се противопоставя на сляпата вяра на Димшин в партията и комунистите, които се опитват да му отнемат волята за живот и избора чрез лъжи и манипулации. Марин Димшин се отскубва от този капан, когато започва да мисли за света такъв, какъвто е, а не такъв, какъвто някой му го представя. Малко след това пада и покривът, материалната разруха е алегория на необратимото. Като контрапункт на разрухата Димшин е описан като физически здрав и огромен човек, в романа е сравняван с мечка. За сметка на това Донков е дребен на ръст и пропит от злоба с желанието си да унищожава всичко, което не разбира или което му се вижда съмнително. Не е случайно, че Марков избира атмосферата на София за отрезвяването на Димшин, който вече е на свобода. Този голям град, за разлика от малкото планинско градче, където се строи покривът, не може да бъде променен напълно – имената на улиците могат да бъдат преименувани, но все още се вижда Дядо Коледа вместо Дядо Мраз. Авторът е правдив, „старото“ все още не е разрушено напълно: има хора, завършили след Първата световна война, самият Димшин е с буржоазни обноски. Марин Димшин среща хора, които му съчувстват за несправедливостта, сервира му човек с маниери от „преди“, Марков го нарича „старият опитен келнер“ (Markov, 2007, p. 105). Доста по-късно подобни и други софийски щрихи ще пресъздаде Павел Вежинов в „Нощем с белите коне“ и „Бариерата“, които показват картината на социалистическа София в художествената литература. В „Покривът“, далеч от фалшивата технология за строеж на Донков, животът тече приемливо. Но Димшин решава да провери себе си, да изпита реалността – връща се на строежа. В романа „Покривът“ Димшин оцелява: и в лагера, и на строежа при Донков. Не бихме могли да кажем, че този герой е носител на новото, по-скоро осъзнава в каква реалност живее и по този начин започва да я „руши“ несъзнателно, след като иска да се върне към себе си. Димшин е човек на своето време, той се опитва да се впише в правилата на една система, но неуспешно. В биографичен план и Марков не успява. Реалността на строежа е от значение за истината. Димшин започва да се страхува за покрива (и за хората под него), за бързината, с която расте, обръща се към Донков: „Мен ме е страх за този твой покрив! Пак ще излезе грешка!“ (Markov, 2007, p. 104).

В романа, заедно с мотива за *спрелите часовници*, се открива образът на *празното пространство*. Повтарящото се и идващо отново време се свързва с факта, че нищо не остава, че невидима гъба изтрива всички човешки стремежи и амбиции, само щастието вероятно не може да се изличи (p. 40). Спомените, събитията, намеренията се отдалечават, идва питането: „Кой съм аз?“ (p. 108). Запомняща се е картината на облечения в леглото си и очакващ по среднощ да го вземат учител Димшин, бащата на Марин. Приближаващото зло е описано сензитивно, преживяното от бащата и сина се слива, вечният страх отстъпва мястото си на *празното пространство* (p. 70).

„Покривът“ обвързва литературата с технологичното начало от 60-те години на XX век, има и етично-екзистенциални измерения; репортажното начало в него е примесено с идеята за смисъла на човешкото съществуване. Личността е видяна като част от автономността на житейския път, който всеки би трябвало да избира сам. Останалото, внушава повествователят, е разруха, всяко нещо, което иска да закрие небето – пада; стремежът за тотална власт над другите – се проваля; никой не може да спре хората от обекта да се разбягат след падането на покрива, да потънат в мрака или просто да се запилеят някъде. Както никой не успява да попречи на Димшин да се върне на строежа, да се опита да предотврати поредното безумие на Донков, който излага на опасност стотици хора. Видима е връзката на романа с аспекти от разказа „Голямото подземно бучене“ (Markov, 2017, pp. 172-174) от Георги Марков. Отделните сатирични моменти от „Покривът“ са развити по-обстойно в кратката повествователна форма. В романа се появява мотивът за *бученето*. Инженерът Марин Димшин се оплаква, че в главата му винаги нещо *бучи*, мисли си, че е временно, но се оказва, че не е (Markov, 2007, p. 67). Допуска, че е, защото не може да свикне с обстановката след лагера. Голямо е недоумението му от факта, че вижда света отново такъв, какъвто е; че няма нужда да насилва волята и сетивата си, за да изтърпи наказание за нещо, което не е извършил. Димшин не бяга от противоречията си, затова чува *бучене*.

В „Голямото подземно бучено“ биткаджиите, както ги нарича повествователят, са в недрата на земята (Markov, 2017, p. 115), в рудника. Драгин – шефът на техническата безопасност в рудника, предупреждава също както Димшин за възможна злополука. Началникът му, подобно на Донков, иска да преизпълни плана. Бученето на реката се увеличава, работниците разбират, че могат да се издавят, и напускат рудника – остават Филипов и Драгин да запушат пробойната. Дори шефът им се усмихва хитро от отвън. Убеждението му е, че всеки може да бъде погубен в името на преизпълнението на плана, а и това било фронт, без жертви не можело, твърди началникът на рудника (Markov, 2017, p. 135). Идеята за излишния човек, който лесно може да се замени с някого другиго, е заложена и в „Покривът“, тя е част от разбиранията на номенклатурчика началник. За този цинизъм свидетелства и краят на „Голямото подземно бучене“ – след като се е разминала злополуката (за разлика от „Покривът“), Драгин се обръща

към началника с думите, че вече проходката в мината трябва да спре, за да не се появи пак *бученето* от водата. Шефът му отвръща, че са глътнали малко водица и че утре продължават, защото: „Водата си е вода, оловото си е олово!“ (Markov, 2017, p. 173).

Както тази статия недвусмислено показва, романът на Георги Марков „Покривът“ не се вписва в изискванията на санкционираното от държавата изкуство, наречено социалистически реализъм, или по-скоро може да се каже, че се вписва в това, което социалистическият реализъм отказва да отрази реално, а именно – гнилите устои, върху които е построен социализмът. В това си качество романът на Марков е критика към режима и наложения социален строй и не предлага възможности за рехабилитация на този режим в обсесията му по строителните технологии. Романът е критика на самата структура на държавата, посочвайки кои са нейните болезнени точки. Възможната нейна реформация не би могла да се опира повече на това, което предлага социализмът.

References

Arendt, H. (1993). *Totalitarizmat.* Prev. ot angl. Irina Vaseva. Sofia: Panorama. [Аренд, Х. *Тоталитаризмът.* Прев. от англ. Ирина Васева. София: Панорама, 1993.]

Boev, H. (2016). Changing Modernity: Religion and the High Rise as Markers of Cultural Identity in Works by Dickens and Dos Passos. *University of Bucharest Review: Literary and Cultural Series (1),* 26-39.

BTA. (2021). *Tsenni rakopisi na Georgi Markov ot bulgarskiya mu period sa veche v Darzhaven arhiv – Pernik* [БТА. Ценни ръкописи на Георги Марков от българския му период са вече в Държавен архив – Перник, 2021.] [Video file] https://www.youtube.com/watch?v=keVsC2BaM9s

Igov, S. (2008). Dva novi stari romana: Pokrivat ili kak nadstroykata se sgromolyasva varhu bazata. *LiterNet, 03.04.2008, 4 (101).* [Игов, С. Два нови стари романа: Покривът или как надстройката се сгромолясва върху базата. *LiterNet, 03.04.2008, 4 (101).*] https://liternet.bg/publish/sigov/dva.htm

Markov, G. (2019). *Eseta: chast 4. Kolektivniyat falsh.* Sofia: Riva. [Марков, Г. *Есета: част 4. Колективният фалш.* София: Рива, 2019.]

Markov, G. (2007). *Pokrivat.* Sofia: Siela. [Марков, Г. *Покривът*. София: Сиела, 2007.]

Markov, G. (2016). *Zadochni reportazhi za zadochna Bulgaria: Tom 1.* Sofia: Siela. [Марков, Г. *Задочни репортажи за задочна България: Том 1.* София: Сиела, 2016.]

Markov, G. (2017). *Zhenite na Varshava: Razkazi i noveli.* Sofia: Siela. [Марков, Г. *Жените на Варшава: Разкази и новели*. София: Сиела, 2017.]

Markov, L. (2019). *Az byah toy. Pisma i dokumenti za sadbata i tvorchestvoto na Georgi Markov.* Sast. Lyuben Markov. Sofia: Siela. [*Аз бях той. Писма и документи за съдбата и творчеството на Георги Марков.* Съст. Любен Марков. София: Сиела, 2019.]

Mozheyko, E. (2009). *Sotsialisticheskiyat realizam. Teoriya. Razvitie. Upadak.* Prev. ot polski Kamen Rikev. Sofia: Univ. izdatelstvo „Sv. Kliment Ohridski“. [Можейко, Е. *Социалистическият реализъм. Теория. Развитие. Упадък*. Прев. от полски Камен Рикев. София: Унив. издателство „Св. Климент Охридски“, 2009.]

Trifonova, Ts. (2007). *Belezhki kam „Pokrivat“*. Sofia: Siela [Трифонова, Ц. *Бележки към „Покривът“*. София: Сиела, 2007.]

Vezhinov, P. (2025). *Barierata.* Sofia: Siela. [Вежинов, П. *Бариерата*. София: Сиела, 2025.]

Vezhinov, P. (2024). *Noshtem s belite kone.* Sofia: Siela. [Вежинов, П. *Нощем с белите коне.* София: Сиела, 2024.]

Yuda, Ts. (2006). *Pod znaka na NRB. Bulgarskata literatura i kultura v kapana na ideologiyata.* Sofia: Kolibri. [Юда, Ц. *Под знака на НРБ. Българската литература и култура в капана на идеологията*. София: Колибри, 2006.]

MYTHO-POETIC NARRATIVES IN THE DIGITAL AGE

Alina Cosma[1], University of Bucharest, Romania

https://doi.org/10.46687/WGJD2526

Abstract: *This article examines how Georgi Gospodinov reimagines myth within a contemporary horizon shaped by technological mediation and digital memory. Through close readings of* The Physics of Sorrow *(2015),* Time Shelter *(2022), and* Natural Novel *(2005), the study traces the ways in which Gospodinov transforms ancient mythic patterns – such as the labyrinth, the Minotaur, and the myth of return – into vehicles for exploring the fragmented temporality and existential dislocation characteristic of the post-digital age. His narratives engage with technological forms not directly through devices or virtual worlds, but through an aesthetics of discontinuity and multiplicity that mirrors digital modes of storytelling while sustaining a distinctly mytho-poetic vision of the human condition.*

The analysis bridges three intersecting dimensions: literature, through attention to Gospodinov's narrative architecture and his poetic recovery of myth as an imaginative structure; technology, as an underlying paradigm that informs the experience of time, memory, and mediation; and myth, understood as a cultural code continuously reactivated and reconfigured within modernity. Drawing on mythocritical perspectives – particularly on the work of Gilbert Durand and Pierre Brunel – alongside Aleida Assmann's theory of cultural memory, the study situates Gospodinov's fiction within a broader theoretical debate (?) about the persistence of symbolic structures under conditions of cultural fragmentation. In this light, Gospodinov's work reveals how myth endures not as an archaic residue but as a dynamic mode of world-making. Ultimately, the article argues that his mytho-poetic reconfiguration of narrative illuminates the enduring human search for coherence, meaning, and continuity amid the dispersive experience of the digital age.

Keywords: *Georgi Gospodinov, myth, mytho-poetic vision, digital narrative, memory*

Introduction

In contemporary culture, increasingly shaped by processes of technological mediation, the experience of time and memory is characterized by fragmentation,

1 Alina Cosma is an assistant lecturer at the Faculty of Letters, the Department of Communication Sciences at the University of Bucharest, and a PhD(c) with a thesis titled (Dis)continuities and identity construction in the post-totalitarian space around the Black Sea, at the Doctoral School in Letters (Philology), University of Bucharest. She has published essays on cultural studies and communication, with focus on country branding, and attended national and international conferences and colloquia. Literature and traveling are her passion, project and lifestyle. Email: alina.cosma@litere.unibuc.ro

Copyright © 2026 Alina Cosma

Article history: Received: 17 May 2026; Edited: 20 May 2026; Revised: 18 June 2026; Accepted: 26 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

discontinuity, and multiplicity. Traditional forms of narrative coherence, grounded in linear temporality, are progressively replaced by dispersed and non-linear modes of representation, which reflect broader transformations in the organization of experience. In this sense, as Walter Benjamin suggests, the past no longer appears as a continuous sequence but as an image that "flashes up" in isolated moments of recognition (Benjamin, 1969, p. 255).

Within this context, myth does not disappear but undergoes a process of reconfiguration. Rather than functioning as a fixed narrative inherited from antiquity, myth persists as a flexible symbolic structure, capable of adapting to changing cultural conditions. Its continued presence in modern and contemporary literature indicates that mytho-poesis remains a relevant mode of articulating human experience, particularly in situations marked by instability and temporal dislocation.

The work of Georgi Gospodinov provides a significant case for examining this process. His narratives, especially *The Physics of Sorrow*, *Time Shelter*, and *Natural Novel*, are characterized by fragmentation, digression, and multiplicity while simultaneously reactivating mythic patterns such as the labyrinth, the Minotaur, and the motif of return. Although these texts do not directly engage with digital technologies, they reflect a narrative logic that corresponds to the structures of the digital age.

The aim of this article is to analyze how myth is reconfigured in Gospodinov's work in relation to contemporary forms of temporality and memory. Drawing on mythocritical approaches and on theoretical perspectives concerning narrative fragmentation, the study argues that mytho-poetic structures function as a means of generating coherence and meaning within a fragmented cultural landscape. This framework makes it possible to reconsider myth as a flexible and generative structure, capable of operating within discontinuous forms of memory and representation, and to account for the specific narrative logic that characterizes Gospodinov's work.

Myth, Memory, and Narrative Fragmentation

The present study is grounded in a mythocritical perspective that understands myth as a dynamic and reconfigurable structure of meaning rather than as a fixed narrative inherited from antiquity. Within this framework, myth functions as a system of symbolic patterns capable of adapting to different historical and cultural contexts while preserving a recognizable semantic core.

A central contribution to this understanding is provided by Gilbert Durand (1960), who conceptualizes the imaginary as structured through recurring symbolic regimes. These regimes organize fundamental oppositions – such as ascent and fall, light and darkness, transcendence and limitation – which underlie both mythic narratives and their later literary transformations. As Pierre Albouy

formulates this relationship, "the symbol gives rise to myth, which develops it in the form of a narrative"[2] (Albouy, 1969, p. 75). Myth, in this sense, expresses persistent structures of human experience, which continue to operate beyond their original cultural context: "myth is already an outline of rationalization, since it uses the thread of discourse, in which symbols are resolved into words and archetypes into ideas. Myth explicates a schema or a group of schemas" (Durand, 2021, p. 43)[3].

This perspective is complemented by the work of Pierre Brunel, who emphasizes the mobility of myth within literature. Brunel (2004) highlights the capacity of myth to emerge in implicit forms, even in the absence of direct references, and to circulate across texts and historical periods. Myth thus functions not only as a thematic element, but as a latent structure that shapes narrative organization and meaning.

At the same time, the interpretation of myth as a mode of meaning is reinforced by Mircea Eliade (1978), who defines myth as a narrative that reveals fundamental aspects of existence[4]. From this perspective, myth is not limited to its original temporal framework but continues to provide models for understanding reality, contributing to its persistence in modern and contemporary literary forms.

However, in order to account for the specificity of contemporary narrative, this mythocritical approach must be extended through theoretical perspectives that address the transformation of temporality and narrative form under conditions of fragmentation.

In this regard, Walter Benjamin (1969) offers a reconfiguration of historical time as discontinuous and non-linear. Rather than unfolding as a continuous progression, history appears as a constellation of fragments, in which past and present intersect in moments of interruption. As Benjamin argues, "to articulate the past historically does not mean to recognize it 'the way it really was.' [...] It means to seize hold of a memory as it flashes up at a moment of danger" (Benjamin, 1969, p. 255). Memory, accordingly, is structured not as a unified narrative, but as an assemblage of discontinuous traces, a perspective that is particularly relevant for the analysis of fragmented literary forms.

A complementary model of narrative structure can be identified in the work of the Argentine writer Jorge Luis Borges, whose texts conceptualize the

2 Original French: « Le symbole [...] donne naissance au mythe, qui le développe sous la forme d'un récit » (Albouy, 1969, p. 75) – transl. by the author.

3 Original French: « Le mythe est déjà une esquisse de rationalisation puisqu'il utilise le fil du discours, dans lequel les symboles se résolvent en mots et les archétypes en idées. Le mythe explicite un schème ou un groupe de schèmes » (Durand, 2021, p. 43). – transl. by the author.

4 Eliade describes myth as "living" insofar as it "provides models for human behavior and, by this very fact, gives meaning and value to existence" (Eliade, 1978, p. 2, – transl. by the author). Original Romanian: „Mitul este – sau a fost până în timpul din urmă – «viu», în sensul că înfățișează modele pentru comportarea omenească și prin însăși aceasta conferă existenței semnificație și valoare" (Eliade, 1978, p. 2).

labyrinth as a figure of textuality and knowledge[5]. Reflecting on the nature of literary creation, Borges himself observed that what ultimately matters in a work of art is "the driving trend behind the symbols," and that "the author may not wholly understand them; this is the critic's task" (Borges, 1965, p. vii). In this framework, narrative is no longer organized as a linear sequence, but as an open and proliferating structure, characterized by multiplicity, recursion, and the absence of closure. This model provides a useful lens for understanding contemporary narrative strategies that resist totality and coherence.

Finally, the philosophical perspective of Gilles Deleuze (2014) allows for a reconsideration of fragmentation itself. Rather than being interpreted as a sign of narrative disintegration, fragmentation can be understood as a productive principle, through which meaning is generated via repetition, variation, and relationality. As Deleuze suggests (2014, p. 199), repetition never entails the reproduction of the identical, since each act generates difference rather than sameness[6]. Narrative thus emerges as a multiplicity of interconnected elements, rather than as a unified and hierarchical structure.

Gospodinov's mytho-poetic narratives do not thematize the digital directly, yet they operate within – and respond to – what Aleida Assmann (2011) identifies as a fundamental shift in the cultural organization of memory: from archival linearity to a fluid, fragmented, and perpetually reconfigurable relationship with the past. In her analysis of Western memory culture, Assmann distinguishes between canon and archive as two complementary but asymmetrical modes of cultural storage – the first defined by active selection and transmission, the second by passive accumulation and latency[7]. As she observes, "In their different ways, both canon and archive presuppose systematic organization, economy, and accessibility – all of them aspects that distinguish artificial from natural memory" (Assmann, 2011, p. 149).

The digital age has destabilized this distinction, producing a condition in which all memory becomes simultaneously accessible, non-hierarchical, and resistant to closure[8]. Gospodinov's work can be read as a literary symptom of precisely this condition: not in its content, but in its deep narrative structure. The

5 See Borges (1999), particularly *The Garden of Forking Paths* for the labyrinth as branching temporality and textual multiplicity, *The Library of Babel* for the infinite archive as a figure of knowledge, and *The House of Asterion* for the interiorized reconfiguration of the Minotaur myth.

6 Gilles Deleuze writes: "It is easy to multiply reasons which make habit independent of repetition: to act is never to repeat, whether it be an action in process or an action already completed" (2014, p. 199).

7 Functional memory, associated with the canon, operates as "an evenly illuminated memory space" structured through ritual repetition, pedagogy, and intergenerational transmission, whereas storage memory remains "an abstract and amorphous realm" administered by specialists and characterized by virtual rather than immediate accessibility (Assmann, 2011, p. 397).

8 This distinction also recalls Pierre Brunel's discussion of the literary myth, following Pierre Albouy's (see Albouy, 1969) earlier differentiation between myth proper – associated with ritual and religious structures – and the "literary myth," understood as the narrative dimension of myth reworked by the writer with considerable interpretive freedom (Brunel, 2004, p. 21).

labyrinthine organization of *The Physics of Sorrow*, the spatial freezing of time in *Time Shelter*, and the fragmented self-reflexivity of *Natural Novel* all enact a logic of memory that is less archival than rhizomatic – perpetually branching, never totalizing, resistant to the linear narrative of progress or return. In this sense, Gospodinov does not write about the digital age; he writes from within its epistemic horizon.

The theoretical perspectives outlined above allow for an approach to Gospodinov's work that foregrounds the interaction between myth and narrative fragmentation. In this context, myth is not examined as a thematic layer, but as a structuring mechanism that shapes the organization of narrative and the representation of memory.

This becomes particularly evident in the novel *The Physics of Sorrow*, where the motifs of the labyrinth and the Minotaur are reconfigured within a fragmented narrative structure. The novel offers a privileged site for analyzing how mytho-poetic forms operate under the conditions of discontinuous temporality and dispersed memory.

The Labyrinth of Memory: *The Physics of Sorrow*

In *The Physics of Sorrow*, Georgi Gospodinov reconfigures the myth of the Minotaur not as a narrative to be retold, but as a structural principle through which memory itself is organized. The novel presents identity as unstable and continuously reconstructed through memory, as the narrator declares: "I have always been born" (Gospodinov, 2015, p. 7). The labyrinth, in this context, ceases to function as a mythological setting and becomes instead the formal architecture of the novel: a space of proliferating corridors, digressive passages, and recursive returns, in which the narrator moves not toward resolution but toward an ever-deepening entanglement with the past. As Pierre Brunel argues, myth operates in literary texts not only as thematic content but as a latent organizing force – emerging, flexibly and irradiatively, through the very texture of narrative form (Brunel, 1992, p. XVII). In Gospodinov's novel, this emergence is structural: the labyrinth is not described but enacted.

At the center of this labyrinthine architecture stands the figure of the Minotaur, whom Gospodinov reclaims from the margins of the classical myth. Rather than a monster to be slain, Asterion appears here as a being of radical vulnerability – abandoned at birth, imprisoned without consent, condemned to a solitude he did not choose. The Minotaur is reimagined not as a terrifying creature but as a vulnerable and melancholic being: "This Minotaur isn't scary, but sad. A melancholy Minotaur" (Gospodinov, 2015, p. 13). The narrator's identification with the Minotaur is not metaphorical but empathic in the most literal sense: through a capacity for inhabiting other consciousnesses, he enters the creature's experience of confinement and waits, as the Minotaur does, for a visitor who may never arrive.

> The Minotaur is sitting on the stool, with his back to the audience. The shock comes not from the fact that he looks like a beast, but that he is in some way human. Precisely his humanness is stag-gering. His body is boyish, just like mine. [...] And yet he is more human than anything else. There is a sorrow in him, which no animal possesses (Gospodinov, 2015, pp. 14-15).

This empathic identification transforms the mythic figure into an emblem of what might be called *radical alterity*[9] – a form of otherness that is not threatening but dispossessed, not monstrous but abandoned by the very order that produced it.

The relationship between labyrinth and Minotaur is thus not incidental but constitutive. The labyrinth is the spatial condition of the Minotaurs alterity: it is the structure that simultaneously contains and produces his difference, rendering him invisible to the world outside while making him the secret center around which everything else is organized[10]. Gospodinov's narrator understands this logic intimately, because his own experience of memory operates according to the same principle. Memory, in *The Physics of Sorrow*, is not a transparent archive of the past but a labyrinthine structure in which certain experiences – loss, abandonment, childhood – are simultaneously central and inaccessible, preserved and concealed[11].

This configuration resonates with Walter Benjamin's understanding of memory as non-linear and fragmentary - not a continuous narrative but a constellation of moments that "flash up" unexpectedly, interrupting the present with the force of the unresolved past[12]. In Gospodinov's novel, the act of remembering consistently takes this form: digressive, involuntary, structured by association rather than chronology. The labyrinth, in this sense, is less a spatial figure than a temporal one – a model for the way in which the past persists not as a sequence but as a network of interconnected, mutually implicated fragments. The Minotaur at its center is not merely a mythic figure but a figure for memory itself, which cannot be reached directly but which nonetheless organizes everything around it.

Ultimately, what *The Physics of Sorrow* proposes is a mythocritical rewriting in which the classical myth is not simply updated but inverted. The hero (Theseus, the thread, the exit) is conspicuously absent or irrelevant. What remains is the labyrinth and its inhabitant, stripped of narrative resolution and

9 For the concept of "radical alterity," see Baudrillard and Guillaume (2008).

10 "Some events happen now, others in the distant and immemorial past. The places are also confused, palaces and basements, Cretan kings and local shepherds build the labyrinth of this story about the Minotaur-boy, until you get lost in it. It winds like a maze and unfortunately I will never be able to retrace its steps. A story with dead-end corridors, threads that snap, blind spots, and obvious discrepancies. The more unbelievable it looks, the more you believe it" (Gospodinov, 2015, p. 15).

11 "Shall we turn toward the story of the father, or continue on ahead, which in this case is backward, toward the Minotaur of childhood... I can't offer a linear story, because no labyrinth and no story is ever linear" (Gospodinov, 2015, p. 43).

12 See Benjamin's discussion of historical memory and the "image of the past" in moments of danger (Benjamin, 1969, p. 255).

restored to their full ambiguity. In this inversion, Gospodinov performs what Gilbert Durand (2021) would recognize as a reactivation of the mythic imaginary: not a reproduction of the original structure, but a reconfiguration that releases new semantic possibilities from within it. The labyrinth becomes a model for fragmented memory; the Minotaur becomes a figure for radical alterity; and the novel itself becomes, formally and thematically, an enactment of both.

Temporal Retreat and Nostalgia: *Time Shelter*

The spatialization of time in *Time Shelter* can be situated within a broader literary tradition that associates interior space with the experience of temporality. As noted by Gilbert Durand, the work of Xavier de Maistre – particularly *Voyage autour de ma chambre* – anticipates a mode of narrative in which movement through space becomes a form of temporal reflection (Durand, 1998, p. 155).

In Gospodinov's novel, this logic is reconfigured through the construction of memory-clinics organized as rooms corresponding to specific decades. These spaces do not merely represent the past but allow it to be inhabited, transforming memory into a spatial and experiential structure: "So what are we going to do now? Rooms from different times. As a start. Rooms of the past? It sounds like a title. Yes, rooms of the past. Or a clinic of the past" (Gospodinov, 2022, p. 37). The journey proposed by the novel is therefore not oriented toward progression but toward immersion, as time is no longer traversed linearly but entered, revisited, and temporarily suspended[13].

Such a configuration suggests a shift from narrative continuity to a form of temporal anchoring, in which the individual seeks to stabilize experience by retreating into reconstructed fragments of the past.

The memory-clinic, however, is not simply a therapeutic device; it is, structurally and symbolically, a labyrinth[14]. Like the mythic labyrinth of Crete, it is a constructed space designed to contain that which cannot be integrated into the present order – in this case, not a hybrid creature but a hybrid temporality, a past that refuses to remain past. Each room is a corridor leading not outward but inward, not toward resolution but toward an ever more complete immersion in a time that has, officially, ceased to exist. The patients who inhabit these rooms do not move through them in search of an exit; they settle, they recognize, they

13 A comparable form of spatial retreat appears in earlier narrative contexts, such as the figure of Prascovia in *The Young Siberian*, who repeatedly withdraws into a secluded natural space in order to pray, establishing a personal rhythm of time detached from external chronology (Durand, 1998, p. 159).

14 Ana María Barrenechea, analyzing Borges's relationship with temporality, observes that his work evolves "under the guise of the temporal labyrinth and the cyclical returning which confront the same destinies (Nietzsche), or under that of an immortality which is not personal but is achieved through the succession of generations (Schopenhauer)" (Barrenechea, 1965, pp. 1-2). This dual philosophical lineage – Nietzsche and Schopenhauer – illuminates the deep structure of the Borgesian labyrinth as a figure of cyclical time rather than space, which brings it, in a surprising way, into proximity with the logic of spatialized memory in Gospodinov's *Time Shelter*.

belong. The labyrinth, here, is not experienced as a trap but as a refuge – which is precisely what makes it, in Gospodinov's ironic vision, most dangerous.

> There's something, a draft and grief, which instead of weakening seems to grow stronger with the years. And it is surely tied to the ever-quicker emptying of the rooms of my memory. One who opens door after door, going from room to room in the hope, the hope and fear of finding himself in one of them—there, where he is still whole. (Gospodinov, 2022, p. 148)

This inversion of the labyrinth's traditional function – from instrument of confinement to space of voluntary retreat – reflects a broader mythic reconfiguration that runs throughout Gospodinov's work. Where the classical labyrinth is imposed upon its inhabitant from without, the memory-clinic is entered freely, even eagerly. The boundary between patient and visitor gradually dissolves, as those who design and maintain the clinic find themselves drawn into its logic, unable to maintain the critical distance that therapeutic practice requires. In this sense, *Time Shelter* stages what Pierre Brunel describes as the "mythopoetic structure" of literature, in which myth operates not merely as inherited narrative material but as a generative principle shaping literary form from within[15]. The labyrinth emerges not as a named reference but as a structural principle, shaping the novel's organization of space, time, and identity from within.

The spatialization of memory in *Time Shelter* also engages, at a deeper level, with the question of what it means to store the past under conditions of cultural fragmentation. Aleida Assmann's distinction between active cultural memory – organized around selection, transmission, and shared meaning – and passive archival storage – characterized by accumulation, latency, and potential inaccessibility – provides a useful framework for understanding the novel's central ambiguity[16]. The memory-clinics function initially as active memory spaces, carefully curated to produce recognition and coherence. As the novel progresses, however, they begin to resemble archives in Assmann's passive sense: spaces of accumulation that preserve the past without transmitting it. They maintain the form of memory without sustaining its living function[17]. The labyrinth of memory in *Time Shelter* is ultimately an archive that has consumed its own curators – a space so complete in its reconstruction of the past that it leaves no room for the present.

Read in the context of the digital age, the novel's labyrinthine archive reflects a culture increasingly dominated by storage rather than transmission, where the preservation of the past no longer guarantees meaningful continuity with it.

---

15 See Pierre Brunel, *Mythe de la métamorphose* (Paris: José Corti, 2004, p. 22), where Brunel refers to literature as "créatrice de mythes" and evokes what Northrop Frye calls a "structure mythopoiétique."

16 Assmann distinguishes between "functional memory" as a "normative and formative object of learning and interpretation" and "storage memory" as "an abstract and amorphous realm, whose totality is ungraspable" (Assmann, 2011, p. 397).

17 See Assmann, A. *Cultural Memory and Western Civilization: Functions, Media, Archives* (Cambridge: Cambridge University Press, 2011, pp. 397-398).

Fragment and Everyday Myth: *Natural Novel*

If *The Physics of Sorrow* enacts the labyrinth as a structure of memory, *Natural Novel* – Gospodinov's earliest and, in many respects, most formally radical work – transforms fragmentation into an ontological condition. Published in 1999, the novel resists generic classification: it is simultaneously a failed love story, a philosophical notebook, a collection of micro-narratives, and a meditation on the impossibility of the novel itself. Its organizing principle is not plot but proliferation – the obsessive gathering of fragments, anecdotes, and observations that refuse narrative unity and instead branch outward through digression, interruption, and recursive return: "A novel created from countless tiny particles, arch-substances, i.e., beginnings that fall into an unlimited number of combinations" (Gospodinov, 2005, p. 11).

Rather than narrating myth directly, the text performs a mythology of the everyday, in which ordinary objects and gestures acquire a latent symbolic intensity. The narrator repeatedly insists on the inexhaustibility of ordinary experience itself: "The everyday exists in countless variations" (Gospodinov, 2005, p. 27). Everyday life thus becomes less a stable reality than an endlessly reproducible field of fragments, details, and repetitions through which meaning circulates without ever fully stabilizing. Gospodinov explicitly imagines the novel as an open combinatory system: "The openings are already there, the combinations are endless" (Gospodinov, 2005, p. 15). The result is a form of textuality that anticipates the logic of the digital archive – non-linear, associative, and indefinitely expandable, organized less through progression than through recombination and circulation.

The novel's fragmented composition anticipates digital forms of reading in which textual units circulate independently of linear narrative progression. Episodes function less as chapters in a coherent whole than as autonomous textual nodes connected through association, repetition, and thematic echo. The reader navigates the text not sequentially but relationally, in a manner that resembles hypertextual movement through linked fragments rather than movement through a closed realist narrative. The narrator rejects conventional narrative sequencing altogether – "Let's begin in the middle, without any beginning or end" (Gospodinov, 2005, p. 9) – replacing linear progression with recursive movement and discontinuous accumulation.

The mythic dimension of the novel operates, in Brunel's terms, through irradiation rather than explicit emergence: myth is not present as a named structure but as a diffuse organizing force that shapes the text's relationship to time, repetition, and meaning. As Pierre Brunel suggests, literary myth often survives not as a fixed narrative but through symbolic structures and recurrent imaginative patterns that continue to organize literary form[18]. The narrator's compulsive cataloguing of small gestures, domestic objects, and transient moments also

18 See Brunel, P. *Le mythe de la métamorphose* (Paris: José Corti, 2004, pp. 11-12).

recalls what Mircea Eliade identifies as the persistence of myth within everyday experience – the capacity of ordinary life to acquire exemplary or paradigmatic significance[19]. In *Natural Novel*, however, this valorization is simultaneously sincere and ironic: the narrator assembles fragments of everyday life as though they concealed a hidden coherence while continually acknowledging that such coherence may itself be fictional – less a discovered truth than a narrative desire projected onto the world.

This tension between the impulse toward meaning and the recognition of its instability is, in many ways, the novel's central subject. Gospodinov's narrator does not mourn the absence of mythic wholeness but inhabits its loss productively, finding in fragmentation itself a form of fidelity to experience. Here, Gilles Deleuze's understanding of repetition as a generative rather than nostalgic principle becomes relevant: the fragments do not repeat a lost original but produce meaning through their very recurrence and variation, each return slightly displaced, slightly transformed. The novel's structure is thus not that of a lamentation for coherence but of a patient, lateral exploration of what remains when coherence is relinquished.

At the same time, *Natural Novel* engages implicitly with the condition of cultural memory under the pressure of fragmentation. The narrator's compulsive noting and cataloguing can be read as a response to what Aleida Assmann describes as the instability of the archival function in contemporary culture – the sense that nothing is guaranteed to be preserved, that memory is always selective, always incomplete, always on the verge of dissolution. In this context, the novel's fragments function not as ruins of a lost totality but as active gestures of retention: small, provisional acts of meaning-making in a cultural landscape that no longer offers stable frameworks for remembrance. The everyday myth that *Natural Novel* constructs is therefore not a myth of origins or return, but a myth of persistence – of the human capacity to find, even in the most ordinary and transient of experiences, a form of symbolic density that resists erasure.

Mytho-Poetic Narrative in the Digital Age

The three novels referred to in this study share a common narrative logic that exceeds the boundaries of any individual text: a logic of fragmentation, non-linearity, and recursive return that positions Gospodinov's work at the intersection of mythic imagination and contemporary cultural experience. To understand the full implications of this logic, it is necessary to situate it within the broader epistemic horizon of the digital age – not as a direct thematic engagement with technology, but as a structural resonance between literary form and the conditions under which memory, time, and meaning are organized in contemporary culture.

Gospodinov repeatedly conceptualizes narrative itself as a combinatory structure governed by proliferation rather than linear development: "The

19 See Eliade, M. *Aspecte ale mitului* (București: Editura Univers, 1978, p. XII).

world is one and the novel puts it together. The openings are already there, the combinations are endless. Every character is liberated from the predestination of his or her story. The first capital letters of the decapitated novels start floating like panspermia in the void, creating something new, don't they, Anaxagoras?" (Gospodinov, 2005, p. 15).

The image of narrative fragments floating "like panspermia in the void" further suggests a model of textuality based on dispersion, recombination, and unpredictable relationality rather than teleological order. In this respect, Gospodinov's fiction anticipates the database logic of digital culture described by Lev Manovich, where meaning emerges not from narrative hierarchy but from the dynamic arrangement of autonomous units (Manovich, 2001, pp. 218-219).

Gospodinov's mytho-poetic narratives do not thematize the digital directly, yet they operate within – and respond to – what Aleida Assmann identifies as a fundamental shift in the cultural organization of memory: from archival linearity to a fluid, fragmented, and perpetually reconfigurable relationship with the past (Assmann, 2011, pp. 11-13). In her analysis of Western memory culture, Assmann distinguishes between canon and archive as two complementary but asymmetrical modes of cultural storage – the first defined by active selection and transmission, the second by passive accumulation and latency (Assmann, 2011, pp. 118-130). The digital age, she argues, has destabilized this distinction, producing a condition in which all memory becomes simultaneously accessible, non-hierarchical, and resistant to closure (Assmann, 2011, pp. 22-25).

Gospodinov's work can be read as a literary symptom of precisely this condition: not in its content, but in its deep narrative structure. The labyrinthine organization of *The Physics of Sorrow*, the spatial freezing of time in *Time Shelter*, and the fragmented self-reflexivity of *Natural Novel* all enact a logic of memory that is less archival than rhizomatic – perpetually branching, never totalizing, resistant to the linear narrative of progress or return. In this sense, Gospodinov does not write about the digital age; he writes from within its epistemic horizon.

This structural resonance can be further illuminated through Lev Manovich's concept of database logic as the dominant cultural form of the digital age. Where traditional narrative organizes experience into a sequence with a beginning, middle, and end, the database organizes it as a collection of items that can be accessed, recombined, and reordered without any necessary hierarchy or trajectory (Manovich, 2001, pp. 218-219). Manovich argues that this logic has become increasingly pervasive not only in digital media but in cultural production more broadly, generating new forms of narrative that resist closure and privilege lateral association over linear progression (Manovich, 2001, pp. 225-228).

Gospodinov's novels operate according to a precisely analogous principle: they accumulate fragments, anecdotes, mythic echoes, and autobiographical traces without subordinating them to a master narrative, allowing meaning to emerge from the relational density of the whole rather than from the resolution of a plot.

Yet, what distinguishes Gospodinov's work from a merely formal experiment is the persistence, within this fragmented structure, of mythic imagination as a meaning-making force. Where the database logic of digital culture tends toward neutrality – treating all items as equivalent, all connections as reversible – Gospodinov's narrative fragments retain a symbolic charge that resists such neutralization. The labyrinth is not simply a metaphor for non-linear navigation; it is a figure saturated with existential and cultural significance, carrying within it the accumulated weight of its mythic history. Minotaur is not simply a character in a fragmented narrative; he is a condensation of experiences of abandonment, alterity, and dispossession that exceed any single narrative configuration. In this sense, Gospodinov's mytho-poetic vision performs a critical function within the digital episteme: it insists on the irreducibility of symbolic meaning in a cultural context that tends toward the proliferation of information at the expense of significance.

This insistence is, ultimately, what makes Gospodinov's work not merely symptomatic of the digital age but responsive to it. His narratives do not simply reflect the fragmentation and non-linearity of contemporary experience; they mobilize the resources of mythic imagination precisely in order to generate coherence, depth, and continuity within that fragmentation. Myth, in this context, functions not as an archaic residue but as what Gilbert Durand would call a dynamic regime of the imaginary – a set of symbolic structures governed by what the researcher describes as the dynamic and transformative force of the imaginary (Durand, 2021, pp. VII, XIV–XVI). The mytho-poetic vision that animates Gospodinov's work is therefore neither nostalgic nor utopian: it is a sustained engagement with the question of what narrative can still do in an age defined by the dispersal of memory and the multiplication of fragments.

Conclusion

The analysis developed in this study has argued that Georgi Gospodinov's narrative work constitutes a sustained and formally innovative engagement with myth – one that neither reproduces the classical tradition nor abandons it but reconfigures it in response to the specific conditions of contemporary cultural experience. Through close readings of *The Physics of Sorrow*, *Time Shelter*, and *Natural Novel*, the study has traced three distinct but interrelated modes of mythic reconfiguration: the labyrinth as a structure of fragmented memory, the memory-clinic as a spatialized archive that consumes its own inhabitants, and the everyday fragment as a site of latent symbolic density. In each case, myth operates not as a thematic reference but as a structural principle – emerging, in Brunel's terms, through the very organization of narrative form rather than through explicit allusion or retelling.

Central to this reconfiguration is the figure of the Minotaur, whose presence in *The Physics of Sorrow* condenses the study's broader argument.

Stripped of his monstrosity and restored to his fundamental vulnerability, Asterion becomes in Gospodinov's hands a figure for radical alterity – for the experience of being produced and abandoned by the very order that defines itself against him. This rewriting is not only a humanization of a mythic monster; it is a critical gesture that exposes the ideological function of the original myth, revealing the labyrinth not as a neutral architectural space but as an apparatus of power designed to contain what dominant culture cannot assimilate. In this sense, Gospodinov's mytho-poetic vision is inseparable from an ethical dimension: to inhabit the Minotaur's perspective, as his narrator does, is to practice a form of empathy that challenges the boundaries between self and other, human and monstrous, center and margin.

This ethical dimension acquires particular resonance when situated within the epistemic horizon of the digital age. As the analysis has argued, Gospodinov's narratives do not engage directly with digital technologies, but their deep structural logic – rhizomatic, non-hierarchical, resistant to closure – resonates with the conditions under which memory and meaning are organized in contemporary culture. Drawing on Aleida Assmann's account of the destabilization of cultural memory and Lev Manovich's concept of database logic, the study has proposed that Gospodinov's work functions as a literary symptom of the digital age: a form of narrative that internalizes the dispersive pressures of contemporary experience while mobilizing the resources of mythic imagination precisely in order to resist their neutralizing effects. Where the database tends toward the equivalence of all items, myth insists on the irreducibility of symbolic meaning; where digital fragmentation tends toward the dissolution of coherence, mytho-poetic narrative generates depth and continuity from within the fragment itself.

What emerges from this analysis is the understanding of myth not as an archaic residue but as a dynamic and critically generative cultural force. In Gospodinov's work, the ancient patterns of the labyrinth, the Minotaur, and the myth of return are not nostalgically recovered but actively transformed, made to bear the weight of experiences – of abandonment, loss, cultural amnesia, and temporal dislocation – that are recognizably and urgently contemporary. His mytho-poetic vision is, in this sense, neither a retreat from the present nor a simple celebration of the past, but a sustained negotiation between the two: an insistence that the symbolic resources of myth remain available, and remain necessary, for the task of making meaning in an age defined by the multiplication of fragments and the dispersal of memory. It is precisely this negotiation – patient, ironic, and formally inventive – that positions Gospodinov's work among the most significant contributions to contemporary world literature.

References

Albouy, P. (1969). *Mythes et mythologies dans la littérature française*. Paris: Armand Colin.

Assmann, A. (2011). *Cultural Memory and Western Civilization: Functions, Media, Archives*. Cambridge: Cambridge University Press.

Barrenechea, A. M. (1965). *Borges, the Labyrinth Maker* (transl. R. Lima). New York: New York University Press.

Baudrillard, J., & Guillaume, M. (2008). *Radical alterity* (transl. A. Hodges). Los Angeles, CA: Semiotext(e).

Benjamin, W. (1969). *Illuminations*. New York: Schocken Books.

Borges, J. L. (1965). Preface. In A. M. Barrenechea, *Borges, the Labyrinth Maker* (transl. R. Lima). New York: New York University Press.

Borges, J. L. (1999). *Collected Fictions* (transl. A. Hurley). New York: Penguin Books.

Brunel, P. (Ed.). (1992). *Companion to Literary Myths, Heroes and Archetypes*. London, New York: Routledge.

Brunel, P. (2004). *Le mythe de la métamorphose*. Paris: José Corti.

Deleuze, G. (2014). *Difference and Repetition* (transl. P. Patton). London: Bloomsbury Academic.

Durand, G. (1960). *Les structures anthropologiques de l'imaginaire*. Paris: Presses Universitaires de France.

Durand, G. (1998). *Figuri mitice și chipuri ale operei. De la mitocritică la mitanaliză* (transl. Irina Bădescu). București: Nemira.

Durand, G. (2021). *Les structures anthropologiques de l'imaginaire* (12e éd.). Paris: Armand Colin.

Eliade, M. (1978). *Aspecte ale mitului* (transl. P.G. Dinopol). București: Univers.

Gospodinov, G. (2005). *Natural Novel* (transl. Z. Hristova). Champaign, IL: Dalkey Archive Press.

Gospodinov, G. (2015). *The Physics of Sorrow* (transl. A. Rodel). Rochester: Open Letter Books.

Gospodinov, G. (2022). *Time Shelter* (transl. A. Rodel). New York: Liveright.

Manovich, L. (2001). *The Language of New Media*. Cambridge, MA: MIT Press.

GURBET IN THE DIGITAL AGE: FAMILY, MOBILITY, AND TECHNOLOGY AMONG SOCIALLY VULNERABLE COMMUNITIES BETWEEN BULGARIA, GERMANY, AND AUSTRIA

Aleks-Sabi Levi[1], *Paisii Hilendarski* University of Plovdiv, Bulgaria

https://doi.org/10.46687/XVPJ3585

Abstract: *This article examines how new technologies transform practices of economic and social mobility associated with gurbet (labor migration) in socially vulnerable communities. The empirical focus is on families from the Stolipinovo neighborhood in Plovdiv, Bulgaria, an area characterized by high rates of migration to Germany and Austria. The central question is how digital communications reconfigure family ties and mechanisms of trust at a distance. To capture generational variation in communicative practice, the analysis introduces and examines the categories "Viber-generation" and "TikTok-generation." The study also investigates the role of digital tools in job search and in the construction of informational strategies concerning destination, city, working conditions, and opportunities. Employing a qualitative multi-method approach that combines digital ethnography, semi-structured interviews with gurbet migrants and their relatives, and a close review of active social and information channels, the article traces two interrelated processes: (1) mechanisms for locating and negotiating suitable work via digital platforms and informal networks; and (2) practices of sustaining family relationships and parenting at a distance through social media. Findings demonstrate that digital technologies are not socially neutral: they reproduce forms of digital capital and may reaffirm age- and gender-based inequalities, while simultaneously opening new pathways for economic mobility and access to essential information. In conclusion, the study presents concrete instances of digital inclusion and technological practice as elements of respondents' life-trajectories and biographical strategies, showing how these technologies restructure family relations and generate new models of labor and social mobility between Bulgaria, Germany, and Austria.*

Key words: *Gurbet, transnational mobility, socially vulnerable communities, digital communication technologies, transnational families*

Introduction and Socio-Economic Context

The economic migration from Bulgaria, conceptualized through the term *gurbet*, represents a long-term and socially significant process that continues to restructure family strategies, local economies, and a range of social relations both

1 Aleks-Sabi Shabtay Levi, PhD candidate in the Cultural studies program, Department of Ethnology at *Paisii Hilendarski* University of Plovdiv. His research interests center on applied social work and engagement with diverse minority and marginalized communities, the dynamics and internal processes within closed or isolated social groups, and the role of social and cultural anthropology in broader societal frameworks, including economic processes and public administration. Email: a.levi@uni-plovdiv.bg

Copyright © 2026 Aleks-Sabi Levi

Article history: Received: 7 March 2026; Edited: 10 March 2026; Revised: 30 May 2026; Accepted: 2 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

in the country of origin and in the host societies. In the Bulgarian and broader Balkan ethnographic tradition, *gurbet* is defined as seasonal or temporary labor migration rooted in kinship and community networks through which economic and symbolic resources are redistributed. This model, although traditionally male-dominated and seasonal, is being transformed by contemporary economic and technological changes (Markov, 2015, p. 62). However, a less explored question remains: how digital communication technologies fit into these established models of *gurbet* described in Bulgarian ethnographic literature. Historically the form of labor mobility is structured around kinship and local networks. Some of the described challenges are the maintenance of split households between the place of work and the place of origin, alongside the transfer of resources, capital, and social support across borders (Markov & Hristov, 2019).

Gurbet practices occupy a central place in the everyday life and local culture of numerous communities in Bulgaria, where economic mobility has long functioned not only as a means of livelihood but also as a social strategy for care, community status, and the future (Hristov, 2015, p. 554). Although *gurbet* is traditionally conceptualized as a temporary (seasonal), instrumental, and purposeful movement of labor, its contemporary forms are increasingly characterized by transnational mobility, digital connectivity, and a blurring of the boundaries between „departure" and „return" (Hristov, 2015, pp. 551-552; de Haas, 2010, p. 232)[2]. The present article examines how digital technologies and social networks reconfigure the practices of *gurbet*, return strategies, and the processes of social and institutional reintegration. The focus is placed on the „Stolipinovo" district in Plovdiv, whose migratory experience and social networks reveal a specific interaction between economic motives, family practices, digital connectivity, and administrative relationships. The research observes transformation of these practices under conditions of digital connectivity. Key functions such as labor brokerage, information exchange, the maintenance of family ties, and the building of trust gradually shift from physical social networks to digital platforms and communication apps. The district of Stolipinovo can be perceived as a socially and culturally specific urban zone, characterized by high economic vulnerability and sustainable migration flows to Western European countries, most notably Germany and Austria (Venkov et al., 2016, p. 21).

Central Argument and Gender Dynamics

Through qualitative interviews and digital ethnography, the study traces how social and digital capital are accumulated, maintained, and converted into economic

2 Gurbet (from Turkish gurbet; Arabic root ghurba, meaning „foreign land" or „strangeness") is a term used across Balkan languages to denote temporary or seasonal labor migration, as well as prolonged „going abroad" for the purpose of earning a livelihood. In regional literature, this phenomenon corresponds to concepts such as pechalbarstvo (Serbian: pečalbarstvo) and possesses a deep historical genealogy, traceable through centuries-old practices of mobility from rural and mountainous areas to urban centers and beyond the borders of the Balkan Peninsula, most commonly to Western Europe (Hristov, 2015).

resources, as well as the limitations that arise in this process. The research is based on three empirical case studies involving migrants with different positions within the transnational networks of *gurbet*, as well as an expert perspective provided by an educational mediator with practical experience in working with returning families. The analysis views return not as a one-time act, but as a prolonged and often uncertain process, influenced by the educational integration of children, the existence of institutional barriers to the recognition of legal documents, and the changing models of mobility, communication, and digital connectivity.

The central argument of this article is that digital communication technologies facilitate economic migration and the maintenance of transnational ties, while simultaneously reorganizing the logic of labor mobility, shifting it from a practice based on local connections and physical networks towards a hybrid infrastructure of mobility, in which social media, chat applications, and visual platforms function as channels for information, trust, and labor brokerage.

Against this backdrop, it remains insufficiently clear how digital connectivity changes these specific mechanisms, how labor brokerage practices, the maintenance of family relations, and mechanisms of trust are transformed under conditions of constant online communication. The present study anchors these processes through empirical material from the Stolipinovo district in Plovdiv, which can be defined as a socially and culturally specific urban environment with long-standing migration patterns to Western Europe. The analysis places a particular emphasis on the gender and generational dimensions of these transformations, as digital communications often redistribute the roles of care, mediation, and control within the transnational family.

A significant factor in the study is its gender perspective. Often characterized as a conservative community, Stolipinovo delineates the female figure through a traditionally central role as mother, wife, and homemaker. (Venkov & Baycheva, 2016, pp. 67-68). However, the research observes that digital connectivity is subtly renegotiating these boundaries. Within migratory processes, women are increasingly active participants in labor mobility, leading to a restructuring of family relations and the distribution of childcare and household responsibilities (Avdzhieva, 2017, p. 151). In such situations, care is often transferred to the extended family, altering both intra-family roles and the social dynamics of the community (Avdzhieva, 2017, p. 151). Nevertheless, the empirical data from this study show that the interviewed women engage in employment or other activities related to integration into the host society during *gurbet*. This is often on a part-time or hourly basis, balancing paid work with family care and domestic duties. Examples were noted of women participating in language or integration courses.

Transnational Connectivity, Remittances, and Remote Care

The labor mobility functions as a social coping mechanism and as a personal, family, and community strategy for the accumulation of economic, social,

and cultural capital. A central element of this process is the regular transfer of funds to the place of origin, which serves as a support for the elderly parents and relatives remaining in the home country (Markov, 2015, p. 301). In addition, some respondents often channel remittances into home improvements or to purchase new properties in the Izgrev district, adjacent to Stolipinovo. Furthermore some of them tend to invest in their home town by establishing small businesses. Those returning for the summer often try to demonstrate their acquired capital through visible changes in their standard of living, thereby elevating their community status (Markov, 2015, p. 39; de Haas, 2010).

New communication technologies, such as smartphones, chat applications, and social media, allow for the maintenance of constant connectivity between the migrant—most often referred to in the interviews as *gurbetchiya*—and their family in Bulgaria. This connectivity facilitates daily communication but also reorganizes the mechanisms of remote care, control, and decision-making. Through constant video calls, chat groups, and the sharing of visual content, migrants coordinate family life, monitor the daily routines of their loved ones, and participate in decisions regarding work, education, and mobility, which shape new forms of transnational family coordination (Madianou & Miller, 2012; Baldassar, 2016, p. 151).

In this sense, digital media function as an infrastructure of transnational everyday life, in which the choice of platform, format, and frequency of communication acquires social and moral significance. An additional aspect of *gurbet* is the institutional framework after 2014 (European Commission,2014), which allowed for a liberalized labor regime for Bulgarian citizens, alongside the abolition of certain roaming charges in 2017 (European Commission, 2017).

Conceptual Framework: Polymedia and Digital Capital

The study proposes to conceptualize the labor mobility through polymedia practices, organized across a suite of digital platforms with varying functions and symbolic weights. The field material outlines distinct intergenerational regimes of communication and trust. Older family members rely primarily on a limited set of applications, such as Viber or WhatsApp, used for information and coordination, maintaining emotional closeness, and mediation for jobs and documents. Among younger participants, visual and algorithmically-driven platforms like TikTok dominate; besides being a source of information, these function as performative spaces for reputation-building, ambient co-presence[3], and socialization within a transnational context. These diverse digital strategies

3 Ambient co-presence refers to the continuous background awareness of others' activities sustained through digital communication and media sharing. Within polymedia environments this ongoing connectivity creates a sense of shared presence that collapses geographical distance and allows migrants to remain engaged in the everyday social and cultural life of their communities of origin (Madianou & Miller, 2012).

reflect age-based preferences, as well as the structuring of the way digital capital is accumulated and converted into social and economic resources.

The term „Polymedia," in the research of Mirca Madianou and Daniel Miller (2012), describes a situation where the simultaneous availability of multiple communication media turns the choice of platform into a social act. This choice indicates the type of relationship, the level of socialization, and the expected reaction. In a polymedia environment, different platforms exercise different social functions and form specific communication strategies (Madianou & Miller, 2012, p. 124). Within the fieldwork, it can be noted that Viber or WhatsApp serve primarily for video calls and maintaining emotional care with relatives and friends, Facebook for advertisements and group mutual aid, and TikTok and Instagram for cultural synchronization and reputation-building among the youth. The concept of „digital capital" is used as an analytical framework for understanding resources specific to the digital environment, such as access to infrastructure, digital skills, and knowledge of the informal rules of online communities.

These resources share similarities with Bourdieu's forms of capital [4]but are specifically applicable within the digital ecosystem, where they can be converted into economic and social advantages (Ragnedda, 2018, p. 7). Recent scholarship has expanded Bourdieu's forms of capital to include digital capital, defined as the accumulation of digital skills and access to technologies that can be converted into economic and social advantages (Ragnedda, 2018, pp. 7-8). In practice, this means that digital skills and networks often determine who will succeed in transforming online information and connectivity into successful strategies. The text posits the thesis that contemporary *gurbet* practices represent a multi-layered process in which digital technologies support migration and actively reorganize its mechanisms, opportunities, and inequalities. *Gurbet* proves to be dependent both on access to economic and social resources and on the ability to manage and convert these resources through digital skills and platforms. The analysis of the case studies from Stolipinovo demonstrates that digital connectivity creates new forms of co-presence and care, while simultaneously potentially exacerbating existing structural constraints that continue to affect the possibilities for sustainable return and reintegration.

Methodology and Fieldwork Design

The empirical material was collected between May and September 2025 and consists of semi-structured interviews with three purposively selected extended families from the Stolipinovo district, involving twelve participants who participate directly or indirectly in migratory processes. Data collection

4 According to Pierre Bourdieu, capital has several interconnected forms–economic, cultural, and social. Symbolic capital (prestige, reputation) legitimizes their transformations; conversion between these forms remains a key concept for the analysis of social mobility (Bourdieu, 1986). In the context of the digital age, digital skills and access to platforms are seen as part of "digital capital" that modifies the possibilities for such conversion (Ragnedda, 2018).

combined interviews, participant mapping, and the observation of public and semi-public digital spaces, including Facebook groups such as "Bulgarians in Duisburg," "Residents of Stolipinovo," "Bulgarians in Germany," and "The Group of Bulgarian Students in Vienna," as well as publicly available TikTok pages and hashtags such as #Bulgaria, #Filibe, and #Stolipinovo. This approach made it possible to trace the circulation of information and the social messages of trust, reputation, and mediation that shape these digital environments. The purposive sampling of three extended families was designed to capture variation in gendered mobility across the principal migration destinations of Germany and Austria. In line with Geertz's (1973) interpretive anthropology, the study employs a strategy of "thick description," which seeks to situate social actions within the webs of meaning through which people understand and experience their social world. Following Levitt and Glick Schiller (2004), the analysis examines migration not as a movement between separate social worlds but as participation in transnational social fields in which individuals remain simultaneously connected to multiple localities. The triangulation of interviews, digital observation, and participant mapping enables a contextualized interpretation of local practices rather than a purely descriptive account. Strict ethical principles were followed throughout the research process. Participation was voluntary, all data were anonymized, and a clear distinction was maintained between public and private digital materials, which were processed with careful attention to confidentiality. As a transition to the empirical section, the following case studies illustrate how digital connectivity reorganizes labor brokerage, shapes practices of transnational care, and influences decisions concerning return and reintegration. A narrative-ethnographic logic is employed in presenting the cases. Selected interview excerpts are introduced according to the thematic sequence of the research questions and subsequently interpreted in relation to the broader concepts of gurbet, transnational family life, digital capital, and polymedia communication (Bourdieu, 1986; Madianou & Miller, 2012; Ragnedda, 2018)

1. Case study: Samed (Duisburg) — How digital connectivity serves to mediate work and support remote care

The first case examined in this study focuses on the family of Samed from the Stolipinovo district. Samed is 38 years old, married, with two children. For nearly 12 years, he has lived in Duisburg, Germany. The neighborhood where they reside, Marxloh, is one of the primary hubs for emigration from Plovdiv[5]. Samed descends from a family of „kasapi" (butchers). He, his father, and his grandfather all worked as butchers. Until the mid-1990s, his family worked at the meat processing plant in Plovdiv, located near Stolipinovo. Following an unsuccessful

5 Marxloh, a district of Duisburg, has become an important settlement area for migrants from Southeast Europe since the 2010s. The neighborhood is characterized by dense ethnic infrastructure, informal labour networks, and kinship-based ties that facilitate chain migration. Recent statistics indicate that Duisburg hosts approximately 30,000 residents from Romania and Bulgaria, many of whom are concentrated in Marxloh and the neighbouring district of Hochfeld (WAZ, 2024; IT.NRW, 2024).

privatization and subsequent bankruptcy, they continued to practice their trade in various private butcher shops. Samed's grandfather has passed away, and his father is on disability leave (TELK), which prevents him from working actively. Since his youth, Samed has assisted his family and successfully mastered the craft. The young man graduated from the local neighborhood school „Nayden Gerov."

The first point Samed noted during the interview concerned his difficulties in mastering the Bulgarian language at school. He shared: „I was a regular student; I did my homework and participated in class, but my Bulgarian was always shaky. There was no one to speak it with." According to him, this was one of the reasons he faced challenges finding stable work in Bulgaria, despite the fact that in the slaughterhouses where he applied, a significant portion of the workers spoke Turkish. After several unsuccessful attempts to secure employment in Bulgaria, Samed decided to leave for Germany. The decision was influenced by friends already working there who informed him that his trade would offer better opportunities. He emigrated with his family—his wife Zlatka (Zatie) and their two daughters. Samed paid particular attention to the rapid linguistic adaptation of the children. He described how the school system supported their integration through specialized integration classes: „Within a few months, they learned German. There, they have an Integrationklasse – children from all over the world study together and speak only German." Over time, however, new linguistic transformations emerged within the family. Samed shared with some concern that the children are losing their connection to Bulgarian society and language, even using mobile translators to communicate during visits to Bulgaria.

When discussing the connection with family and relatives, Samed emphasized the central role of digital technologies: „We are constantly on our phones. We turn on the camera and imagine we are together." Constant video calls via applications such as WhatsApp, Messenger, and FaceTime create a sense of daily togetherness despite the geographical distance. Through this form of digital presence, family members monitor living conditions, communicate with the children, and participate in everyday decisions. Digital platforms also play a vital role in labor brokerage. Samed describes how, through phone calls and chat applications, he was able to bring his cousins to work in Duisburg by directly connecting them with the employer. In this sense, the digital infrastructure functions as a mechanism for the conversion of digital capital—access to devices, communication skills, and participation in online networks—into concrete economic opportunities (Ragnedda, 2018, p. 2). The digital environment also influences the socialization of children. Samed notes that his daughters actively use platforms like TikTok and Instagram to follow global fashion and cultural trends: „When a trend starts on TikTok, everyone knows it—regardless of whether they are in Germany, Bulgaria, or England." These visual platforms accelerate cultural synchronization among young people in different countries, but simultaneously, they may weaken the ties to the linguistic and cultural context of the homeland. In this regard, digital communication both facilitates

transnational connectivity and alters forms of cultural belonging (Madianou & Miller, 2012, p. 128). Samed's case further reveals an additional aspect of migratory integration—the significance of linguistic and cultural overlaps. The presence of Turkish-speaking employers and workers reduces the initial risk in labor realization and facilitates inclusion into local labor networks. Combined with digital communication, this creates a hybrid infrastructure of mediation, where traditional kinship ties intertwine with digital channels for information and trust. In a broader sense, Samed's case illustrates the ambivalence of the digitalization of *gurbet*. On one hand, communication platforms facilitate labor mobility, the maintenance of family ties, and integration into the host society. On the other hand, they accelerate intergenerational cultural transformations and shift the relationship with the language and social environment of origin (Madianou & Miller, 2012, p.126; Ragnedda, 2018, pp. 6-7).

This digital „presence" supports split families and maintains a mechanism of trust. Relatives see the living conditions, the children, and the workplaces, which reduces the uncertainty associated with *gurbet*. Digital channels function as an intermediary in the labor market. Samed calls Bulgaria, makes the arrangements, and the mediation is realized quickly. This process demonstrates the conversion of digital capital—from smartphone access, communication skills, and knowledge of digital practices—into a practical resource for finding and offering employment (Ragnedda, 2018, p. 4). Community ties, long a staple of *gurbet*, now operate through multi-platform digital channels. The linguistic and cultural transformations within the family complete this overall process.

2. Case study: Nesrin (Vienna) — New technologies and the role of women

The second case study examines the story of Nesrin, a migrant who has lived and worked in Vienna for nearly ten years. At the time of the interview, she is 52 years old, having departed for *gurbet* at the age of 42. Nesrin is divorced and has two children. Prior to her migration, she worked primarily in the catering and restaurant industry in Plovdiv, with periods of her life also dedicated to caring for children and sick relatives—responsibilities that limited her opportunities for stable employment. The decision to migrate emerged through a kinship network. Nesrin received a job offer at a newly opened Turkish restaurant in Vienna after her cousin recommended her to the owner. She describes the process as follows: „My cousin thought of me immediately. He called me on Viber, and that's how I met the owner. We hit it off right away, and I left a few weeks later."

Although the initial position was presented as an assistant manager, Nesrin emphasizes that the actual work involved a wide spectrum of activities—from customer service to assisting in the kitchen. Such flexibility is characteristic of the early stages of migrants' labor realization. Over time, digital technologies began to play a key role in both Nesrin's daily life and her professional practices. She actively uses social media and mobile applications for both personal communication and

work purposes: „I learned how to handle social media very well—I post stories for the restaurant, I do advertising. I send documents via email to Bulgaria, and I send money with almost no commission—it happens with one click."

In this sense, Nesrin's case illustrates how digital infrastructures gradually transform into a tool for managing transnational life. Through mobile apps, she maintains constant contact with her family, sends remittances, and coordinates administrative procedures across different institutional contexts. Nesrin also highlights the shift in communication dynamics between migrants and their families, comparing the current situation with the initial migration waves of the early 2000s: „The first gurbetchii used to call once every two or three weeks. Now, we can't get away from our phones—we talk constantly." This continuous communication changes the way family ties are maintained at a distance. Video calls, social networks, and content-sharing platforms allow family members to participate in the daily lives of their loved ones despite the geographical distance. The role of digital platforms is particularly visible in the relationships between the younger generations. Nesrin's children maintain contact with their cousins in Bulgaria through platforms like TikTok, where they exchange videos and visual content. These dynamics create new forms of transnational socialization, in which cultural models are disseminated simultaneously across different national contexts.

Nesrin's case also reveals another aspect of the digitalization of *gurbet*—the increasing participation of women in digitally mediated labor and communication practices. Beyond maintaining family ties, she actively utilizes digital tools for managing work activities, marketing, and financial transfers. Thus, digital technologies become a key resource for sustaining the transnational economy of the family. Nesrin describes the shift in the migratory experience after 2015–2016, when mobility to Western Europe became easier due to the removal of various types of work visas and administrative restrictions. According to her, it was then that online connectivity began to play a pivotal role in the daily organization of *gurbet*. She compares her first trip with the current situation:

> *„When I went the first time, I didn't have internet on my phone... We would stop at a gas station after several hours of driving and, with some luck, if there was internet, I'd immediately write on Messenger or Viber."* Today, according to her, digital applications significantly facilitate mobility and job searching: *„Now it's much easier—you book a plane ticket from your phone; if you don't like a job, you look for another. Everything happens in minutes, as long as you know how. Back then, 10 years ago, everything depended on Wi-Fi, on the phone itself; now it's much easier, you have internet on your phone, and the devices are smart—they support whatever is necessary."*

Alongside labor mobility, the interview also shows how digital connectivity changes the organization of the family. Initially, Nesrin left her son in Bulgaria with her parents, but subsequently brought him to live with her in Vienna, which

she believes stabilized the family situation. In the longer term, she views *gurbet* as a means of social mobility and education for her children, expressing hope that they will one day achieve professional realization in Bulgaria.

At the end of our conversation, Nesrin shared that she wants „her children to be proud Bulgarian citizens and hopes that one day she will accumulate enough funds so that each of them can have their own apartment and a shop in Plovdiv, where they can live and develop normally." She believes that „*from the minority neighborhoods, many good lawyers, doctors, and engineers can emerge, as long as they see the path—just as they see it while on gurbet*."

Nesrin's case illustrates the evolution of the traditional *gurbet* model into a digitally mediated transnational existence. In her practice, digital technologies fulfill a triad of interconnected functions such as the instrumental which can be expressed through navigation and administrative self-efficacy; the relational that includes maintenance of „digital care" and the economic seen as marketing and financial management. Her ability to independently navigate institutional requirements and manage the restaurant's digital presence signifies an accumulation of digital capital that directly reduces transition costs and enhances her professional standing (Ragnedda, 2018, pp. 3-5).

A critical dimension of this case is the gendered redistribution of labor within the transnational family. While male migration often focuses on primary income generation, Nesrin's narrative reveals that women frequently bear the „communicative and organizational burden." As a divorced mother, she performs „networked functions"—coordinating remittances, administrative procedures, and emotional labor—that are often invisible yet foundational to the family's survival. This „functional empowerment" through digital tools improves resource management but does not alleviate the unequal distribution of care; rather, it institutionalizes new forms of intensive digital labor.

Furthermore, Nesrin's experience highlights a qualitative shift in the nature of *gurbet*: the transition from sporadic, high-cost contact to ubiquitous connectivity. This „constant presence" mitigates the sense of geographical displacement but introduces a new risk of digital dependency and emotional burnout for those managing these networks. Ultimately, while digital capital facilitates daily life, it remains bounded by structural constraints—such as the non-recognition of qualifications and bureaucratic barriers—which continue to dictate the long-term success of reintegration or host-society adaptation.

3. Case study: Bahrie (Plovdiv) — New technologies and returning gurbetchii

The third interview was conducted with Bahrie, who works as an educational mediator in the Stolipinovo district. This interview aims to present an alternative perspective on *gurbet*, specifically focusing on the return of *gurbetchii* to their homeland. Although Bahrie herself participated in migratory processes before

2014 (traveling to destinations such as Poland and Cyprus), she is presented here in the role of an expert, providing professional insights and feedback regarding the phenomenon.

The process of return is often protracted, sometimes taking several years. It typically begins with a trial period—staying in Bulgaria during the summer and autumn while searching for permanent employment, or the return of only one family member. Another common strategy involves shorter but more frequent visits to Bulgaria. The rationale for this can be found in the traditional Balkan concept of *gurbet* and its modern manifestations, where economic migration is viewed primarily as a temporary, instrumental, and purposeful phenomenon. Migrants move to countries with easier labor market access and higher wages with the intent to accumulate savings and invest them back in their birthplace, rather than seeking permanent emigration (Hristov, 2015, p. 557). They tend to return once they have accumulated sufficient financial resources or when conditions in the country of origin become more favorable for investment and social reintegration (de Haas, 2010, p. 248). In the Bulgarian context, this behavior is further influenced by institutional and market factors, such as economic instability and the lack of secure jobs for low-skilled workers (World Bank, 2021; Misheva, 2021, p.189). Despite digital infrastructures facilitating a constant presence in the socio-public life of both locations, the core logic of *gurbet* as a goal-oriented, temporary economic migration remains central to understanding their return strategies (Ndreka, 2021).

Bahrie's case illustrates the intersection of digital connectivity and institutional barriers. In her practice, she frequently works with families who return to Bulgaria with children who have attended school in Germany or Austria. One of the primary obstacles is the recognition of educational qualifications and the administrative placement of children into the appropriate grade levels. According to her, this often leads to demotivation and a reluctance to finalize the return process: "I have had cases where children in the fifth grade in Germany are placed in the third grade in Bulgaria. You cannot send a child two grades back—this leads to demotivation and almost certain school dropout." These administrative discrepancies influence family decisions and often lead to the postponement or abandonment of reintegration in Bulgaria. Parents prefer to remain in the host country until their children complete their education.

Alongside institutional barriers, the interview shows how communication platforms transform daily ties between migrants and their relatives. Bahrie describes the constant communication via various platforms: "Often, we don't even feel that the person is gone. We are constantly on video calls. The older generation uses WhatsApp and Viber, while the younger ones are on TikTok."

In these digital spaces, information regarding jobs, housing, social benefits, and travel is exchanged, turning the platforms into informal brokerage channels. At the same time, as mentioned above, they function as a means of maintaining

social and family relations at a distance. A further example of transnational digital mutual aid is the case of Bahrie's sister, who lives in Germany and participates in a WhatsApp group with women from various countries. They exchange practical advice on daily life and adaptation, demonstrating how digital platforms create new forms of social support among migrants.

Despite these technological possibilities, Bahrie emphasizes that numerous administrative procedures continue to require physical presence, particularly regarding the issuance and legalization of documents. This creates additional hardships for migrant families, who must travel to Bulgaria to manage birth certificates, marriage licenses, or residential registrations. The case demonstrates that while digital connectivity facilitates communication and information exchange, it cannot replace or diminish the weight of institutional procedures, which remain a key barrier to the permanent return of gurbetchii. Bahrie concludes the interview with the following reflection on mobility strategies and their impact on Bulgarian society:

> Years ago, it was different; the children and the mother would stay in Bulgaria, and only the men went on gurbet. Now, everyone leaves together—at most, the father goes ahead for a month or two to secure housing and a job, and then the rest follow. This is no longer just a family issue; it is a problem for Bulgaria, that the young and active people are simply gone.

Bahrie's expert testimony bridges the gap between individual narratives and the institutional barriers that erode the possibilities for sustainable return. Of particular importance are the systemic incompatibilities within the educational sphere and the bureaucratic hurdles associated with the recognition of foreign documents. These structural procedures for „grade alignment" or delayed legalizations hinder the conversion of accumulated social and economic capital into successful local reintegration. The educational integration of children functions as a critical threshold for return decisions. In practice, failed reintegration into the school system leads to demotivation and the risk of communal and social conflict. This transforms trial periods into precarious, temporary arrangements that often postpone or negate the prospect of a final return (de Haas, 2010, p.256). The findings suggest that children's educational integration serves as a key determinant; when children successfully integrate linguistically and socially in the host country, their attachment to that society strengthens, thereby weakening the motivation to return.

Another significant factor in return strategies is the reduction of transport costs and the expansion of digital infrastructures, which have led to a restructuring of mobility. Instead of a model of definitive return, cases of frequent, short-term movements and increased travel by relatives from Bulgaria to host countries are becoming the norm. These patterns reorganize economic and family strategies, shifting the direction and function of monetary and commodity flows between the two locations. Some respondents indicated, for instance, that they planned to spend the 2025 New Year holidays with their relatives in Germany.

Digital technologies exert a dual effect. The possibility for constant communication and the information density of digital platforms facilitate the coordination of employment, housing, and logistics. They also reduce the perceived sense of separation; however, they cannot substitute for institutional procedures such as document recognition and legalization, which often require physical presence and are time-consuming. Consequently, while digital connectivity supports trial periods of return, it does not eliminate the structural barriers to durable reintegration (Madianou & Miller, 2012). The „return of the gurbetchii" should not be viewed as a one-dimensional act, but rather as a complex process emerging from the interaction between family priorities, market conditions, digital practices, and administrative structures.

Conclusion

The findings of this study demonstrate that digitalization and new technologies are reshaping the established concept of *gurbet*. From a historic practice based primarily on seasanol work, physical networks and direct mediation, it is transforming into a hybrid, polymedia form of mobility. In this sense, trust, care, and labor brokerage are reorganized through the use of multiple digital platforms. The case studies from Stolipinovo involving Samed, Nesrin, and the educational mediator Bahrie illustrate how daily video calls, chat groups, and social media posts accelerate information exchange and acquire operational functions related to vetting employers, securing housing, travel logistics, and coordinating family life at a distance. These processes transform *gurbet* into a more flexible socio-economic process, deeply integrated into family strategies (Madianou & Miller, 2012). The presented cases function not as isolated biographical narratives but as analytical positions through which the distribution and conversion of digital capital within various roles in the transnational economy of *gurbet* can be traced. In a broader theoretical sense, the study proposes that *gurbet* be conceptualized not merely as an economic migration but as a social technology, a dynamic configuration of digital platforms, capitals, practices, and inequalities that reorganizes labor, family, and belonging. This opens avenues for future and more in-depth research into the role of digital mediation and digital capital in long-term social mobility and intergenerational transformations.

The combination of digital and social capital emerges as a key condition for converting mobility into sustainable economic and social benefits, yet this conversion remains structurally uneven. Digital practices reproduce gender and generational disparities. Women undertake significant but often invisible „network labor" in coordinating and maintaining transnational ties, while younger migrants socialize via visual-media platforms that facilitate transnational integration but may weaken connections to their local context of origin. Concurrently, an age-differentiated use of platforms is observed, ranging from apps for chat and video calls among the older generation like Viber or WhatsApp to visual and multimedia formats among the youth such as TikTok.

Furthermore, the case studies show that digital connectivity cannot compensate for institutional deficits in the reintegration process. Administrative discrepancies in education and the recognition of documents remain a key structural barrier, often rendering return a conditional, postponed, or impractical process. In this context, the classical notion of *gurbet* as a seasonal and transitional form of labor migration is blurring, increasingly establishing itself as a prolonged transnational state. Ultimately, the presented cases function as analytical positions through which the conversion of digital capital can be traced. Despite the potential of digital infrastructures to reduce the subjective sense of distance and to support access to information and resources, they cannot compensate for institutional and emotional deficits and often reproduce pre-existing social and gender inequalities. Thus perceived, *gurbet* emerges as a multifaceted process of mobility in which *individual* and family decisions are directly linked to broader structural, market, and technological conditions.

References

Avdzhieva, A. (2017). Women and families: Mobility strategies. In B. Çitlak, S. Kurtenbach, M. Lueneburg, & M. Zlatkova (Eds.), *The new diversity of family life in Europe: Mobile ethnic groups and flexible boundaries* (pp. 149–162). Springer VS. https://doi.org/10.1007/978-3-658-17857-4_10

Baldassar, L. (2016). De-demonizing distance in mobile family lives: Co-presence, care circulation and polymedia as vibrant matter. *Global Networks, 16*(2), 145-163. https://doi.org/10.1111/glob.12109

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). Greenwood.

de Haas, H. (2010). Migration and development: A theoretical perspective. *International Migration Review*, 44(1), 227–264. https://doi.org/10.1111/j.1747-7379.2009.00804.x

Information und Technik Nordrhein-Westfalen (IT.NRW).(2024*). Gut jede dritte in NRW lebende Person mit ausländischer Staatsangehörigkeit hatte 2023 einen EU-Pass*. Information und Technik Nordrhein-Westfalen. https://www.it.nrw/gut-jede-dritte-nrw-lebende-person-mit-auslaendischer-staatsangehoerigkeit-hatte-2023-einen-eu-pass

European Commission. (2014, January 1). *End of restrictions on free movement of workers from Bulgaria and Romania* (MEMO/14/1). https://europa.eu/rapid/press-release_MEMO-14-1_en.htm

European Union. (2017). Regulation (EU) 2017/920 of the European Parliament and of the Council of 17 May 2017 on roaming on public mobile communications networks within the Union. *Official Journal of the European Union.*

Geertz, C. (1973). *The interpretation of cultures: Selected essays*. Basic Books.

Hristov, P. (2015). The Balkan gurbet/pechalbarstvo — past and present. Glasnik *Etnografskog Instituta SANU*, 63(3), 551-563.

Levitt, P., & Glick Schiller, N. (2004). Conceptualizing simultaneity: A transnational social field perspective on society. *International Migration Review*, 38(3), 595-629. https://doi.org/10.1111/j.1747-7379.2004.tb00227.x

Madianou, M., & Miller, D. (2012). *Migration and new media: Transnational families and polymedia*. London: Routledge.

Markov, I. (2015). Gurbetchii, gastarbayteri, emigranti: Istoricheska dinamika na trudovite migratsii. In *Migratsii i sotsiokulturna dinamika. Albantsite ot Republika Makedoniya* (pp. 166-246). Sofia: Gutenberg.

Markov, I., & Hristov, P. (2019). Gurbet, pechalbarstvo. *Balgarska etnografiya*. https://balgarskaetnografia.com/bit/migracii/2019-05-29-10-46-43.html

Misheva, M. (2021). Return migration and institutional change: The case of Bulgaria. *Economic Studies*, 30(4), 187–204.

Ndreka, A. (2021). Return migration and re-integration of returnees: Challenges in the origin country. *Research in Social Change*, 11(3), 4-24. https://doi.org/10.2478/rsc-2019-0012

Ragnedda, M. (2018). Conceptualising digital capital. *Telematics and Informatics*, 35(8). https://doi.org/10.1016/j.tele.2018.10.006

Venkov, N., Baycheva, G., Kratunkova, R., & Panchev, D. (2016). *Results from an ethnographic study of the communities in the neighbourhood of Stolipinovo (pilot phase)*. Municipal Foundation "Plovdiv 2019".

WAZ. (2024, October 11). Erstmals seit Jahren: Zahl der Bulgaren und Rumänen in Duisburg sinkt. *Westdeutsche Allgemeine Zeitung*. https://www.waz.de/lokales/duisburg/article410535664/erstmals-seit-jahren-zahl-der-bulgaren-und-rumaenen-in-duisburg-sinkt.html

World Bank. (2021). *Migration in Bulgaria: Current challenges and opportunities*. World Bank Group. https://documents.worldbank.org/

FROM EXCAVATION TO EDUCATION: DIGITAL ARCHAEOLOGY, MICRO-CREDENTIALS AND THE TRANSFORMATION OF HERITAGE LEARNING IN THE DIGITAL HUMANITIES

Irena Teodora Vesevska[1], Ss. Cyril and Methodius University, Skopje, North Macedonia

https://doi.org/10.46687/DOZP4854

Abstract: *Digital technologies have transformed archaeological research, cultural heritage management, and higher education by changing the ways in which archaeological knowledge is documented, interpreted, and communicated. Over the last three decades, GIS, photogrammetry, remote sensing, 3D modelling, virtual heritage, and online learning environments have reshaped both professional practice and archaeological training. This article examines the relationship between digital archaeology, digital humanities, heritage education, and micro-credential-based learning as part of this wider educational transformation. It argues that digital archaeology should be understood not only as a set of technical tools, but also as an epistemological shift that affects how archaeological knowledge is produced, validated, shared, and experienced. The Erasmus+ DigiArcheoSpace project is used as a case study to show how competence frameworks, digital educational resources, learning management systems, and micro-credentials can support the modernization of archaeological education. The article also discusses the educational potential of virtual heritage through the digital reconstruction of the Episcopal Basilica at Stobi, while emphasizing the methodological risks of excessive visual certainty, speculation, and insufficient transparency. Particular attention is given to the need for responsible visualisation, critical digital literacy, and sustainable access to educational resources. Digital technologies do not replace archaeological interpretation; they expand the contexts in which evidence can be analysed, taught, questioned, and communicated. In this sense, digital archaeology contributes not only to professional skills development, but also to public heritage literacy and more accessible forms of cultural participation.*

Key words: *digital archaeology, heritage education, micro-credentials, virtual heritage, archaeological visualization*

---

1 Prof. Dr. Irena Teodora Vesevska is a Professor at the Department of Art History and Archaeology, Faculty of Philosophy, Ss. Cyril and Methodius University in Skopje, North Macedonia. Her research interests include Early Christian and Medieval archaeology, archeological theory and methodology, digital archaeology, digital humanities, cultural heritage documentation, virtual heritage, heritage education, and the application of digital technologies in archaeology. She is the national coordinator of several international Erasmus+ projects focusing on digital heritage and innovative learning in higher education. Email: irenap@fzf.ukim.edu.mk

Copyright © 2026 Irena Teodora Vesevska

Article history: Received: 6 June 2026; Edited: 8 June 2026; Revised: 30 June 2026; Accepted: 2 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

1. Introduction

The relationship between technology and the humanities has become one of the defining intellectual questions of the twenty-first century. Digital technologies have transformed how knowledge is produced, organized, communicated, and consumed across disciplines traditionally associated with humanistic inquiry. Archaeology represents a particularly significant example of this transformation because it combines the study of material culture with increasingly sophisticated digital methodologies. Technologies such as Geographic Information Systems (GIS), photogrammetry, remote sensing, laser scanning, virtual reality, and online databases have become integral components of archaeological research and heritage management (Huggett, 2021; Wheatley & Gillings, 2013). The growing adoption of digital technologies has generated what many scholars describe as a digital turn within archaeology. Initially employed to improve data processing and documentation, digital tools now influence nearly every stage of archaeological practice, from field recording and spatial analysis to interpretation, visualization, publication, and public engagement (Morgan & Eve, 2012). Consequently, digital archaeology has evolved beyond a collection of technical methodologies into a broader intellectual framework that examines the implications of technology for archaeological knowledge production and dissemination (Huggett, 2015). At the same time, higher education is undergoing significant transformation. Universities are increasingly expected to prepare students for professional environments characterized by rapid technological change, interdisciplinary collaboration, and continuous skills development. Traditional educational models remain important, yet they are increasingly complemented by online learning environments, open educational resources, competency-based learning frameworks, and micro-credentials designed to support lifelong learning (European Commission, 2021, 2022). These developments are particularly relevant within archaeology. Contemporary archaeologists are expected to possess not only traditional competencies related to excavation, interpretation, and heritage management but also a growing range of digital skills. GIS analysis, photogrammetric recording, digital asset management, virtual heritage production, and online communication have become increasingly important in both academic and professional contexts (Yilmaz & Karasik, 2021).

The emergence of micro-credentials reflects these changing educational realities. Across Europe, micro-credentials are increasingly viewed as mechanisms for supporting flexible, competency-based learning and professional development. By recognizing specific learning outcomes acquired through focused educational experiences, micro-credentials create opportunities for continuous skills acquisition throughout professional careers (European Commission, 2022). Beyond employability, digital technologies are also transforming the relationship between archaeology and society. Online educational platforms, virtual exhibitions, interactive databases, and digital heritage initiatives enable archaeological knowledge to reach broader audiences than ever before. These

developments contribute to public archaeology, heritage literacy, and wider forms of cultural participation while raising important questions concerning accessibility, authenticity, and representation (Perry & Beale, 2015).

This paper examines these interconnected developments through the perspectives of digital archaeology, digital humanities, heritage education, and micro-credential-based learning. Particular attention is devoted to the Erasmus+ DigiArcheoSpace project as a case study of educational innovation and to the digital reconstruction of the Episcopal Basilica at Stobi as an example of virtual heritage practice. The paper argues that digital archaeology represents not merely a technological enhancement of archaeological practice but a broader epistemological and educational transformation, affecting how archaeological knowledge is produced, validated, communicated, and experienced within contemporary digital societies.

2. Digital Archaeology and the Humanities

2.1 Defining Digital Archaeology

Digital archaeology has emerged as one of the most dynamic fields within contemporary archaeological scholarship. Although computational methods began to appear in archaeological research during the second half of the twentieth century, the concept of digital archaeology extends far beyond the simple application of computers to archaeological data. Today, it encompasses a wide range of technologies and methodologies, including GIS, remote sensing, photogrammetry, three-dimensional modelling, digital databases, virtual heritage applications, and online dissemination platforms (Huggett, 2021). One of the earliest conceptualizations of digitally mediated archaeological practice can be found in Reilly's (1991) discussion of "virtual archaeology," which highlighted the potential of computational visualization to support archaeological interpretation. Since then, advances in digital technology have expanded both the scale and complexity of archaeological data while creating new possibilities for analysis and communication. Digital archaeology is therefore increasingly understood not merely as a technological specialization but as an integral component of contemporary archaeological practice. As archaeological workflows become progressively digitized, digital competencies are becoming essential for both researchers and heritage professionals (Morgan & Eve, 2012).

2.2 The Digital Turn in Archaeology

The transition from analogue to digital methodologies has transformed archaeological practice in fundamental ways. Traditional archaeological recording relied heavily on paper documentation, hand-drawn plans, printed catalogues, and analogue photography. While these methods remain valuable, digital technologies provide enhanced opportunities for accuracy, accessibility, reproducibility, and collaboration (Wheatley & Gillings, 2013). GIS technologies

allow archaeologists to analyse complex spatial relationships across landscapes and regions. Photogrammetry enables the rapid production of highly accurate three-dimensional models of artefacts, buildings, and archaeological sites. Remote sensing technologies such as LiDAR, satellite imagery, and drone-based surveys have significantly expanded the capacity to identify and document archaeological remains (Richards-Rissetto & Landau, 2019). At the same time, digital databases and online repositories have transformed archaeological information. Researchers increasingly work within interconnected digital environments where textual records, images, spatial data, and three-dimensional models can be integrated into comprehensive documentation systems. These developments have not only increased efficiency but also altered the nature of archaeological inquiry itself. Digital tools facilitate new forms of analysis while encouraging broader collaboration between archaeologists, computer scientists, heritage professionals, and educators.

2.3 Digital Archaeology within the Digital Humanities

Digital archaeology occupies a distinctive position within the broader field of digital humanities. Like other humanities disciplines, archaeology has embraced digital technologies as tools for research, communication, and education. However, archaeology differs in its reliance upon material culture, spatial relationships, and visual evidence. Digital humanities scholars have increasingly emphasized that technologies are not neutral instruments but cultural and intellectual frameworks that influence knowledge production. This perspective has particular relevance for archaeology because archaeological interpretations are often mediated through digital representations, databases, and visualization technologies (Champion, 2015). The relationship between digital archaeology and digital humanities therefore extends beyond shared technologies. Both fields engage with broader questions concerning knowledge creation, accessibility, participation, and the role of technology in shaping scholarly practice. As Perry and Beale (2015) argue, digital platforms have transformed the ways archaeological knowledge is communicated and consumed, creating new opportunities for collaboration and public engagement while simultaneously generating new challenges related to authority and interpretation.

2.4 Archaeological Knowledge Production in the Digital Age

The increasing integration of digital technologies into archaeological practice has generated important discussions regarding the nature of archaeological knowledge itself. While digital tools are often presented as neutral instruments that facilitate documentation and analysis, a growing body of scholarship argues that technologies actively influence the ways in which archaeological information is produced, interpreted, and communicated (Huggett, 2015; Morgan & Eve, 2012). Traditional archaeological knowledge was largely constructed through excavation reports, field notes, drawings, photographs, and printed publications. In contrast, contemporary archaeology increasingly relies on digital datasets, databases,

geospatial platforms, and three-dimensional visualizations. These technologies do not merely store information; they shape how information is organized, prioritised, and interpreted. Consequently, digital archaeology represents not only a methodological innovation but also an epistemological transformation. As Huggett (2015) argues, digital archaeology should be understood as a reflexive field concerned not only with the application of technologies but also with examining how technologies shape archaeological practice. Digital tools influence research questions, determine forms of data collection, and create new possibilities for visualization and analysis. They therefore participate directly in the construction of archaeological knowledge. This shift has important implications for both research and education. Students are no longer expected simply to consume archaeological information but increasingly to navigate complex digital ecosystems through which archaeological knowledge is produced and disseminated. Digital literacy thus becomes an essential component of archaeological training and professional competence. Digital technologies do not simply record archaeological knowledge; they actively participate in its construction.

3. From Excavation to Education: Digital Technologies and Archaeological Learning

3.1 Changing Educational Paradigms

The integration of digital technologies into archaeological practice has inevitably transformed archaeological education. For much of the twentieth century, archaeological training followed a relatively stable model centred on lectures, seminars, laboratory work, and field schools. While these components remain essential, contemporary technological developments have expanded both the methods and environments through which archaeological knowledge can be acquired and transmitted. Higher education institutions increasingly operate within a context shaped by globalization, technological innovation, and changing labour market expectations. Students are expected not only to master disciplinary knowledge but also to develop transferable competencies including digital literacy, problem-solving, collaboration, and lifelong learning skills (European Commission, 2022). Archaeology, as an interdisciplinary field situated at the intersection of the humanities, social sciences, and increasingly digital technologies, reflects these broader transformations.

The educational implications are substantial. Archaeological curricula can no longer focus exclusively on excavation techniques, material culture studies, and theoretical interpretation. Contemporary students must also develop competencies related to geospatial technologies, digital documentation, data management, visualization tools, and online communication (Yilmaz & Karasik, 2021). Consequently, archaeological education is undergoing a transition from traditional content-centred approaches toward more flexible and competency-based models of learning. Digital technologies support this transition by creating

opportunities for experiential, collaborative, and self-directed learning. Rather than functioning merely as supplementary tools, they increasingly shape how archaeological knowledge is taught, learned, and assessed.

3.2 Digital Learning Environments

The development of digital learning environments has significantly expanded the possibilities of archaeological education. Learning Management Systems (LMS), online repositories, virtual classrooms, educational video platforms, and interactive learning applications allow students to access educational resources regardless of geographic location or institutional affiliation. These developments are particularly important within archaeology because access to archaeological sites, laboratories, and specialized equipment is often unevenly distributed. Digital environments can help reduce these barriers by providing learners with access to educational content that would otherwise be unavailable (European Commission, 2021). Online learning environments also support flexible learning pathways. Students can engage with educational materials at their own pace, revisit complex concepts, and combine learning activities with professional or personal responsibilities. Such flexibility is increasingly important in higher education, particularly within lifelong learning contexts. Furthermore, digital learning environments encourage multimodal learning. Archaeological concepts can be communicated through combinations of text, images, videos, maps, three-dimensional models, interactive exercises, and assessment tools. Research in educational technology consistently demonstrates that multimodal approaches can improve learner engagement and facilitate deeper understanding of complex concepts (Buchem & Hamelmann, 2022). Importantly, digital learning should not be viewed as a replacement for fieldwork or direct engagement with archaeological materials. Rather, digital technologies function most effectively when integrated into broader pedagogical strategies that combine experiential learning, critical reflection, and technological innovation.

3.3 Visual Learning and Virtual Heritage

Archaeology is inherently visual and spatial. Understanding archaeological sites, architectural remains, artefacts, and landscapes frequently requires the interpretation of complex spatial relationships that are difficult to communicate through text alone. Consequently, digital visualization technologies have become particularly valuable educational tools. Three-dimensional modelling, photogrammetry, and virtual heritage applications enable students to explore archaeological materials in ways that were previously impossible. Digital models can be rotated, enlarged, measured, and examined from multiple perspectives, allowing learners to engage directly with archaeological evidence even when physical access is impossible (Champion, 2015). Virtual heritage extends these possibilities further by enabling the reconstruction of archaeological environments that no longer survive in their original form. Through virtual reconstructions, students can explore ancient buildings, urban spaces, and

landscapes while developing a deeper understanding of historical contexts and archaeological interpretation. The educational value of virtual heritage extends beyond visualization. Digital reconstructions provide opportunities to teach archaeological reasoning itself. Students can compare surviving archaeological evidence with reconstructed elements and evaluate the interpretative decisions underlying reconstruction processes. Such activities encourage critical thinking and help learners understand that archaeological knowledge is not simply discovered but actively constructed through interpretation (Wilson, 2018). In this sense, virtual heritage functions not only as a communication tool but also as a pedagogical instrument capable of fostering methodological awareness and interpretative literacy.

3.4 Digital Skills and Professional Competencies

The growing importance of digital technologies within archaeology has transformed expectations regarding graduate competencies. Traditional archaeological skills remain indispensable; however, they are increasingly complemented by digital competencies that have become essential to contemporary professional practice. Employers within museums, cultural heritage institutions, archaeological consultancies, government agencies, and research organisations increasingly seek graduates capable of working with GIS software, photogrammetric workflows, digital databases, geospatial analysis tools, and online communication platforms (Aitchison, 2020). The ability to create, manage, analyse, and communicate digital information has become a key professional requirement. This development reflects broader transformations within the heritage sector. Cultural heritage institutions increasingly rely on digital infrastructures for documentation, conservation, interpretation, and public engagement. Consequently, educational programmes must prepare graduates to operate effectively in technologically mediated professional environments.

At the same time, digital competencies should not be understood merely as technical skills. Effective archaeological practice requires the integration of technological proficiency with critical thinking, ethical awareness, interpretative ability, and interdisciplinary collaboration. Educational programmes must therefore balance technical training with broader intellectual and professional development.

Traditional Approach	Digital Approach
Classroom lectures	LMS platforms
Printed manuals	Interactive modules
Site visits only	Virtual tours
Hand drawing	Photogrammetry
Physical archives	Digital repositories
Fixed curricula	Micro-credentials

Traditional Approach	Digital Approach
Teacher-centred learning	Learner-centred pathways
Local access to resources	Global online access

Table 1. *Traditional and Digital Approaches in Archaeological Education*

4. Employability, Skills Gaps and Micro-Credentials in Archaeology

4.1 The Employability Challenge

One of the most significant challenges facing contemporary archaeological education concerns the relationship between academic training and labour market requirements. Across Europe, concerns have emerged regarding the alignment between university curricula and the competencies required within professional archaeological practice (Aitchison, 2020). Archaeology operates within a diverse professional landscape that includes academic research, museums, heritage management, cultural tourism, conservation, public administration, education, and commercial archaeology. Increasingly, many of these sectors require graduates capable of combining archaeological expertise with advanced digital competencies.

Technological innovation has contributed to the emergence of new professional roles related to digital documentation, heritage visualization, GIS analysis, digital asset management, and cultural resource management. However, educational institutions often struggle to adapt curricula at the same pace as technological change. As a result, skills gaps may emerge between graduate competencies and employer expectations (Yilmaz & Karasik, 2021). These challenges are particularly visible in regions where digital archaeology remains unevenly integrated into higher education curricula. While many institutions have introduced individual courses addressing digital methods, systematic digital training remains inconsistent across much of Europe and especially within smaller higher education systems.

4.2 Skills Gaps in Contemporary Archaeology

The concept of a skills gap has become increasingly prominent within discussions concerning archaeological education. Skills gaps emerge when the competencies possessed by graduates do not fully correspond to those required by professional practice. Within archaeology, these gaps frequently involve digital skills. Employers increasingly seek professionals capable of working with GIS, photogrammetry, remote sensing, database management, digital visualization, and online communication. Yet many graduates receive only limited exposure to these technologies during formal education (Aitchison, 2020). The consequences extend beyond employability. Digital competencies influence research quality, project efficiency, documentation standards, heritage management practices, and public engagement capacity. Addressing skills gaps is therefore important

not only for employment outcomes but also for the long-term development of the discipline itself. Furthermore, technological innovation continues to accelerate. New software platforms, artificial intelligence applications, visualization technologies, and data management systems emerge continuously. Educational systems must therefore support adaptability and lifelong learning rather than relying exclusively upon traditional degree structures.

4.3 Micro-Credentials as a Response

Micro-credentials have emerged as one of the most significant educational responses to these challenges. The European Commission (2022) defines micro-credentials as certifications that document learning outcomes acquired through short, targeted educational experiences focused on specific competencies. Unlike conventional degree programmes, micro-credentials offer flexible opportunities for skills development that can be completed alongside employment or other educational commitments. They enable learners to acquire specialized competencies in response to specific professional requirements while supporting continuous professional development (European Commission, 2021). For archaeology, this approach offers several advantages. Digital competencies can be taught through focused learning modules dedicated to specific technologies or methodologies. Learners can update their skills without undertaking lengthy degree programmes, while educational institutions can respond more rapidly to technological developments. Micro-credentials also facilitate broader participation in archaeological education. Heritage professionals, museum specialists, teachers, conservators, tourism practitioners, and independent learners can access targeted training opportunities regardless of their formal academic background.

4.4 Lifelong Learning and Professional Adaptability

The increasing importance of micro-credentials reflects a broader shift toward lifelong learning. Contemporary professional environments require continuous adaptation as technologies, methodologies, and organisational structures evolve. Archaeology is no exception. Lifelong learning frameworks recognize that professional education does not end with graduation. Instead, learning becomes an ongoing process through which individuals continually update their knowledge and competencies throughout their careers (European Commission, 2022). Digital archaeology provides a particularly compelling example of this dynamic. Technologies that are considered innovative today may become standard practice within only a few years. Educational systems must therefore support continuous skills development if professionals are to remain effective within changing technological environments.

4.5 Beyond Employability: Social Impact and Heritage Participation

Although discussions concerning digital competencies frequently focus on employability and labour market outcomes, the significance of digital

archaeological education extends far beyond professional training. Archaeology contributes not only to academic knowledge but also to public understanding of cultural heritage, identity, and historical memory. Digital technologies have expanded opportunities for public participation in heritage-related activities. Online educational platforms, virtual exhibitions, interactive databases, digital storytelling projects, and social media initiatives enable broader audiences to engage with archaeological knowledge in ways that were previously impossible (Perry & Beale, 2015). Within this context, educational initiatives should be evaluated not solely according to their ability to improve employability but also according to their capacity to strengthen heritage literacy and cultural participation. Digital archaeological education can contribute to informed citizenship, community engagement, and increased awareness of cultural heritage preservation. The value of digital archaeological education therefore extends beyond labour market outcomes and contributes to broader forms of cultural participation and heritage literacy.

5. DigiArcheoSpace as a Case Study in Digital Heritage Education

5.1 From Project Outputs to Educational Transformation

The growing demand for digital competencies within archaeology has highlighted the need for educational initiatives capable of bridging the gap between technological innovation and academic training. While many universities have introduced individual courses related to GIS, photogrammetry, digital heritage, or archaeological visualization, comprehensive educational frameworks that integrate these competencies within coherent learning pathways remain relatively rare.

The Erasmus+ KA220-HED project ***DigiArcheoSpace – Modern Tools for Documenting and Presenting Cultural Heritage in Archaeology*** was developed in response to this challenge. Rather than focusing exclusively on technological tools, the project sought to create an educational ecosystem capable of supporting the development of digital competencies among archaeology students, heritage professionals, educators, and lifelong learners. For the purposes of this study, DigiArcheoSpace is not treated as the primary subject of analysis but rather as a practical case study illustrating broader transformations in archaeological education. The project demonstrates how digital technologies, competence-based learning, and micro-credential frameworks can be integrated within higher education in response to emerging professional and societal needs. The project brought together universities, museums, and heritage institutions from Bulgaria, North Macedonia, Croatia, and Türkiye, creating an interdisciplinary and international environment for educational innovation. This collaborative structure reflected the increasingly interconnected nature of contemporary archaeological practice, where digital competencies often emerge through cooperation between archaeologists, IT specialists, educators, conservators, and heritage managers.

5.2 Competence Framework and Learning Outcomes

One of the central achievements of DigiArcheoSpace was the development of a competence framework designed to identify the knowledge, skills, and abilities required within contemporary digital archaeological practice (Vesevska et al., 2026).

Competence frameworks have become increasingly important within European higher education because they provide transparency regarding learning outcomes and facilitate alignment between educational programmes and professional requirements (European Commission, 2022). Within archaeology, such frameworks are particularly valuable because they help define competencies that extend beyond traditional disciplinary boundaries. The DigiArcheoSpace framework recognized that digital archaeology requires more than technical proficiency. Effective professionals must combine technological skills with critical thinking, methodological awareness, ethical responsibility, communication abilities, and interdisciplinary collaboration. Consequently, the framework integrated competencies related to documentation, analysis, interpretation, visualization, digital asset management, and heritage communication. Particular emphasis was placed on transferable skills that can be applied across multiple professional contexts. Archaeologists increasingly work in environments that require collaboration with specialists from different fields. Educational frameworks must therefore prepare learners not only for specific technologies but also for broader forms of professional adaptability and lifelong learning.

5.3 Educational Modules and Digital Resources

The educational impact of DigiArcheoSpace can be illustrated through several tangible outputs. The project developed a competence framework defining key digital competencies for archaeologists, produced six thematic educational modules, established an online Learning Management System (LMS), created multilingual educational videos, and organised pilot learning activities and multiplier events involving university students, academic staff, museum professionals, and heritage practitioners across the partner countries. Together, these outputs demonstrate how digital educational resources can support both formal university curricula and lifelong learning initiatives within the heritage sector.

The educational content developed through DigiArcheoSpace was organized into six interconnected modules addressing key areas of digital archaeology and heritage management (Vesevska et al., 2026). The first module introduced learners to the foundations of digital archaeology and explored the relationship between information technologies and archaeological documentation. Subsequent modules focused on GIS and aerial photography, photogrammetry and three-dimensional modelling, digital artefact analysis, online databases, and digital asset management. Together, these modules provided a structured introduction to contemporary digital archaeological

methodologies while emphasizing practical applications and professional relevance. Importantly, the modules were designed not only to transfer technical knowledge but also to encourage critical reflection on the opportunities and limitations of digital technologies. Educational materials incorporated multiple learning formats, including written content, visual resources, videos, quizzes, and interactive activities. Such diversity reflects current educational research, which highlights the effectiveness of multimodal learning environments in supporting learner engagement and knowledge retention (Buchem & Hamelmann, 2022).

5.4 Learning Management Systems and Open Educational Resources

The project's Learning Management System (LMS) represented a key component of its educational strategy. The LMS functioned as a digital learning environment through which learners could access educational materials, multimedia content, assessments, and supporting resources. The significance of such platforms extends beyond convenience. Digital learning environments create opportunities for participation that transcend geographical and institutional boundaries. Students, professionals, and independent learners can engage with educational resources regardless of location, thereby contributing to broader forms of educational accessibility and inclusion. The LMS also hosted educational videos produced during the project. Video-based resources are particularly valuable within archaeology because many archaeological methods involve practical procedures that are more effectively communicated visually than through text alone. Demonstrations of photogrammetric workflows, GIS applications, and documentation techniques allow learners to observe methodological processes directly. Furthermore, the combination of textual content, multimedia resources, interactive exercises, and assessments created a more dynamic learning environment than would have been possible through traditional educational materials alone.

5.5 Public Archaeology and Community Engagement

One of the most significant dimensions of DigiArcheoSpace concerns its contribution to public archaeology. Archaeological knowledge has traditionally been communicated through academic publications, conferences, museums, and heritage institutions. Digital technologies provide opportunities to expand these channels and reach broader audiences. Through online educational resources, videos, dissemination activities, and digital platforms, DigiArcheoSpace contributed to the creation of more accessible pathways through which members of the public could engage with archaeological heritage. Such efforts align with contemporary understandings of archaeology as a socially engaged discipline that carries responsibilities extending beyond academic research (Perry & Beale, 2015).

Public engagement is particularly important because cultural heritage constitutes a shared social resource. Archaeological sites, monuments, artefacts, and historical narratives contribute to collective memory, cultural identity, and community belonging. Digital technologies support more inclusive forms of

participation by making heritage resources accessible to audiences who may never visit archaeological sites or museums in person. Consequently, DigiArcheoSpace demonstrates how educational innovation can simultaneously contribute to professional training, lifelong learning, and public engagement.

5.6 Limitations of the Case Study

While DigiArcheoSpace provides a valuable example of educational innovation in digital archaeology, several limitations should be acknowledged. As an Erasmus+ project, its implementation was limited to a specific partnership, timeframe, and funding framework. Accordingly, the educational outcomes discussed here reflect a particular collaborative context rather than universally applicable results. Although pilot implementation and dissemination activities provided encouraging feedback, long-term evaluation of learning outcomes and professional impact remains beyond the scope of the present study. Future comparative studies involving similar digital heritage initiatives would provide a stronger empirical basis for evaluating the long-term effectiveness of competence-based digital archaeological education.

6. Virtual Heritage and the Reconstruction of the Episcopal Basilica at Stobi

6.1 Virtual Heritage and Archaeological Interpretation

Virtual heritage has emerged as one of the most influential areas within digital archaeology. Through the use of three-dimensional modelling, virtual reality, augmented reality, and interactive visualization, virtual heritage enables the representation and interpretation of archaeological environments in ways that were previously impossible (Champion, 2015). The popularity of virtual heritage reflects a fundamental challenge faced by archaeology: the fragmentary nature of the archaeological record. Archaeological sites rarely survive in complete form. Buildings collapse, decorative elements disappear, and archaeological remains often preserve only partial evidence of past environments. Consequently, archaeologists must reconstruct the past through processes of interpretation based on incomplete evidence. Digital technologies provide powerful tools for visualizing these interpretations. Through three-dimensional modelling and reconstruction, archaeological evidence can be translated into spatial representations that facilitate analysis, education, and public communication. Yet virtual heritage should not be understood merely as a means of illustration. Rather, it represents a form of scholarly interpretation expressed through visual media (Wilson, 2018).

6.2 The Episcopal Basilica at Stobi

The Episcopal Basilica at Stobi represents one of the most important Early Christian monuments in North Macedonia and serves as an instructive example of the educational potential of virtual heritage.

Located within the ancient city of Stobi, one of the most significant urban centres of Late Antiquity in the Balkans, the basilica formed part of a larger episcopal complex that played a central role in the religious, social, and political life of the city. Archaeological excavations have revealed extensive architectural remains, including mosaic floors, architectural sculpture, liturgical furnishings, and evidence of multiple construction phases (Wiseman & Mano-Zissi, 1971). Despite the richness of the archaeological record, substantial portions of the original structure no longer survive. Roofing systems, upper architectural elements, decorative programmes, and many aspects of the monument's original appearance remain incomplete or uncertain. Understanding the basilica therefore requires both archaeological documentation and interpretative reconstruction. This situation makes the Episcopal Basilica particularly suitable for digital reconstruction. The surviving archaeological evidence provides a substantial empirical foundation while simultaneously requiring scholarly interpretation concerning missing architectural elements and spatial relationships.

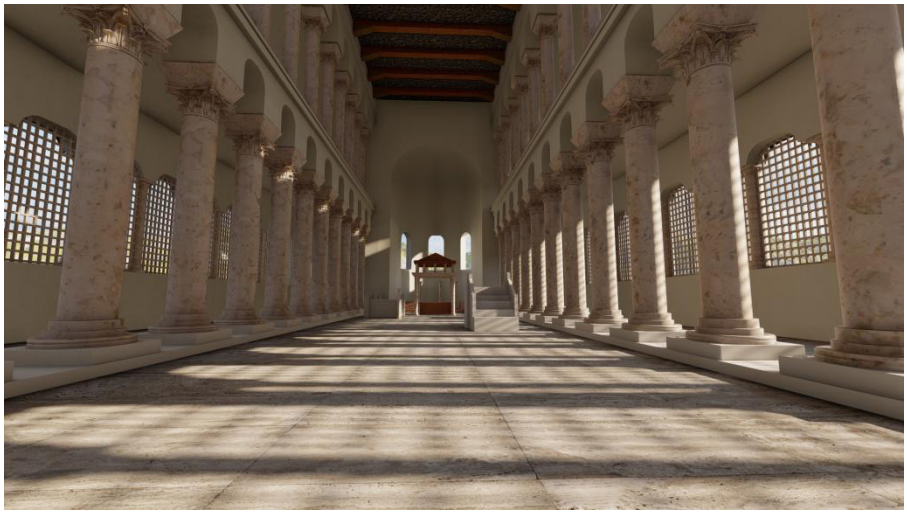


Figure 1. *Episcopal Basilica at Stobi, view of the digital reconstruction.* Source: https://www.youtube.com/watch?v=SRYVb9EBzX4

6.3 Educational Value of Reconstruction

The reconstruction of the Episcopal Basilica offers significant educational benefits. Students frequently encounter difficulties when attempting to interpret fragmentary archaeological remains. Foundations, isolated walls, and scattered architectural elements rarely communicate the appearance, scale, or function of ancient buildings clearly. Virtual reconstruction helps bridge this gap by transforming archaeological evidence into coherent spatial environments. Through digital models, students can explore architectural layouts, examine circulation patterns, and develop a more intuitive understanding of liturgical space and urban organization. The educational value of reconstruction extends

beyond visualization. Digital models provide opportunities to teach archaeological methodology itself. By comparing archaeological evidence with reconstructed elements, students become more aware of the distinction between documented facts and interpretative hypotheses. In this respect, reconstruction functions not only as a representation of the past but also as a means of understanding how archaeological knowledge is produced. Students learn that archaeological interpretation involves evidence, comparison, inference, and scholarly judgement rather than simple observation.



Figure 2. *Interior perspective of the reconstructed Episcopal Basilica at Stobi, showing the nave, colonnades and spatial rhythm of the liturgical hall.*



Figure 3. *Elevated interior view of the reconstructed basilica, illustrating the spatial organization of the nave, galleries and eastern liturgical zone.*



Figure 4. *Reconstructed liturgical zone of the Episcopal Basilica at Stobi, with altar area, ciborium and chancel barriers.*

6.4 Authenticity and Transparency

The increasing use of virtual reconstructions has generated important methodological discussions concerning authenticity, transparency, and scholarly responsibility. International frameworks such as the London Charter for the Computer-Based Visualisation of Cultural Heritage (2009) and the Seville Principles (2011) emphasize that virtual reconstructions should remain grounded in evidence while clearly communicating uncertainty. These principles are particularly important because digital visualizations possess considerable persuasive power. Highly realistic reconstructions often create impressions of completeness and certainty even when substantial portions of the model are based on hypothetical reconstruction. Consequently, contemporary virtual heritage practice increasingly recognizes that uncertainty should not be concealed but rather communicated. Effective reconstructions allow users to distinguish between elements supported by archaeological evidence and those reconstructed through comparison, analogy, or interpretation (London Charter, 2009).

6.5 Authenticity, Authority and the Politics of Reconstruction

The process of digital reconstruction raises questions that extend beyond technical methodology. Every reconstruction involves decisions about evidence, interpretation, visualization, and representation, and therefore functions both as a scholarly argument and as a cultural narrative. Its authority often derives from visual persuasiveness: the more complete and realistic a model appears, the more easily users may read it as objective fact. This creates a tension between archaeological uncertainty and visual certainty. Transparency is therefore not an optional supplement but a methodological requirement. Users should be able to distinguish between documented remains, comparative reconstructions, and

conjectural elements. The educational value of virtual heritage lies precisely in making these interpretative layers visible rather than suppressing them in the pursuit of visual completeness.



Figure 5. *Interpretative visualization of the reconstructed interior, emphasizing the distinction between evidence-based modelling and hypothetical reconstruction.*

7. Opportunities, Risks and Ethical Challenges

7.1 Expanding Access to Archaeological Knowledge

One of the most significant contributions of digital technologies to archaeology is the expansion of access to knowledge. Digital platforms have transformed how archaeological information is disseminated, enabling students, researchers, heritage professionals, and members of the public to access educational resources regardless of geographical location. Learning management systems, open educational resources, digital repositories, online databases, and virtual exhibitions have collectively contributed to a more accessible and inclusive heritage landscape (Perry & Beale, 2015). This democratization of knowledge is particularly important in regions where access to specialized educational programmes, archaeological sites, museums, or research institutions may be limited. Digital technologies reduce barriers associated with distance, cost, and institutional affiliation, thereby creating opportunities for broader participation in heritage education (European Commission, 2021).

Projects such as DigiArcheoSpace demonstrate how digital resources can support both formal and non-formal educational environments. Students enrolled in higher education programmes, professionals seeking additional training, teachers, museum specialists, and independent learners can all benefit from educational materials developed within a shared digital framework.

However, accessibility should not be understood solely in technological terms. Effective educational resources must also be pedagogically meaningful, culturally relevant, and understandable to diverse audiences. The challenge therefore lies not merely in providing access to information but in creating learning experiences that facilitate understanding, engagement, and critical reflection.

7.2 Sustainability and Digital Preservation

Despite the numerous benefits associated with digital archaeology, important challenges remain regarding the long-term preservation of digital resources. Unlike physical archives, digital datasets require continuous technological support. Software becomes obsolete, file formats change, storage systems fail, and online platforms may disappear if institutional support is withdrawn (UNESCO, 2023). This issue is particularly relevant within archaeological projects that generate large quantities of digital information. Photogrammetric datasets, laser scanning records, GIS databases, virtual reconstructions, educational videos, and online learning materials all require long-term preservation strategies if they are to remain accessible and useful. The sustainability of educational resources represents a particularly important concern. Erasmus+ projects and other externally funded initiatives often produce high-quality educational outputs, yet maintaining these resources beyond the funding period can be challenging. Learning platforms, repositories, and digital archives require institutional commitment if they are to continue serving future learners. Consequently, sustainability should be viewed as a central component of digital heritage planning. The creation of digital resources is only the first stage of a much longer process involving maintenance, updating, preservation, and ongoing accessibility.

7.3 Ethical Responsibilities in Digital Heritage

Digital technologies have expanded the possibilities of archaeological interpretation and communication, but they have also introduced new ethical responsibilities. Questions concerning ownership, representation, accessibility, authenticity, and intellectual property have become increasingly important within digital heritage practice (Champion, 2015).

Archaeological knowledge is never entirely neutral. Decisions regarding what is documented, how information is presented, and which narratives are emphasized inevitably influence public perceptions of the past. Digital technologies amplify these effects because they allow archaeological interpretations to reach larger audiences and circulate more widely than ever before.

Consequently, archaeologists and heritage professionals must remain attentive to the ethical dimensions of digital communication. This includes respecting cultural sensitivities, ensuring transparency regarding interpretative decisions, acknowledging uncertainty, and promoting inclusive approaches to heritage representation.

The growing importance of public engagement further reinforces these responsibilities. As archaeology becomes increasingly visible within digital environments, practitioners must consider not only academic audiences but also diverse communities whose understandings of heritage may differ significantly from scholarly perspectives.

7.4 Between Visualization and Speculation

Perhaps the most significant methodological challenge associated with digital archaeology concerns the relationship between visualization and speculation. The ability to create highly realistic digital reconstructions offers extraordinary opportunities for communication and education. At the same time, realism can create misleading impressions regarding the certainty of archaeological interpretations.

Virtual reconstructions are inherently interpretative. Even when based upon extensive archaeological evidence, they require decisions regarding missing architectural elements, decorative programmes, colours, materials, lighting conditions, and spatial organization. Many of these decisions involve varying degrees of uncertainty (Wilson, 2018).

The problem arises when uncertainty becomes invisible. Photorealistic visualizations often appear complete and authoritative, encouraging viewers to perceive reconstructed environments as objective representations of historical reality. Yet archaeological evidence rarely supports such certainty.

Responsible virtual heritage therefore requires transparency. Users should be able to distinguish between evidence-based components and hypothetical reconstructions. Rather than concealing uncertainty, digital archaeology should use visualization as a means of communicating the interpretative nature of archaeological knowledge itself.

7.5 Who Controls Archaeological Knowledge in the Digital Age?

The growing integration of digital technologies into archaeology raises a fundamental question that extends beyond technical innovation: who controls the production of archaeological knowledge in the digital age? Digital platforms, virtual reconstructions, educational resources, databases, and algorithmic systems increasingly mediate public encounters with the past.

As a result, archaeology is no longer concerned solely with the interpretation of material remains but also with the design of digital environments through which historical knowledge is experienced. This shift transforms archaeologists from interpreters of evidence into curators of digital knowledge systems, creating new intellectual and ethical responsibilities.

Digital technologies shape not only access to information but also the forms through which information is organized, prioritized, visualized, and communicated. Algorithms determine search results, platforms influence

visibility, and visualization technologies frame interpretation. Consequently, questions of authority and representation become increasingly important within digital archaeology.

The challenge is no longer simply how to document the past, but how to ensure that digital representations remain transparent, accessible, critically informed, and socially responsible. In this sense, the digital transformation of archaeology is simultaneously a technological, educational, and ethical transformation.

8. Artificial Intelligence and the Future of Archaeological Education

Artificial intelligence (AI) represents the latest phase in the digital transformation of archaeology and heritage studies. Machine learning algorithms are increasingly employed for image recognition, predictive modelling, artefact classification, spatial analysis, automated documentation, and data processing. As archaeological datasets continue to grow in size and complexity, AI-based approaches are likely to play an increasingly important role within both research and education (Huggett, 2021).

Within archaeology, artificial intelligence offers significant opportunities. Automated image analysis can assist in identifying archaeological features within aerial imagery, LiDAR datasets, and remote sensing records. Machine learning can facilitate the classification of artefacts, support pattern recognition, and accelerate the processing of large quantities of information. AI-driven educational systems may also contribute to adaptive learning environments capable of responding to individual learner needs.

At the same time, the growing influence of AI raises important methodological questions. Algorithms operate according to datasets and decision-making structures that may contain biases, limitations, and assumptions. If employed uncritically, AI systems risk reinforcing existing interpretative frameworks while obscuring the reasoning processes through which conclusions are reached.

These concerns are particularly relevant within archaeology because interpretation remains central to the discipline. Archaeological evidence acquires meaning through contextualization, comparison, theoretical reflection, and scholarly judgement. While AI can assist in identifying patterns and managing information, it cannot replace the interpretive processes that remain fundamental to archaeological inquiry.

Educational programs must therefore prepare future archaeologists not only to use AI technologies but also to evaluate them critically. Digital literacy in the coming decades will increasingly involve understanding how algorithms function, recognizing their limitations, and assessing their implications for research, education, and heritage management.

The future of archaeological education will likely involve a combination of traditional archaeological skills, digital competencies, and AI literacy. Such an integrated approach can help ensure that technological innovation strengthens rather than diminishes the humanistic foundations of the discipline.

9. Conclusion

The relationship between archaeology, education, and technology has undergone profound transformation during the past several decades. Digital technologies have altered the ways archaeological evidence is documented, analyzed, visualized, communicated, and preserved. At the same time, they have reshaped educational practices, creating new opportunities for learning, professional development, and public engagement.

As this paper has demonstrated, digital archaeology should not be understood merely as the application of technological tools to archaeological research. Rather, it represents a broader epistemological transformation that influences how archaeological knowledge is produced, validated, communicated, and experienced (Huggett, 2015; Morgan & Eve, 2012). The emergence of digital learning environments, competence-based education, micro-credentials, and virtual heritage initiatives reflects this wider transformation.

The DigiArcheoSpace project provides a practical example of how these developments can be translated into educational innovation. Through competence frameworks, digital educational resources, online learning environments, and micro-credential-oriented approaches, the project illustrates how archaeology can respond constructively to changing technological and societal conditions.

The reconstruction of the Episcopal Basilica at Stobi further demonstrates the educational potential of digital heritage. Virtual reconstructions enable learners to engage with archaeological evidence in new ways while simultaneously revealing the interpretative processes through which archaeological knowledge is created. At the same time, such reconstructions remind us that visualization is never neutral and that transparency, authenticity, and scholarly responsibility remain essential principles of heritage communication.

The increasing integration of artificial intelligence, digital platforms, and immersive technologies will undoubtedly continue to transform archaeology in the coming decades. Yet technological innovation alone cannot determine the future of the discipline. The humanities remain fundamentally concerned with interpretation, meaning, context, and human experience. Archaeology, despite its growing technological sophistication, continues to rely upon these foundations.

Archaeology has traditionally been concerned with the preservation and interpretation of the past. In the digital age, however, it is equally concerned with the future. Every generation determines which knowledge will be preserved, how it will be communicated, and who will have access to it. Digital technologies do

not replace archaeological interpretation; rather, they expand the possibilities through which archaeological knowledge can be created, shared, questioned, and experienced. The future of archaeology therefore depends not only on technological innovation but also on the ability of archaeologists, educators, and heritage professionals to critically shape the digital environments through which the past becomes meaningful in the present. Ultimately, the future of archaeology will depend not only on technological innovation itself but also on the ability to employ these technologies critically, ethically, and transparently in ways that strengthen both scholarly practice and public engagement.

References

Aitchison, K. (2020). *Profiling the profession: Archaeology labour market intelligence.* Landward Research.

Buchem, I., & Hamelmann, H. (2022). Micro-credentials as a sustainable means for skill development in higher education. *International Journal of Educational Technology in Higher Education,* 19(1), 1-18.

Champion, E. (2015). *Critical gaming: Interactive history and virtual heritage.* Routledge.

European Commission. (2021). A European approach to micro-credentials: Output of the micro-credentials higher education consultation group. *Publications Office of the European Union.*

European Commission. (2022). Council recommendation on a European approach to micro-credentials for lifelong learning and employability. *Publications Office of the European Union.*

Huggett, J. (2015). A manifesto for an introspective digital archaeology. *Open Archaeology,* 1(1), 86-95.

Huggett, J. (2021). *Digital archaeology*. Routledge.

London Charter. (2009). The London Charter for the Computer-Based Visualisation of Cultural Heritage.

Morgan, C., & Eve, S. (2012). DIY and digital archaeology: What are you doing to participate? *World Archaeology*, 44(4), 521-537.

Perry, S., & Beale, G. (2015). The social web and archaeology's restructuring. *Open Archaeology*, 1(1), 153-165.

Reilly, P. (1991). Towards a virtual archaeology. In S. Rahtz & K. Lockyear (Eds.), *CAA 1990: Computer applications and quantitative methods in archaeology* (pp. 133-139). BAR International Series.

Richards-Rissetto, H., & Landau, K. (2019). Digital heritage and archaeological visualization. *Journal of Computer Applications in Archaeology,* 2(1), 1-15.

Seville Principles. (2011). International principles of virtual archaeology.

UNESCO. (2023). *Digital heritage and sustainable development*. UNESCO Publishing.

Vesevska, I. T., Denkovski, K., et al. (2026). DigiArcheoSpace competence framework and educational modules. *Erasmus+ KA220-HED Project Documentation.*

Vesevska, I. T., et al. (2026). DigiArcheoSpace learning management system and educational resources. *Erasmus+ KA220-HED Project Documentation.*

Wheatley, D., & Gillings, M. (2013). *Spatial technology and archaeology: The archaeological applications of GIS* (2nd ed.). Routledge.

Wilson, A. (2018). Virtual heritage, authenticity and archaeological interpretation. *International Journal of Heritage Studies*, 24(4), 321-336.

Wiseman, J., & Mano-Zissi, D. (1971). *Stobi: A guide to the excavations.* University of Texas Press.

Yilmaz, H., & Karasik, A. (2021). Digital competence development in archaeology education. *Journal of Cultural Heritage Management and Sustainable Development*, 11(3), 315-329.

List of Figures

Figure 1. Episcopal Basilica at Stobi, view of the digital reconstruction.

Figure 2. Interior perspective of the reconstructed Episcopal Basilica at Stobi, showing the nave, colonnades and spatial rhythm of the liturgical hall.

Figure 3. Elevated interior view of the reconstructed basilica, illustrating the spatial organization of the nave, galleries and eastern liturgical zone.

Figure 4. Reconstructed liturgical zone of the Episcopal Basilica at Stobi, with altar area, ciborium and chancel barriers.

Figure 5. Interpretative visualization of the reconstructed interior, emphasizing the distinction between evidence-based modelling and hypothetical reconstruction.

THE DIGIARCHEOSPACE PROJECT – A EUROPEAN INITIATIVE FOR MODERNISING TRAINING IN THE FIELD OF ARCHAEOLOGY AND CULTURAL HERITAGE

Konstantin Konstantinov[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/RUGH4023

Abstract: *This article presents the main objectives, activities, and results of the European DigiArcheoSpace project, implemented under the Erasmus+ program (KA220-HED) and aimed at modernizing education in the fields of archaeology and cultural heritage. It examines the competency framework for digital archaeology, training modules, an e-learning platform (Learning Management System – LMS), and educational resources developed within the project for students, faculty, and professionals in the field of cultural heritage. Special attention is given to the participation of Konstantin Preslavsky University of Shumen in the development of a training module dedicated to the use of online databases in archaeology education. It was concluded that the project creates a sustainable model for integrating digital technologies into university education and contributes to the development of professional competencies that meet the contemporary requirements of archaeological practice.*

Key words: *DigiArcheoSpace, digital archaeology, Erasmus+, cultural heritage, higher education, digital competencies, e-learning, micro-qualifications*

The development of digital technologies over the past few decades has had a significant impact on archaeological research and the preservation of cultural heritage. Geographic Information Systems (GIS), photogrammetry, 3D modeling, remote sensing methods, and digital documentation are gradually becoming an integral part of the modern archaeologist's work (Campana, Remondino, 2014; Forte, Campana, 2017; Richards-Rissetto, Landau, 2019). This also necessitates a change in the requirements for university education, which must prepare specialists capable of working in a digital environment (Ferrari, 2013) and of using modern technologies in the documentation, analysis, and presentation of archaeological heritage[2].

1 Konstantin Konstantinov is an Associate Professor of Archaeology at *Konstantin Preslavsky* University of Shumen. He is Vice-Rector of educational affairs at *Konstantin Preslavsky* University of Shumen. He is also Director of the Research Center for Archaeometry at the Faculty of Humanities. His research interests are in the field of medieval Bulgarian archaeology. Email: k.konstantinov@shu.bg

Copyright © 2026 Konstantin Konstantinov

Article history: Received: 6 June 2026; Edited: 8 June 2026; Revised: 30 June 2026; Accepted: 2 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

2 For more information on the European Commission's initiative in the field of digital education, see: https://education.ec.europa.eu/focus-topics/digital-education/actions/plan – accessed on July 5, 2026

In response to these challenges, the European project DigiArcheoSpace – Modern Tools for Documenting and Presenting the Cultural Heritage in Archaeology, funded under the Erasmus+ program (KA220-HED) was launched in early September 2024[3]. Its main objective was to support the modernization of higher education by developing a pan-European model for digital archaeology education that combines modern technologies, competency-based learning, and the principles of lifelong learning.

This objective was to be achieved through the implementation of several specific tasks:

- developing a competency framework for digital archaeology;
- creating training modules based on the micro-credentials approach;
- developing an e-learning platform (Learning Management System – LMS);
- producing educational videos, methodological guides, and other learning materials;
- organizing international training sessions, exchanging best practices, and disseminating the results.

One of DigiArcheoSpace's most significant products is the *Competence Framework*, which defines the knowledge, skills, and professional competencies required to work in the field of digital archaeology. It serves as the basis for developing educational modules and for establishing a system of microcredits aligned with contemporary European educational policies (Vuorikari, Kluzer, Punie, 2022).

Another key outcome is the development of a *Learning Management System (LMS)* – an online platform through which learners gain access to course materials, video lectures, practical exercises, and assessment tools. The platform enables both distance and blended learning and supports the personalization of the educational process.

As part of the project, a wide range of educational resources was developed, including methodological guides, multimedia presentations, educational films, and practical case studies demonstrating the application of digital technologies in archaeological fieldwork and in the processing of archaeological documentation[4]. All of the materials developed are freely available in five languages (Bulgarian, English, Croatian, Turkish, and North Macedonian) to universities, museums, and institutions working in the field of cultural heritage.

The project is being implemented by a consortium of universities and research organizations from four European countries. The coordinator is the Primorsko History Museum, and the partners are:

3 Official Project Website: http://digiarcheospace.eu – accessed on July 5, 2026
4 https://digiarcheospace.eu/digital-tools-in-archeology/

- Student Computer Art Society (Bulgaria);
- Konstantin Preslavsky University of Shumen (Bulgaria);
- Ss. Cyril and Methodius University in Skopje (North Macedonia);
- Bartin University (Turkey);
- Institute of Ethnology and Folklore Research (Croatia).

Renowned scholars and experts from various European research institutions participated in the project. Among them were Assoc. Prof. Todor Todorov, PhD and Assoc. Prof. Konstantin Konstantinov, PhD from *Konstantin Preslavsky* University of Shumen (Bulgaria), Prof. Irena Teodora Vesevska from Ss. Cyril and Methodius University in Skopje (North Macedonia), and archaeologist Daniel Pantov, PhD – director of the Historical Museum in Primorsko, Asst. Prof. Lale Özdemir Şahin, Assoc. Prof. Ahmet Altay and Asst. Prof. Ali Bora from Bartin University (Turkey), Koraljka Kuzman Šlogar and Ivana Štokov from Institute of Ethnology and Folklore Research in Zagreb, as well as Rosen Petkov, PhD, Eng. – head of the Student Computer Art Society.

The participation of various institutions and experts facilitated the exchange of knowledge and experience, the development of common educational standards, and the adaptation of the results to the specific characteristics of national education systems. Several partner meetings were held as part of the project – in Sofia (Bulgaria), Bartin (Turkey), Skopje (North Macedonia), and Zagreb (Croatia) – as well as a thematic summer school in Primorsko (Bulgaria). The results achieved under the DigiArcheoSpace project were presented at a final conference in Sofia on June 6, 2026.

Konstantin Preslavsky University of Shumen is actively involved in the development and dissemination of educational materials for the project. The team of specialists includes the project coordinator, Assoc. Prof. Konstantin Konstantinov, PhD, as well as Assoc. Prof. Todor Todorov, PhD[5] and PhD candidate Yordan Arnaudov[6], developed a training module titled: *Online Databases in the Educational Process of Archaeology: A Focus on Byzantine Sigillography*[7], which reflects both their scientific work to date and current trends in the digitization of archaeological heritage.

5 Todor Todorov is an Associate Professor of Bulgarian History at Konstantin Preslavsky University of Shumen. He is the Dean of the Faculty of Humanities and Director of the Research Center for Byzantine Studies "Prof. Ivan Yordanov". His research interests are in the field of medieval Bulgarian history and sigilography. Email: t.todorov@shu.bg

6 Yordan Arnaudov is a PhD candidate and assistant of Archaeology in the Department of History and Archaeology. He is the member of Research Center "Preslav Literary School". His interests are in the field of non-destructive archaeological researches. Email: y.arnaudov@shu.bg

7 For more details on Shumen University's educational module, see: https://digiarcheospace.eu/courses/5-online-databases-in-the-educational-process-of-archaeology-a-focus-on-byzantine-sigillography/

The experience gained in teaching archaeology and conducting archaeological research allows the developed resources to be integrated into existing courses at Shumen University. This paves the way for modernizing education by incorporating topics such as digital documentation, photogrammetry, GIS, 3D modeling, and digital data management.

In conclusion, it can be noted that the DigiArcheoSpace project clearly demonstrates how international academic collaboration can successfully support the modernization of archaeology education. By developing a competency framework, an e-learning platform, and practice-oriented educational resources, the project creates the conditions for training specialists who combine traditional archaeological training with skills in working with modern digital technologies.

The developed products have the potential for long-term application both in higher education and in the practical work of documenting, preserving, and promoting cultural heritage. In this sense, DigiArcheoSpace represents an important step toward establishing a modern European model for digital archaeology education and contributes to the sustainable development of digital competencies in the field of archaeological research.

References

Campana, S., Remondino, F. (eds.). (2014). *3D Recording and Modelling in Archaeology and Cultural Heritage.* Oxford: Archaeopress.

Ferrari, A. (2013). *DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe.* Luxembourg: Publications Office of the European Union.

Forte, M., Campana, S. (eds.). (2017). *Digital Methods and Remote Sensing in Archaeology.* Cham: Springer.

Richards-Rissetto, H., Landau, K. (eds.). (2019). *Digital Heritage and Archaeology in Practice.* Gainesville: University Press of Florida.

Vuorikari, R., Kluzer, S., Punie, Y. (2022). *DigComp 2.2: The Digital Competence Framework for Citizens*. Luxembourg: Publications Office of the European Union.

HYPERPOLYGLOT PERSPECTIVES ON GENERATIVE AI AND LANGUAGE LEARNING: A SMALL-SCALE PILOT STUDY

Antony Hoyte-West[1], Independent scholar, United Kingdom

https://doi.org/10.46687/ZMJW7377

Abstract: *With the timely thematic focus of this issue on the intersection between humanities and technology, this article presents the findings of a small-scale study relating to the views of a select group of hyperpolyglots – here classified as individuals with capabilities in six languages beyond the L1 – on their usage of generative artificial intelligence (AI) technologies in both personal and professional capacities. The article opens by outlining recent research on polyglot studies as well as on the evolving interface between AI, the learning and teaching of languages, and society in general. In classifying the project as an exploratory pilot study, the article subsequently presents some brief information about the study participants, as well as the selected research methodology and approach. In applying the criterion that the study participants were all professionally active in the field of languages, it was intended to obtain up-to-date findings relating to the usage and uptake of AI-related technologies by this particular group of multilinguals. Although the data obtained from the hyperpolyglots was characterised by distinct caution towards the use of AI in both professional and personal domains, it is intended that the findings of this preliminary study will represent a contribution to the developing literature on this still-emerging domain of research, as well as providing a basis for larger-scale work in the future.*

Key words: *AI and polyglots, hyperpolyglots, plurilingualism, technology and language learning*

Introduction

The mainstreaming of generative artificial intelligence (AI) technologies has undoubtedly had a transformational and lasting impact on countless areas of human activity (Brandao, 2025, p. 2), including on the teaching and learning of languages in all contexts (Solak, 2024; Moorhouse & Wong, 2025). Indeed, as recent research has demonstrated, AI is being incorporated into classroom-

1 Antony Hoyte-West is an interdisciplinary researcher focusing on linguistics, literature, and translation studies. A qualified translator and conference interpreter from several languages into his native *English*, he holds a doctorate from the University of Silesia in Katowice and master's degrees from the universities of St Andrews, Oxford, and Galway. He has also been a visiting fellow at the Leibniz Centre for Educational Media (Braunschweig, Germany) and South West University "Neofit Rilski" (Blagoevgrad, Bulgaria). Email: antony.hoyte.west@gmail.com

Copyright © 2026 Antony Hoyte-West

Article history: Received: 30 April 2026; Edited: 2 May 2026; Revised: 18 June 2026; Accepted: 26 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

based, hybrid, and online settings at schools, universities, and other educational and training institutions across the globe, as well as into self-study programmes and online language learning portals (e.g., see Fauzan & Nguyen, 2025; Olagoke & Akande, 2025; Vega et al., 2025, etc.). Building on the extant literature relating to general aspects of AI in language teaching and learning, this novel small-scale exploratory contribution focuses on examining the usage and uptake of these technologies for language learning purposes by a special group of multilinguals, sometimes known as hyperpolyglots.

Though definitions may vary, for the purposes of this pilot study a hyperpolyglot is considered as an individual proficient in six or more languages in addition to the L1 – as will be presented subsequently, this is taken to mean demonstrating skills at B2 level on the Common European Framework of Reference (CEFR) and beyond. Based on short email-based qualitative questionnaires with a very small sample population who were all additionally active as professional linguists (for example, as language teachers, translators, or interpreters), this study aims to find out if and how relevant AI technologies are incorporated into their language learning activities and strategies. It also aims to discover their thoughts and opinions on the technologies, as well as other salient points relating to the advantages and disadvantages that AI can bring to the field of language learning and teaching. As such, via profiling a small sample of highly successful language learners with rare capabilities, this preliminary study is intended to offer some alternative perspectives on the use of AI in the current teaching and learning of languages, thereby offering relevant insights to students and teachers worldwide.

(Hyper)polyglot perspectives

The last decade-and-a-half has seen a growth in interest from researchers and the public in individuals who speak many different languages (Yebra López & Chohan, 2025, p. 1). As is well-known, language diversity can be defined and categorised, and analysed through many different prisms.

As foregrounded by prominent linguists such as Joshua A. Fishman (1980), Michael Clyne (2017), and others, bilingualism (and by extension, multilingualism) can be classed as phenomena existing at both the individual and the societal levels. In commenting briefly on expressions of language diversity at this individual level, personal plurilingualism (see Council of Europe, 2026) can often correspond to an individual's own notions, sentiments, and personality (e.g., see Sobanski, 2016; Anderson, 2022; Furnham & Dewaele, 2025, etc.), also encompassing aspects such as the conceptualisation of Dominant Language Constellations (DLC) (see Lo Bianco & Aronin, 2020), as well as a person's specific needs and interests (see Kirkpatrick, 2014).

Though multilingualism and plurilingualism has naturally long been part of human existence, one of the multiple factors stimulating more recent attention on polyglots was the book *Babel No More,* by the American writer and journalist

Michael Erard (2012). As additionally highlighted elsewhere (e.g., see Kazakov, 2021, p. 8290; Hoyte-West, 2024, p. 10), the volume profiled several examples of notable historical polyglots (including the legendary Italian cardinal Giuseppe Mezzofanti) who, between them, were versed in dozens of languages. Interestingly, and with relevance to the current study, Erard's book also chronicled his successful global attempts to find present-day individuals with similar linguistic capabilities – i.e., with a linguistic repertoire well beyond what might be commonly found within a given society – and also identified them as a distinct "neural tribe" (Erard, 2012, p. 213).

Regarding the definition of a hyperpolyglot, it is important to underline that there is some uncertainty on the precise number of languages required. Although Erard did not coin the term, a distinction which belongs to British linguist Dick Hudson (Erard, 2012, pp. 67-68), the American author did postulate an expansion of its scope. Indeed, Erard observes that Hudson's original conceptualisation consisted of a minimum of six languages beyond the L1 – i.e., a total of seven, whereas his findings in *Babel No More* have advanced that a minimum of eleven languages should be considered as satisfying this requirement (Erard, 2012, p. 12).

In addition to this notion, general attention should be paid to the age-old questions of how to define linguistic proficiency in terms of 'knowing' or 'speaking' a given tongue (Spolsky, 1968). Furthermore, questions also remain in terms of assessing and defining linguistic skills – for example, in terms of credentialization and other formal accreditation of language-related proficiency.

In reiterating that a veritable community of polyglots has been created since the turn of the millennium, it is important to highlight that this development has been largely encouraged by the increased spread of the internet. Indeed, a dedicated society, the International Association of Hyperpolyglots (HYPIA), was founded exactly a decade ago in 2016 (Yebra López & Chohan, 2025, pp. 194-202), and a series of international polyglot events have taken place at locations around the world as well as virtually (Yebra López & Chohan, 2025, pp. 74-84; see also Chohan, 2021a; 202ab), thereby allowing language enthusiasts to come together on a global scale. This convergence has also been mirrored in the academic sphere, with research in the field conducted by practitioners and scholars (e.g., Erard, 2019) and *Linguistics & Polyglot Studies*, an academic journal focusing on polyglottery, has also been founded and hosted by the prestigious MGIMO University in Moscow (Ivushkina, 2021). Most recently, additional academic weight to this emerging area of study has been given by a pioneering monograph by Yebra López & Chohan (2025). As such, these encouraging scholarly developments demonstrate the admirable vitality of this still-nascent field.

Generative AI and language learning

Even in the pre-AI era, the technological advances of the past few decades have revolutionised the learning and teaching of languages., with the use of once-

widespread ancillary materials – such as cassette tapes, CDs, and DVDs – now having fallen by the wayside (Godwin-Jones, 2021, pp. 6-7); in the space of a few years, the internet has vastly simplified how language learners can access and use a range of pedagogical and authentic materials, as well as opening up the scope of international pedagogical possibilities to include online courses, individualised tutoring, and so on (Richards, 2015).

Noting the speed and ubiquity of these internet-mediated changes in many parts of the world, educational systems of course seek to accommodate and reflect these continuously evolving developments in school and university curricula and courses (Chan, 2023), as well as in language testing and certification (Stošić & Malyuga, 2024). Against this background, the omnipresent and hypercentral role of English (de Swaan, 2010), as well as other important world languages, also testifies to the changing dynamic in language learning and teaching.

Extensive discussions in the media and among scholars have debated the role of AI, examining whether – in certain contexts – it can be said to be an aid, a tool, or a replacement for activities traditionally performed by humans (e.g., see Lichtenthaler, 2018; Kunz, Sajtos & Flavián, 2025; Ball, 2026, etc.). In the academic world, as has become well-known over the past couple of years, it is said that AI is often used by students in their work – commonly, via using specific prompts, to generate ideas on a given topic (Williyan et al., 2024). Naturally, in addition to its societal implications, AI usage of course contains implications for teaching and learning of languages (Ali & Muhammed, 2024; Liu, 2025; Martin et al., 2025 etc.). In this regard, given its newness, universities and other institutions have often been unsure on how to deal with it. With AI constantly evolving via various improvements and updates, many institutions have had to develop specific AI policies with regard to the creation and submission of student work submitted for assessment (e.g., see Chan, 2023). These concerns also align with other issues which have also been discussed in the media and in the academia relating to the use of AI – in particular, ongoing questions relating to the use (or misuse) of copyright as well as to the fidelity and trustworthiness of the AI-generated information also remain paramount (e.g., see Beshr et al., 2024; Neshkovska et al., 2025, etc.).

Yet, despite this caution, AI usage has also been shown to have some benefits. One illustration is regarding changing social dynamics in many modern societies. With the phenomenon of learner anxiety well-known among language teachers and researchers, some studies have found that, when learning a different language, some students have found it easier to chat with a bot rather than with a human being (Ro, 2023), with corresponding positively-linked implications for their performance and other outcomes (Wu, Hapsari, & Huang, 2025). Additionally, it can be advanced that the increased presence of AI can lead to opportunities for languages without many pedagogical or other resources, including endangered, minority, and vulnerable languages (Mohanty, Dash, & Parida, 2023).

Methodological approach

The principal aim of the research study was to examine whether (and how) advanced multilinguals (hyperpolyglots) active in language-related professions incorporate relevant AI technologies into their professional and personal language-related activities. Accordingly, this involved creating a short questionnaire designed for this specific target group. For the purposes of the study, hyperpolyglots were identified as individuals who self-reported proficiency in six or more additional languages at a minimum of B2 level on the Common European Framework of Reference (CEFR), a definition also employed by the aforementioned HYPIA society (Yebra López & Chohan, 2025, p. 199).

Though language proficiency levels and frameworks such as the CEFR are often avidly discussed, it was noted that CEFR B2 is often considered a minimum requirement for general educational and societal usage of a given additional language – for example, as a common minimum requirement for following a university course taught in a language (Deygers et al., 2018). To recapitulate its official 'can-do' descriptors, the updated Council of Europe specifications provide the following definition. It summarises that users at CEFR B2 level

> can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in their field of specialisation; can interact with a degree of fluency and spontaneity that makes regular interaction with users of the target language quite possible without imposing strain on either party; can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options (Council of Europe, 2020, p. 175).

A further stipulation of the present study was to ensure that these hyperpolyglots were active as language professionals, broadly encompassing the professional spheres of language teaching, translation, and interpreting, as well as conducting research on language-related topics etc. This requirement was imposed in order to ensure that participants had sufficient awareness of current professional debates within the wider language industry.

The study participants were found via convenience sampling (Farrokhi & Mahmoudi-Hamidabad, 2012) from the researcher's own network. In their observations of convenience sampling as applied to literacy-based research studies, Scott Sterling and colleagues observe that though the data-related limitations are of course clear, the fact that "there are many cases in which it makes sense to utilize the resources that one has access to", as well as when conducting research with "specific communities and community members" (Sterling et al., 2026, p. 3). With specific reference to the latter condition, this can be said to be a factor which applies to the circumstances of the present study.

Initially, 6 potential candidates were identified, of which 2 were discounted for no longer fulfilling the 'active linguist' criterion. Of the four remaining participants, one was unable to participate in the study, leaving three candidates

who satisfied the eligibility requirements. The core data gathering took the form of a set of 8 open-ended qualitative questions (please see the Appendix to this article) which, because of time factors, were submitted via email to the selected participants in May 2025.

In terms of the selected methodology, an advantage of this approach was that the participants were all known to the researcher via his network of personal and professional contacts, and thus informal verification of the participants' self-reported language proficiency was generally possible. The limitations, however, were illustrated by the (very) small sample size and the possibility of an echo-chamber effect. Hence, it was decided to designate the study as a pilot study.

With regard to research ethics, participants were assured that anonymity would be maintained, and were informed via email as to how their data would be used. Given the very small sample size and the potentially unique nature of the participants' language combinations (which could lead to their identification), it was decided to avoid pseudonymisation and thus to present the data as a whole. As the author was unaffiliated at the time of conducting the study, no institutional approval was required.

Results and analysis

Table 1 below provides the basic linguistic information about the three study participants.

L1	**Additional languages (at minimum of CEFR B2)**
Polish	Czech, English, French, Italian, Portuguese, Romanian, Russian, Spanish, Swedish
Serbian	Bulgarian, Czech, English, French, Polish, Russian, Slovak
Ukrainian	English, German, Italian, Polish, Norwegian, Swedish

Table 1. *Language profile of the study participants*

In terms of the range of languages covered, all participants were native/L1 speakers of Slavic languages, perhaps reflecting the researcher's network of professional contacts in Central Europe and the Balkans, as well as the availability and eligibility of candidates wishing to participate in the study. It was noted that participants self-reported their proficiency in between six to nine additional languages at CEFR B2 level or above, representing European languages from the Slavic, Germanic, and Romance linguistic groupings. In addition, mindful of de Swaan's earlier assertion on the 'hypercentral' status of English, all participants had that language in their combination.

Moving to the core aim of the study, participants' general thoughts and impressions on AI and language learning could generally be categorised as a mixture of caution with overtones of scepticism. For example, one participant highlighted that the

> use of AI, like all other technologies before, is a natural and useful step forward. However, it should be only used as a tool, a person (human) learning language is the one that must go through the process of learning it. Not just use the final product, rely on AI to do the job instead of them. In that way we ensure that human capability to learn the language is still active, is developing and is being transferred on to the next generations. Otherwise, we would lose it.

In zoning on this "human capability", another participant opined that they were "very skeptical about learning a language through AI" as it "requires real human interaction, emotional engagement, and cultural context — things AI cannot authentically provide", adding that "I do not even know what the process of learning a language through AI might look like". In a nod to the potential that AI could bring to language learning, a further participant stated that AI "might be of help if properly applied."

Interestingly, the results showed that none of the participants commonly used AI in their own language learning processes. Various reasons were given, including scheduling and time factors ("No, honestly, I haven't had the chance yet. Or the time to learn a new language recently") as well as personal preferences ("I prefer traditional methods such as reading, listening, and speaking with real people, and I do not have plans to change that"). Though one participant showed total disinterest in exploring AI-related possibilities for language learning, another observed some limited scope for the technologies in their linguistic pursuits, stating that: "Sometimes I use AI as a dictionary."

With reference to the usage of AI for their own language maintenance, language correction, and practice, two of the participants highlighted that they did use it for specific purposes. Mentioning one particular tool by name, one participant observed that they used Microsoft Copilot "mainly [for] correction and style (rewrite the text)". Another cited the potential usage for vocabulary enrichment, declaring that "Yes, I occasionally use AI to find synonyms. It's a quick way to expand vocabulary or vary word choice when writing, but I don't rely on it for broader language practice".

Building on this, it is unsurprising that there was limited uptake of AI in participants' language-based professional practice. Quite simply, one observed that "I didn't feel the need", whereas another bluntly stated "No. Not interested". As for clarification of this aspect, one participant offered the following explanation:

> My work involves, to some extent, writing in a language that is not my native, so I use AI to help correct grammatical or spelling errors. It's a practical tool for improving accuracy and to avoid mistakes. I do not use it in research, as I was told the AI provides false answers. I do not have any kind of moral limitations that it would be improper or unethical. I simply think it is not a reliable source.

Though mentioning the positive aspects of AI for improving linguistic output in written texts, the feedback from this participant acknowledged some of the well-known limitations of generative AI, including its ability to hallucinate and to confect answers which may potentially prove to be incorrect and misleading.

By way of contrast, a question on whether participants utilised AI in other aspects of daily life elicited mixed results. Two displayed their disinterest in this regard, with one stating that "No, I try to rely on mostly human interactions". This was contrasted by the feedback from the remaining participant, who affirmed that "Yes, I use AI for practical tasks such as planning travel routes or asking about cooking recipes. It's a convenient way to get quick, organised information without having to search in multiple sources", thereby demonstrating some of the potential benefits of AI adoption outside of the professional sphere.

Subsequently, the study sought to obtain participants' views on the general opportunities and challenges posed by the intersection of AI and language learning in the future. In sum, it was underscored that human factor remains key, with one participant opinion that AI offered

> Many opportunities for mankind, but we must avoid getting substituted in the process. Use technology wisely, as a tool, partner in conversation etc. Don't let it do the work that's yours to be done. Language learning is a path, not just the result/product.

This ancillary notion was echoed by another participant, who stated that

> AI may offer useful support tools, such as vocabulary suggestions, grammar correction, or quick translations— but I see significant limitations in its ability [to] support real language acquisition. Genuine language learning requires human interaction, cultural immersion, and emotional context, none of which AI can replicate.

As a coda, the same participant added that

> There's also a risk that overreliance on AI could lead to superficial understanding or reduced motivation to engage with authentic materials and real speakers. I think AI can be a helpful assistant for specific, task-based needs in language use, but it should not be mistaken for a substitute for meaningful language learning or cultural experience.

The novelty of AI technologies and the fact that they are still developing was highlighted by the remaining participant, who underlined that: "AI is still in its infancy and only time will tell how AI is going to be applied to the real life. I am waiting for a couple of years, at least till the end of 2026 for them to become what I would expect them to be."

Similar sentiments were observed in the final question, where participants were invited to give brief valedictory reflections on the research topic, with one noting that "I am not particularly interested in AI at the moment. I am just waiting for a more sophisticated software to be developed" and another stating that "I am not interested in those AI programs that are currently on the market due to their primitiveness", thus highlighting the fact that, for the moment, it was generally felt that AI did not significantly ameliorate their personal language-learning activities.

Conclusions and future research

This exploratory pilot study aimed to offer some alternative perspectives on the use of AI in the teaching and learning of languages via profiling the personal preferences of a very specific target group, hyperpolyglots, who were all professionally active in language-related fields. The findings demonstrated that, in general, the participants were rather cautious about adopting AI in their professional lives, as well as with regard to its impact on language pedagogy. Hence, this caution manifested itself in the very limited usage of AI for linguistic correction and teaching, although some integration regarding writing and research practice was noted. Furthermore, this limited adoption of AI was also mirrored in the participants' private lives, although use of the technology to create itineraries and recipes was acknowledged. Indeed, the general sentiment displayed by all the participants was that of a 'wait and see' attitude – i.e., that the future potential of AI could be explored when the technology has become more advanced. Interestingly, despite the increasing ubiquity and name recognition of ChatGPT, Gemini, and other AI programs, it was notable that only one product – Microsoft Copilot – was mentioned by name

Building on the exploratory scope of this pilot study, it is intended that further research with a larger pool of participants will help transcend some of the limitations of the present work, most notably with relation to the small group size and the use of convenience sampling. Nonetheless, given the novelty of the topic and the current increase in scholarly interest regarding hyperpolyglot individuals, the data obtained therefore represent foundational findings which can be developed and expanded at a future date.

Note and acknowledgements

This article is a revised and expanded version of a paper presented at the 36th International Conference on Foreign/Second Language Acquisition (ICFSLA 2025 – "Artificial Intelligence in SLA and FLL/T: Applications, Threats and Developments"), held in Szczyrk (Poland) between 22 and 24 May 2025 and organised by the University of Silesia in Katowice. The author would like to thank the three anonymous participants for taking the time to participate in this study.

References

Ali, H. F., & Muhammed, Z. A. (2024). Reviewing the impact of generative AI on language learning and teaching: A synthesis of potentials and pitfalls. *International Journal of Social Sciences & Educational Studies, 11*(4), 53-68. https://doi.org/10.23918/ijsses.v11i4p53

Anderson, R. W. (2022). Garfield, SLA gold medalist: Examining the investments of an exceptional US language learner/hyperpolyglot. *Foreign Language Annals,* 55(4), 1043-1062. https://doi.org/10.1111/flan.12652

Ball, J. (2026). Will Destiny the humanoid robot take your job? *BBC News* (21 April). https://www.bbc.co.uk/news/articles/cp9vk4vyyv10

Beshr, B., Ateeq, A., Ateeq, R. A., & Alaghbari, M. A. (2024). AI in academia: Pros and cons of integrating artificial intelligence in universities. In E. AlDhaen, A. Braganza, A. Hamdan, & W. Chen (eds.), *Business sustainability with artificial intelligence (AI): Challenges and opportunities: Volume 2* (pp. 327-335). Springer. https://doi.org/10.1007/978-3-031-71318-7_31

Brandao, P. R. (2025). The impact of artificial intelligence on modern society. *AI*, 6(8), Article 190. https://doi.org/10.3390/ai6080190

Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education, 20*(1), Article 38. https://doi.org/10.1186/s41239-023-00408-3

Chohan, U. W. (2021a). Who is a hyperpolyglot? *The Papers of the International Association of Hyperpolyglots (HYPIA).* https://doi.org/10.2139/ssrn.3761298

Chohan, U. W. (2021b). The challenge of selecting hyperpolyglots: A HYPIA approach. *The Papers of the International Association of Hyperpolyglots (HYPIA)*. https://doi.org/10.2139/ssrn.3760740

Clyne, M. (2017). Multilingualism. In F. Coulmas (ed.), *The handbook of sociolinguistics* (pp. 301-314). Wiley-Blackwell. https://doi.org/10.1002/9781405166256.ch18

Council of Europe (2020). *Common European Framework of Reference for Languages: Learning, teaching, assessment – Companion volume*. Council of Europe Publishing. https://rm.coe.int/common-european-framework-of-reference-for-languages-learning-teaching/16809ea0d4

Council of Europe (2026). Plurilingualism and pluriculturalism. https://www.coe.int/en/web/common-european-framework-reference-languages/plurilingualism-and-pluriculturalism

De Swaan, A. (2010). Language systems. In N. Coupland (ed.), *The handbook of language and globalization* (pp. 56-76). Blackwell Publishing. https://doi.org/10.1002/9781444324068.ch2

Deygers, B., Zeidler, B., Vilcu, D., & Carlsen, C. H. (2018). One framework to unite them all? Use of the CEFR in European university entrance policies. *Language Assessment Quarterly*, *15*(1), 3-15. https://doi.org/10.1080/15434303.2016.1261350

Erard, M. (2012). *Babel no more: The search for the world's most extraordinary language learners*. Free Press.

Erard, M. (2019). Language aptitude: Insights from hyperpolyglots. In Z. E. Wen, P. Skehan, A. Biedroń, S. Li, & R. L. Sparks (eds.), *Language aptitude: Advancing theory, testing, research and practice* (pp. 153-167). Routledge. https://doi.org/10.4324/9781315122021-8

Farrokhi, F., & Mahmoudi-Hamidabad, A. (2012). Rethinking convenience sampling: Defining quality criteria. *Theory & Practice in Language Studies, 2*(4), 784-792. https://doi.org/10.4304/tpls.2.4.784-792

Fauzan, U., & Nguyen, H. C. (2025). AI-powered writing assistance tools in the foreign language classroom: Unveiling ESP teachers' perspectives across disciplines. *International*

Journal of Multilingualism and Languages for Specific Purposes, 7(2), 33-52. https://doi.org/10.52919/ijmlsp.v7i02.120

Fishman, J. A. (1980). Bilingualism and biculturism as individual and as societal phenomena. *Journal of Multilingual and Multicultural Development, 1*(1), 3-15. https://doi.org/10.1080/01434632.1980.9993995

Furnham, A., & Dewaele, J. M. (2025). The complex relationship between number of languages spoken and individuals' personality, self-esteem and ideology. *International Journal of Multilingualism, 22*(4), 2682-2696. https://doi.org/10.1080/14790718.2025.2480804

Godwin-Jones, R. (2021). Evolving technologies for language learning. *Language Learning and Technology, 25*(3), 6-26. https://doi.org/10.64152/10125/73443

Hoyte-West, A. (2024). 'Speaking Turkish like an Effendi': Arminius Vambéry's self-reflections on his language skills in mid-nineteenth century Istanbul. *Annual of Konstantin Preslavsky University, Shumen. Faculty of the Humanities, 35*, 7-14. https://doi.org/10.46687/shjx3432

Hyltenstam, K. (2016). The polyglot-an initial characterization on the basis of multiple anecdotal accounts. In K. Hyltenstam (ed.), *Advanced proficiency and exceptional ability in second language* (pp. 215-240). De Gruyter Mouton. https://doi.org/10.1515/9781614515173-010

Ivushkina, T. (2021). The making of the MGIMO linguistics journal: From philology to polyglot studies. *Linguistics & Polyglot Studies, 7*(5), 113-114. https://doi.org/10.24833/2410-2423-2021-5-29-113-114

Kazakov, G. (2021). Research on polyglottery: Sources of data. *EDULEARN21 Proceedings*, 8290-8296. https://doi.org/10.21125/edulearn.2021.1670

Kirkpatrick, A. (2014). The language (s) of HE: EMI and/or ELF and/or multilingualism? *The Asian Journal of Applied Linguistics, 1*(1), 4-15.

Kunz, W. H., Sajtos, L., & Flavián, C. (2025). Beyond replacement: Human-machine collaboration in the age of AI. *Journal of Service Management, 36*(4), 477-494. https://doi.org/10.1108/JOSM-04-2025-0194

Lichtenthaler, U. (2018). Substitute or synthesis: The interplay between human and artificial intelligence. *Research-Technology Management, 61*(5), 12-14. https://doi.org/10.1080/08956308.2018.1495962

Liu, W. (2025). Language teacher AI literacy: Insights from collaborations with ChatGPT. *Journal of China Computer-Assisted Language Learning, 5*(2), 287-316. https://doi.org/10.1515/jccall-2024-0030

Lo Bianco, J., & Aronin, L. (2020). Introduction: The dominant language constellations: A new perspective on multilingualism. In J. Lo Bianco & L. Aronin (Eds.), *Dominant language constellations* (pp. 1-15). Springer. https://doi.org/10.1007/978-3-030-52336-7_1

Martin, A.J., Collie, R.J., Kennett, R., Liu, D., Ginns, P., Sudimantara, L.B., Dewi, E.W., & Rüschenpöhler, L.G. (2025). Integrating generative AI and load reduction instruction to individualize and optimize students' learning. *Learning and Individual Differences, 121,* Article 102723. https://doi.org/10.1016/j.lindif.2025.102723

Mohanty, S. S., Dash, S. R., & Parida, S. (eds.). (2024). *Applying AI-based tools and technologies towards revitalization of indigenous and endangered languages.* Springer. https://doi.org/10.1007/978-981-97-1987-7

Moorhouse, B. L., & Wong, K. M. (2025). *Generative artificial intelligence and language teaching.* Cambridge University Press. https://doi.org/10.1017/9781009618823

Neshkovska, S., Ivanovska, L., Trajkovska, V., & Kasaposka-Chadlovska, M. (2025). ChatGPT in foreign language acquisition: A close ally or a distant concept for Macedonian university students? *Respectus Philologicus, 47*(52), 50-65. https://doi.org/10.15388/RESPECTUS.2025.47.4

Olagoke , R. O., & Akande , D. I. (2025). AI-driven curriculum innovation in multilingual secondary education: Evidence from English and Yoruba instruction in Ondo State, Nigeria. *International Journal of Multilingualism and Languages for Specific Purposes, 7*(2), 53-78. https://doi.org/10.52919/ijmlsp.v7i02.121

Richards, J. C. (2015). The changing face of language learning: Learning beyond the classroom. *RELC Journal*, 46(1), 5-22. https://doi.org/10.1177/0033688214561621

Ro, C. (2023). Students switch to AI to learn languages. *BBC News* (23 June). https://www.bbc.co.uk/news/business-65849104

Sobanski, B. (2016). Reflections on the polyglot self: Multilinguals negotiating identity. *Canadian Ethnic Studies, 48*(1), 161-173. https://doi.org/10.1353/ces.2016.0005

Solak, E. (2024). Revolutionizing language learning: How ChatGPT and AI are changing the way we learn languages. *International Journal of Technology in Education, 7*(2), 353-372. https://doi.org/10.46328/ijte.732

Spolsky, B. (1968). What does it mean to know a language, or how do you get someone to perform his competence? *2nd Conference in Problems in Foreign Language Testing, University of Southern California* (November 7-9), 1-22.

Sterling, S., Kytö, M., Plonsky, L., Yaw, K., & Larsson, T. (2026). Accessibility, researcher training, and sampling: A care-ful approach: A response to "Why should I care? Research ethics in the field of adult L2 literacy". *Dutch Journal of Applied Linguistics, 15*. https://doi.org/10.51751/dujal23614

Stošić, L., & Malyuga, E. N. (2024). Application of artificial intelligence in language skills testing. *Anglisticum: Journal of the Association – Institute for English Language and American Studies, 13*(1), 22-34. https://doi.org/10.58885/ijllis.v13i1.22ls

Vega, J., Rodriguez, M., Check, E., Moran, H., & Loo, L. (2025). Duolingo evolution: From automation to artificial intelligence. In A. D. Orjuela-Cañón, J. A. Lopez, & O. J. Suarez (Eds.), *Applications of computational intelligence: ColCACI 2024* (pp. 54-71). Springer. https://doi.org/10.1007/978-3-031-88854-0_5

Williyan, A., Fitriati, S. W., Pratama, H., & Sakhiyya, Z. (2024). AI as co-creator: Exploring Indonesian EFL teachers' collaboration with AI in content development. *Teaching English with Technology, 24*(2), 5-21. https://doi.org/10.56297/vaca6841/LRDX3699/RZOH5366

Wu, T. T., Hapsari, I. P., & Huang, Y. M. (2025). Effects of incorporating AI chatbots into think-pair-share activities on EFL speaking anxiety, language enjoyment, and speaking

performance. *Computer Assisted Language Learning*, [Online First], 1-39. https://doi.org/10.1080/09588221.2025.2478271

Yebra López, C., & Chohan, U. (2025). *Critical Polyglot Studies*. Routledge. https://doi.org/10.4324/9781032697772

* * *

Appendix

Sample Questionnaire

Thank you very much for agreeing to complete these questions. In answering them, you agree for this information to be used for the purposes of a conference presentation as well as for a subsequent post-conference publication. All names and other potentially identifying details will be removed before the research is presented/published.

1. What is your native language (L1) and which other languages do you know at CEFR B2 level or above?

2. What are your general thoughts and impressions on AI and language learning?

3. Do you use AI in your own language learning? Why/Why not?

4. Do you use AI in your own language maintenance/correction/practice? If so, which ones and why?

5. Do you use AI in your own language-based professional practice (e.g., teaching, translating, interpreting, research, etc.)? If so, how and why/why not?

6. Do you use AI in any other aspects of your daily life? If so, how and why/why not?

7. What general opportunities/challenges do you see for the use of AI and language learning in the future?

8. Do you have any other comments?

Thank you very much!

AI BEHIND THE SCENES: THE USE OF ARTIFICIAL INTELLIGENCE IN THE ACADEMIC RESEARCH PRACTICES OF UNIVERSITY FOREIGN LANGUAGE TEACHERS

Silvana Neshkovska[1], University St. Kliment Ohridski – Bitola, North Macedonia

Lela Ivanovska[2], University St. Kliment Ohridski – Bitola, North Macedonia

Milena Kasaposka-Chadlovska[3], Ss. Cyril and Methodius University – Skopje, North Macedonia

https://doi.org/10.46687/QDAR2496

Abstract: *This study examines how university language teachers use artificial intelligence (AI) tools in conducting scientific research and writing academic papers. While existing research has predominantly focused on how teachers employ AI to support students in developing academic writing skills, far less attention has been given to teachers themselves as academic researchers and users of AI technologies. By shifting the focus from pedagogical mediation to professional research practice, this paper seeks to address this gap in the literature. Data were collected through an anonymous online questionnaire targeting university foreign language teachers in North Macedonia and in other countries worldwide. The instrument examines patterns of AI tool adoption, frequency of use, purposes of use, perceived benefits and limitations, and ethical considerations related to authorship and academic integrity. Particular attention is given to how AI tools are integrated into different stages of the research and writing process, including idea generation, literature review, drafting, editing, referencing, etc. The empirical findings of this study indicate that university language teachers are gradually becoming more comfortable and confident in using a range of AI tools to support research at various stages and for different purposes.*

1 Dr. Silvana Neshkovska is Full Professor at the Faculty of Education, University St. Kliment Ohridski – Bitola. She holds a PhD in Philology from Ss. Cyril and Methodius University in Skopje. Her academic interests include pragmatics, translation studies, second language acquisition, critical discourse analysis, and English language teaching. Email: silvana.neskovska@uklo.edu.mk

2 Dr. Lela Ivanovska, PhD is an Associate Professor at the Faculty of Information and Communication Technologies, University "St. Kliment Ohridski" – Bitola, where she teaches English for Specific Purposes (ESP). Her research interests include ESP, listening skills, creativity, and critical thinking in language education. Email: lela.andreevska@uklo.edu.mk

3 Dr. Milena Kasaposka-Chadlovska is an Assistant Professor at the Faculty of Philology "Blaže Koneski", Ss. Cyril and Methodius University in Skopje, where she teaches French language and conference interpreting and leads practical classes in Morphosyntax and Syntax. She is a trained conference interpreter working from French into Macedonian, and her research focuses on French language and linguistics. Email: milena.kasaposka@flf.ukim.edu.mk

Copyright © 2026 Silvana Neshkovska, Lela Ivanovska, Milena Kasaposka-Chadlovska

Article history: Received: 24 May 2026; Edited: 28 May 2026; Revised: 18 June 2026; Accepted: 3 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

However, they continue to encounter constraints and ethical uncertainties regarding AI usage. There is a clear need for guidance and practical directions to facilitate the responsible and effective integration of AI in research and academic writing.

Key words: *AI, academic research, foreign language teachers, higher education*

Introduction

University professors, including those who teach a foreign language, are expected not only to teach but also to conduct scientific research and publish research papers. Writing a research paper is widely recognized as a demanding and multifaceted process. It requires identifying a relevant research problem, conducting an extensive literature review, formulating clear research questions, selecting an appropriate methodology, analyzing and interpreting data, presenting findings in a coherent and academically acceptable manner, and drawing conclusions and issuing recommendations. In addition, academic writing demands precision, critical thinking, familiarity with disciplinary conventions, and adherence to ethical standards. For many scholars, even experienced ones, this process can be time-consuming, cognitively demanding, and occasionally overwhelming. In Khalifa & Albadawy's terms "in academic writing, one must handle vast amounts of information, complex ideas, theories, and empirical data with understanding and clarity"; furthermore, "academic texts must meet high standards of accuracy, evidence, and logical structure", while authors must maintain "academic integrity through proper referencing and citing of sources" (Khalifa, Albadawy, 2024, p. 1).

In recent years, Artificial Intelligence (AI) has emerged as a powerful support mechanism across all stages of the research and academic writing process (Laher, 2025; Khalifa, Albadawy, 2024; Floris, Renandya, 2025). AI-driven tools can assist researchers in generating ideas, refining research questions, locating and summarizing relevant literature, improving language and style, organizing references, analyzing data, and editing manuscripts. When used responsibly, such tools have the potential to enhance productivity, clarity, and efficiency, thereby reshaping traditional research practices. These claims find support in a number of recent studies. For instance, Khalifa & Albadawy (2024) point out that AI-powered tools can assist researchers with grammar, structure, citations, adherence to disciplinary standards and can enhance overall research productivity and work efficiency. In a similar vein, Floris & Renandya (2025) argue that the integration of AI has gained momentum as a potential solution to research writing challenges related to the various stages of the research process, including drafting, editing, data analysis, and literature review. Laher (2025), on the other hand, notes that AI holds significant potential for enhancing scholarly work and even inspiring new ideas by offering significant time- and resource-saving opportunities through rapid summarization, language editing, and reference checking.

However, the majority of existing studies addressing AI use in the field of linguistics and foreign language education focus primarily on how university

language teachers use AI to develop students' academic writing skills (Artiana, Fakhrurriana, 2024; Behera, 2024; Chae-young, 2024; Črček, Patekar, 2023; Fitria, 2023; Imran, Almusharraf, 2023; Jen, Salam, 2024; Khalifa, Albadawy, 2024; Kim, Kim, 2021; Mahapatra, 2024; Masoudi, 2024; Marzuki et al., 2023, etc.). More specifically, these studies typically examine how specific AI tools can be used for specific aspects of academic writing tasks; how they can support the learning outcomes, and how teachers can ensure that their students use AI in an ethically and pedagogically sound manner. Consequently, there is still a noticeable lack of research addressing how university language professors themselves, acting as researchers, integrate AI tools into their own academic research and writing practices. Little is known about the ways in which they employ these tools, the stages of research in which AI is most frequently used, the perceived benefits and limitations, and the ethical considerations they encounter. This paper seeks to fill this gap in literature by providing insight into how contemporary university language professors conduct research in the age of AI.

To ensure a broader and more representative perspective, the study includes language professors from universities in different countries, predominantly from the Balkans and the rest of Europe. Therefore, the research does not focus on a single local context but rather aims to capture diverse experiences and practices across multiple academic environments.

Theoretical background

Recent studies, instigated by the enormously rapid pace of development of AI and its practical implementation, suggest that AI is significantly transforming academic writing and research across various domains (Tang et al., 2023). Khalifa and Albadawy (2024), for instance, conduct a systematic review of 24 studies examining the application of AI in academic writing and research. The studies were retrieved from databases such as PubMed, Embase, and Google Scholar and include publications from 2019 onwards. Their findings identify six core domains in which AI supports the research and academic writing process: (1) facilitating idea generation and research design, (2) improving content organization and structuring, (3) supporting literature review and synthesis, (4) enhancing data management and analysis, (5) assisting in editing, reviewing, and publishing, and (6) supporting communication, outreach, and ethical compliance. Despite these benefits, Khalifa and Albadawy (2024) also warn of challenges related to maintaining academic integrity and balancing AI use with human expertise. They recommend adequate training for researchers to ensure an appropriate balance between AI assistance and human scholarly judgment. In particular, they underline that the use of AI should be approached with a great deal of caution, as it may mislead the research and researchers to unintended areas or deviate from the target objective of the research, which could result in fraudulent scientific articles (Khalifa, Albadawy, 2024).

Additionally, many of these studies dwell on identifying the specific purposes of different AI tools in the research and academic writing process. Thus, Khalifa and Albadawy (2024) in their study note that *Zotero, Mendeley*, and *EndNote* are widely used for literature management, citation generation, and the efficient organization of research materials; *Grammarly* and *ChatGPT* are described as key tools for enhancing writing quality by providing AI-driven grammar checks, text revision, and content generation capabilities; *Turnitin* and *Copyscape* play an important role in plagiarism detection by employing extensive databases to verify the originality of academic works; *Tableau* is used for data analysis and for transforming complex data into visually comprehensible formats; *ArXiv* and *Semantic Scholar* facilitate the process of locating and summarizing relevant academic literature; *NVivo*, *MAXQDA*, *Leximancer, Quirkos, ATLAS.ti*, and *Dedoose* are used for qualitative data analysis, offering features like automated coding, sentiment analysis, and pattern identification in large volumes of text data, while *Research* and *RapidMiner,* by combining AI with text analytics, offer sophisticated qualitative analysis. Similarly, Floris & Renandya (2025) emphasize that as AI technology continues to advance, its implications for research writing will likely grow. Their study offers practical ideas for integrating AI tools into the research writing process and highlights specific AI-powered tools that can be particularly useful in conducting research and academic writing. For example, *ChatGPT, Microsoft Pilot,* and *Gemini* are described as useful for brainstorming ideas and generating research questions; *Elicit, Semantic Scholar* and *Research Rabbit* for identifying sources and summarizing relevant literature; *ChatGPT* and *Wordtune* for drafting initial texts; *Grammarly, Trinka, Paraphraser.io* for improving clarity, style, vocabulary, grammar, and sentence structure. Tools such as *Bibcitation, Mendeley, Zotero* and *Recite* are employed for managing references, while *ZeroGPT, Turnitin,* and *iThenticate* for ensuring originality. In addition, platforms such as *ChatGPT, NVivo, Ailyze, Julius* and *Microsoft Power BI* can support the analysis of research data. Tran and Tran (2025, p. 75) also point out that "AI tools such as *ChatGPT, Grammarly, Quillbot, Turnitin, Notion*, and *EndNote* have become essential in academic writing, each serving a distinct purpose". *ChatGPT* contributes to the generation and organization of ideas, while *Grammarly* supports the improvement of grammar and stylistic clarity. *QuillBot* is commonly used for paraphrasing purposes, whereas *Notion* and *EndNote* assist in organizing notes and managing citations.

Although the studies discussed above mention a wide range of AI tools that can be employed in academic writing, Xu's (2025) study, which investigates AI use through the analysis of AI usage declarations in academic journals, shows that ChatGPT completely dominates academic writing assistance sphere, with a reported usage rate of 77%. According to this study, ChatGPT is primarily used for improving readability (51%) and checking grammar (22%).

Given the rapidly increasing use of AI tools in academic context, a legitimate dilemma as to "how far" researchers can go with their AI usage in

their research process imposes itself and seeks immediate scholarly attention and resolution. In that respect, Laher (2025) remarks that AI-assisted content in academic research is generally considered permissible, whereas fully AI–generated content is regarded as impermissible. Drawing on the guidelines published by organisations like COPE (Committee on Publication Ethics, 2024), Sage Publishing (2025), American Psychological Association (2025), Laher (2025) emphasizes that AI in academic research and writing should be transparently acknowledged in manuscripts, either in the literature review, the methodology section or in a separate declaration at the end of the paper. To ensure transparency and maintain the credibility of academic work, authors are encouraged to provide specific information about the AI tools they use, including the tool's name, version, and the prompts employed. As to whether AI systems can be treated as co-authors of academic research, Thorp (2023) suggests that that is not appropriate as these systems do not fulfil the criteria required for authorship, i.e. they cannot accept responsibility and accountability for the content of a manuscript (in Tang et al., 2023).

At the same time, Laher (2025) and Tang et al. (2023) advise researchers to carefully verify the accuracy of AI-generated content and ensure that it is free from hallucinations, i.e. texts that appear coherent and meaningful but, are in fact, fictional or lack accuracy. Researchers must also be aware of potential risks of biased content, plagiarism and possible copyright violations. Even when AI tools do not copy texts verbatim, they may reproduce ideas, methods, or visual representations of data derived from other authors' works. These concerns highlight the need for responsible and transparent AI use in academic research.

Overall, the reviewed studies highlight the expanding range of AI tools available for supporting academic research and writing, as well as the benefits and challenges associated with their use. However, empirical research investigating how university language professors employ these tools in their own research remains limited. Therefore, the present study seeks to address this gap in the literature.

Research Methodology

In order to explore how university language professors integrate AI tools into their academic research and writing practices, a tailor-made online questionnaire was designed and administered. Participants were recruited through convenience and professional network sampling. Participation in the survey was voluntary and anonymous, and the respondents were informed that the data would be used exclusively for research purposes. The questionnaire was distributed electronically, allowing respondents from different geographical locations to participate conveniently and anonymously in the period from 3rd to 18th of March, 2026. The study targeted university professors who teach foreign languages, in the Republic of North Macedonia and in a number of other countries around

the world. This broader international scope was intentionally chosen in order to ensure a more diverse and versatile sample, which could provide a wider range of perspectives and experiences related to the use of AI tools in academic research.

The questionnaire consisted of 18 questions in total, combining general background questions with more specific questions directly related to the use of AI in academic research and writing[4]. Namely, the first six questions were designed to obtain general information about the respondents and to outline their professional profiles. These questions referred to the institution where the respondents are employed, the length of their professional experience in higher education, their academic title, the topics they explore in their research and the approximate number of scientific papers they have written and published so far. The purpose of these questions was to provide a clear understanding of the respondents' academic background, level of experience, and research activity, which could help contextualize their responses regarding AI use.

The remaining questions focused on the use of AI tools in the process of conducting academic research and writing scientific papers. The respondents were asked to indicate whether they use AI tools for research purposes and how frequently they rely on them. In addition, they were asked to specify the particular stages of the research and academic writing process in which they employ AI tools (e.g. brainstorming research ideas, formulating research questions, determining an appropriate research methodology, searching for and summarizing relevant literature, translating from one language to another, paraphrasing and rephrasing sentences, managing references and citations, analyzing research data, creating visual representations of results, and editing or improving the language and structure of academic texts, preparing presentations, finding suitable journals, etc.). Then, they were encouraged to name the specific AI tools they employ in each stage. In the subsequent questions, the respondents were to evaluate their overall experience with AI tools, indicating whether they find them useful; whether they have any concerns regarding their application in academic research, and whether they disclose the use of AI tools in their publications, including the prompts they use. Finally, the respondents were presented with an open-ended question, which invited them to share additional thoughts and opinions regarding their use of AI tools.

The collected data were analyzed using descriptive statistical methods. The responses to the closed-ended questions were examined in order to determine the frequency and distribution of the participants' answers, which helped identify general patterns in the use of AI tools among university language professors. The results were presented in the form of tables and charts, allowing for a clear overview of the most commonly used AI tools and the stages of the research process in which they are employed.

4 Link to the questionnaire: https://docs.google.com/forms/d/1qXCbA1ne-xfBUnjweCE738CPv7DO0Xq9QfR3EpLAV1c/edit

The responses to the open-ended question were analyzed qualitatively. These answers were carefully reviewed and grouped according to recurring themes and viewpoints in order to identify common perceptions, concerns, and experiences related to the use of AI in academic research and writing. This combination of quantitative and qualitative analysis enabled a more comprehensive interpretation of the data.

The study has certain limitations, including the relatively small sample size and its reliance on self-reported data, both of which may affect the generalizability of the findings. Future research could, therefore, expand the scope of the study by including a larger and more diverse sample of participants. Additionally, longitudinal studies could examine changes in AI adoption over time. Comparative studies across universities and countries would also provide valuable insights into institutional and cultural differences in AI integration within academic research and writing practices.

Results

In total, 56 respondents participated in the study. Among them, 54 indicated the university they are affiliated with. Specifically, 21 respondents were affiliated with universities in North Macedonia, including *St. Kliment Ohridski* University – Bitola; *Ss. Cyril and Methodius* University, Skopje; *Goce Delčev* University – Štip; University of Skopje; AUE FON University, Skopje; and South East European University, Tetovo.

The remaining 33 respondents reported affiliations with foreign universities, including Nottingham Trent University (United Kingdom); Fan S. Noli University, Korçë (Albania); University of Vienna (Austria); University of Zagreb (Croatia); University of Belgrade and University of Niš (Serbia); Shumen University (Bulgaria); AAB College and the University of Business and Technology, Prishtina (Kosovo); Vilnius University (Lithuania); Vizja University, Warsaw (Poland); Mediterranean University (Montenegro), *Burdur Mehmet Akif Ersoy* Üniversitesi (Turkey), and University of Stavanger (Norway).

Overall, university foreign language professors from 20 universities (6 domestic and 14 foreign) across 13 countries participated in the online survey.

The distribution of respondents according to their academic title shows that the sample includes representatives who are at different stages at the academic career ladder (Table 1). The distribution is almost equal among the three largest groups: language instructors (26.8%), associate professors (26.7%), and full professors (23.2%). Assistant professors account for 16.1% of the sample, while teaching assistants represent the smallest group (7.2%).

Title	No. of respondents
Language instructor	26.8%
Teaching assistant	7.2%
Assisting professor	16.1%
Associate professor	26.7%
Full professor	23.2%

Table 1. *Distribution of respondents according to academic titles*

As to their experience as university language teachers, these results indicate that a large proportion of the participants possesses substantial professional experience in the academia, which strengthens the validity and reliability of the study. Namely, 44.6% have more than 20 years of experience in academia, while 32.1% have between 11 and 20 years of experience. Additionally, 12.5% have between 5 and 10 years, and 10.8% have less than 5 years of teaching and research experience at the university level, indicating that the sample includes perspectives from teachers at earlier stages of their academic careers too.

As the study was targeting university language teachers, the teachers were asked to state what foreign language they teach at university level. The majority of the respondents state that they teach English, which accounts for 82.1% of the sample (Figure 1). A smaller proportion teach French (12.5%), while German, Italian, and Spanish are represented by only a small percentage of respondents (1.8% each). One respondent reported that their current duties are primarily research-oriented, with occasional teaching or lecturing responsibilities; however, they did not specify the foreign language they teach.

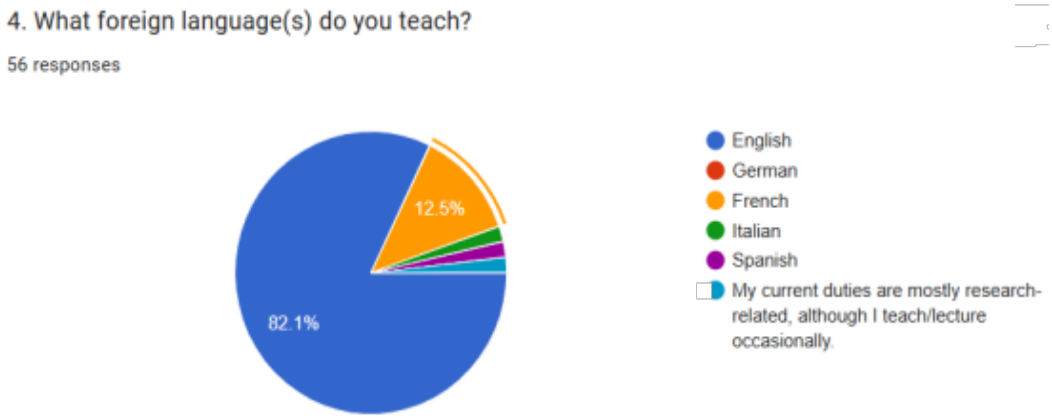


Figure 1. *Distribution of foreign languages taught by the respondents*

The distribution of published academic papers among the 56 respondents is fairly balanced across several categories. The largest groups are those who have

published 10–20, 20–50, and 50–100 papers each (21.8%), indicating a substantial proportion of moderately to highly productive researchers. Smaller but notable shares include 0–5 (12.7%), and 5–10 published papers (7.3%), suggesting the presence of early-career researchers as well. Very few respondents fall into the over 100 papers category (1.8%), showing that highly prolific authors are rare in this sample.

The results indicate that linguistics and its subfields represent the most frequently taught area (46.2%), followed by ELT/EFL Methodology and Teacher Education (30.8%). Courses related to Translation and Interpreting and Literature and Cultural Studies are also well represented, each taught by 19.2% of respondents. A smaller proportion of professors teach ESP-related courses (13.5%), Pragmatics or Discourse-oriented subjects (11.5%), while Digital Tools and AI-related courses remain relatively limited (3.8%) among the respondents.

Most respondents (55.4%) report being somewhat familiar with AI tools, while 35.7% indicate that they are very familiar with them. A relatively small percentage of participants (8.9%) state that they are only slightly familiar with AI tools (Figure 2). Notably, none of the respondents reported being completely unfamiliar with AI tools. These findings imply that the vast majority of university language professors report familiarity with AI tools.

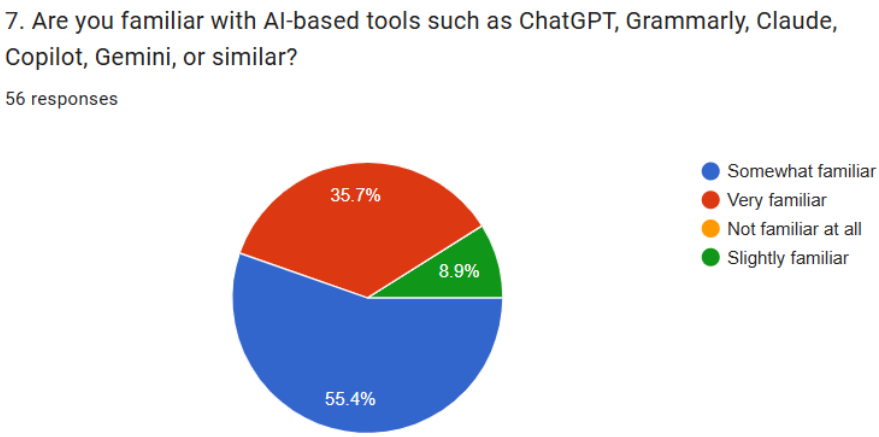


Figure 2. *Respondents' familiarity with AI tools*

Despite the general familiarity with AI tools, the greatest portion of the respondents (42.9%) (almost half of them) report that they rarely use AI in their research. In contrast, about one third, i.e. 28.6% state that they always use it, and 5.4% indicate regular use. Additionally, 14.3% report occasional use of AI in their research and writing processes, and 8.9% state that they never use AI tools (Figure 3). Overall, these findings suggest that although AI tools are widely known among respondents, their actual use in academic research still varies considerably and is not fully integrated in language professors' regular research and academic writing practice.

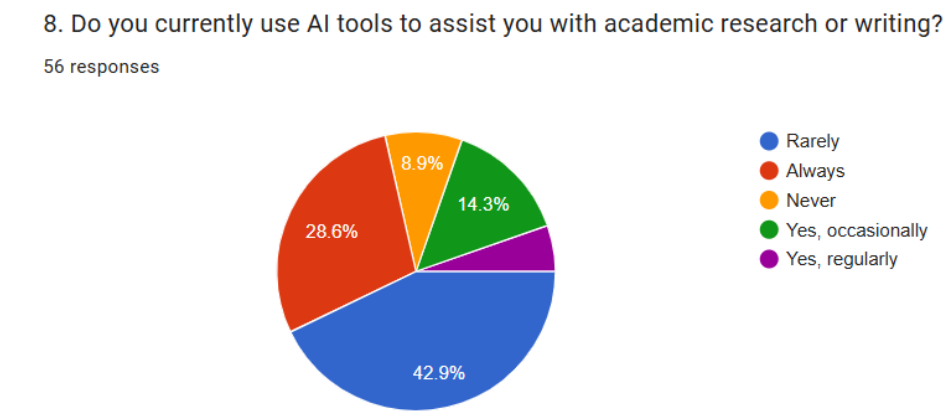


Figure 3. *The frequency with which respondents use AI in their research*

Regarding the respondents' preferred AI tools, the results indicate that ChatGPT is the most widely used AI tool for research-related purposes, reported by 85.2% of the respondents. The second most frequently used tool is Grammarly (37%), followed by DeepL (18.5%). Other tools, such as Gemini (16.7%) and Copilot (7.4%), are used by a smaller proportion of respondents, while platforms like Claude, DeepSeek, and Perplexity AI appear to be only rarely used (1.9%) (Figure 4).

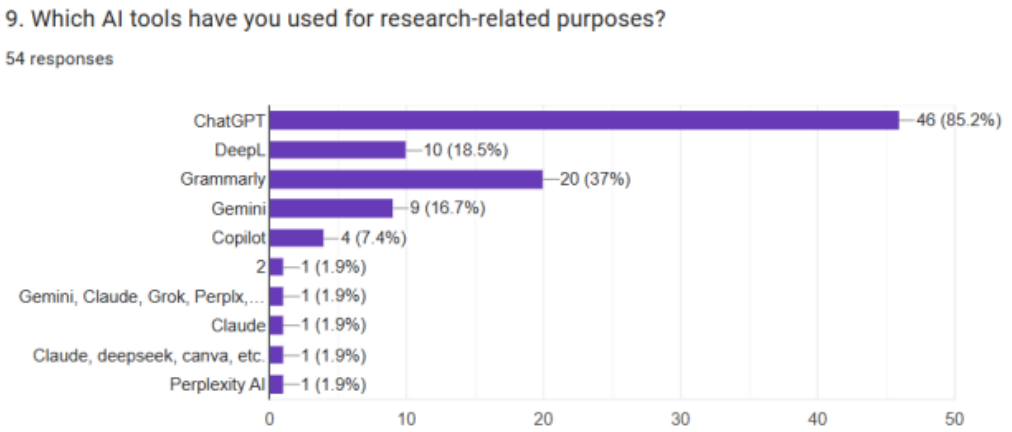


Figure 4. *Respondents' preferred AI tools for research-related purposes*

One of the primary objectives of this study was to investigate how university teachers employ AI tools for different purposes at different stages of the research and academic writing process. Table 2 summarizes their responses in that respect.

A. Generating ideas or brainstorming research topics/ Writing abstracts	22 (40.7%)
B. Clarifying theoretical concepts	14 (25.9%)
C. Paraphrasing or rephrasing sentences/Editing grammar and vocabulary/improving academic style and language	30 (55.5%)
D. Structuring sections of a paper	6 (11.1%)
E. Choosing research methodology/ Setting hypotheses and /or research questions	6 (11.1%)
F. Translating from/to another language	28 (51.9%)
G. Finding relevant literature/Summarizing literature/ Detecting plagiarism	23 (42.6%)
H. Interpreting and managing data/ Statistical analysis of data/Visual representations of data (diagrams, charts, figures, etc.)	12 (22.2%)
I. Handling citations in the text/Arranging references according to a specific style (APA, MLA, Chicago style, etc.)	18 (33.3%)
J. Self-editing and self-reviewing	22 (40.7%)
K. Finding suitable journals for publication of your article	10 (18.6%)
L. Preparing presentations	14 (25.9%)

Table 2. *Purposes for using AI tools in the research and academic writing process*

The analysis of these results shows that AI tools are most frequently used for language-related tasks and text improvement. The highest percentage of respondents (55.5%) reported using AI for *paraphrasing or rephrasing sentences, editing grammar and vocabulary, and improving academic style*, followed closely by *translation from one language into another* (51.9%). A considerable proportion of respondents also use AI for *finding and summarizing relevant literature* and *detecting plagiarism* (42.6%); *generating ideas or brainstorming research topics and writing abstracts* (40.7%) as well as for *self-editing and self-reviewing* (40.7%). The results also suggest that a moderate use of AI for *handling citations and arranging references according to a specific style* (33.3%), *clarifying theoretical concepts* (25.9%), *preparing presentations* (25.9%), and *interpreting and managing data, statistical analysis of data and visual representations of data* (22.2%). Smaller proportions indicated using AI for *finding suitable journals for publication* (18.6%), *structuring sections of a paper* (11.1%), *choosing research methodology,* and *setting hypotheses and /or research questions* (11.1%). Overall, these findings suggest that respondents primarily rely on AI tools for language support, translation, and literature-related tasks, while their use for methodological design and data analysis remains relatively limited.

A. Generating ideas or brainstorming research topics/Writing abstracts	ChatGPT, Copilot
B. Clarifying theoretical concepts	ChatGPT, Gemini
C. Paraphrasing or rephrasing sentences/ Editing grammar and vocabulary/ improving academic style and language	ChatGPT, Grammarly, Deepl
D. Structuring the sections of the paper	ChatGPT
E. Choosing research methodology/ Setting hypotheses and/or research questions	ChatGPT
F. Translating from one language into another	ChatGPT, Gemini, Copilot, Deepl
G. Finding relevant literature/Summarizing literature/Detecting plagiarism	ChatGPT, Gemini, Quiltbot, Copilot, Mendeley, Google Scholar
H. Interpreting and managing data/ Statistical analysis of data/Visual representations of data (diagrams, charts, figures, etc.)	ChatGPT, Copilot, Statistical Package for the Social Sciences (SPSS)
I. Handling citations in the text/Arranging references according to a specific style (APA, MLA, Chicago style, etc.)	ChatGPT, Grammarly, Copilot, Mendeley, Gemini
J. Self-editing and self-reviewing	ChatGPT, Grammarly, Gemini
K. Finding suitable journals for publication of your article	ChatGPT, Gemini, Scopus
L. Preparing presentations	ChatGPT, Canva

Table 3. *AI tools used by respondents for the different stages of the research process*

The data show that respondents rely on a range of AI tools across different stages of the research and writing process, with ChatGPT emerging as the most frequently used tool across all activities. Notably, approximately one third of the respondents reported using ChatGPT for all listed purposes, in addition to those who provided more task-specific responses. Other tools, such as Grammarly and DeepL, are primarily used for language-related tasks, including paraphrasing, grammar editing, and improving academic style. Meanwhile, Gemini and Copilot function as complementary tools across several categories. More precisely, respondents report using Gemini for clarifying theoretical concepts, translation, literature search and summarization, self-editing, and citation handling, whereas Copilot is used for idea generation, translation, literature search and summarization, and data interpretation. Specialized platforms such as Mendeley, Google Scholar, and Scopus are mainly associated with literature search, citation management, and journal selection. Additionally, tools such as SPSS are employed for data analysis, while Canva is used for presentation preparation. Overall, these findings suggest that respondents adopt a multifunctional and complementary approach,

and despite their clear preference for general-purpose AI tools (ChatGPT predominantly), there is a clear tendency towards combining general-purpose AI tools with specialized software depending on the specific research task.

Research question 12 examined respondents' perceptions of using AI tools in conducting research and writing academic papers. The findings indicate generally positive attitudes. A considerable proportion of respondents agree that AI tools save time during the writing process, with responses clustering around ratings 3 and 4 (on a 1–5 scale). Similarly, many participants believe that AI enhances the linguistic quality of academic writing, most frequently assigning a rating of 4. However, respondents report low to moderate confidence in using AI tools for research-related tasks and acknowledge potential limitations, including the provision of inaccurate or irrelevant information, as reflected in ratings predominantly at levels 2 and 3.

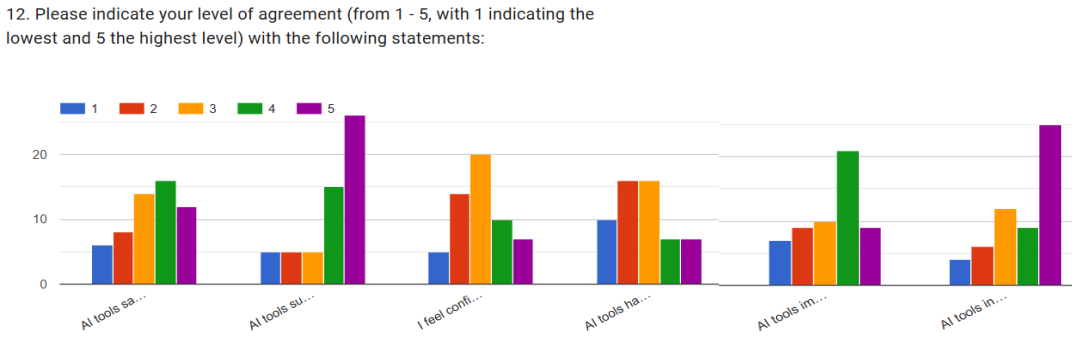


Figure 5. *Respondents' perceptions of the use of AI for research purposes*

Notably, while there is strong agreement that *AI tools support rather than replace academic expertise,* respondents simultaneously express significant *ethical concerns*, with the highest level of agreement (5) being the most frequent response to this statement (Figure 5).

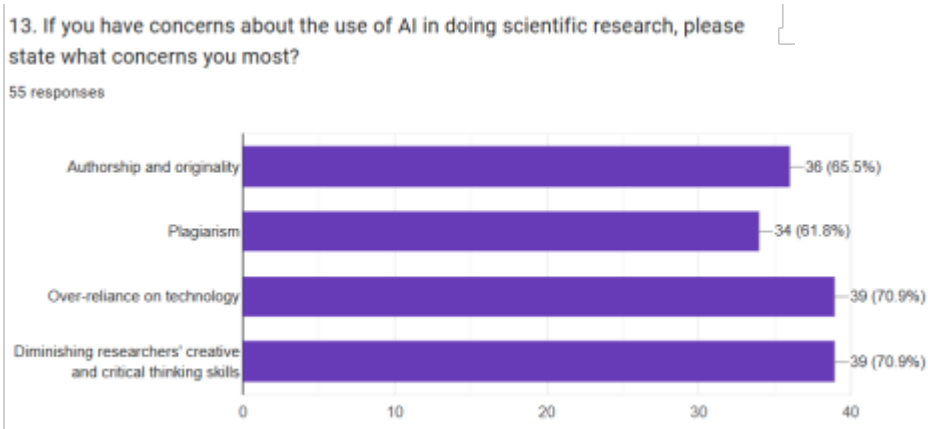


Figure 6. *Respondents' concerns about the use of AI tools for research-related purposes*

The results show that respondents have strong and closely aligned concerns about the use of AI in scientific research. The most prominent issues, each selected by 70.9%, are *over-reliance on technology* and *diminishing researchers' creative and critical thinking skills*. These findings suggest a clear fear that AI may weaken researchers' independence and intellectual engagement. Slightly lower, but still very significant concerns include: *authorship and originality* (65.5%) and *plagiarism* (61.8%) (Figure 6). Clearly, these data indicate that while ethical issues (authorship, plagiarism) are important, respondents are even more worried about the long-term cognitive impact of AI on researchers themselves.

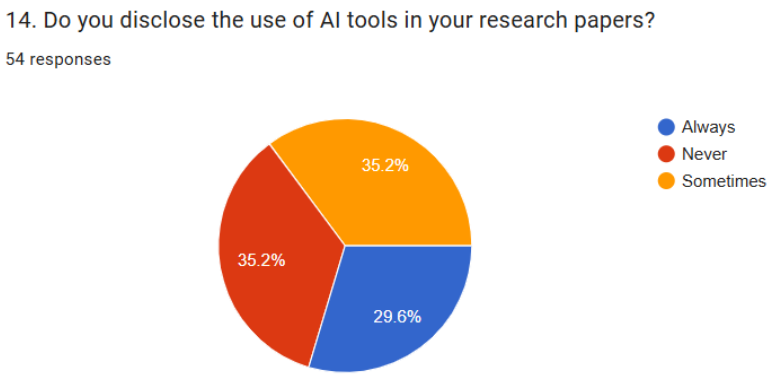


Figure 7. *The respondents' opinions as to whether AI tools should be disclosed in research papers*

Regarding the transparent disclosure of AI tool usage in research papers, the findings reveal a lack of consistent practice among respondents. The two largest groups are evenly divided, with 35.2% reporting that they never disclose and an equal 35.2% indicating that they sometimes disclose the use of AI tools in their work. A smaller proportion (29.6%) state that they always provide such disclosure (Figure 7). These results suggest that transparency in reporting AI usage has not yet been standardized, highlighting the need for clearer guidelines and more consistent norms in academic publishing.

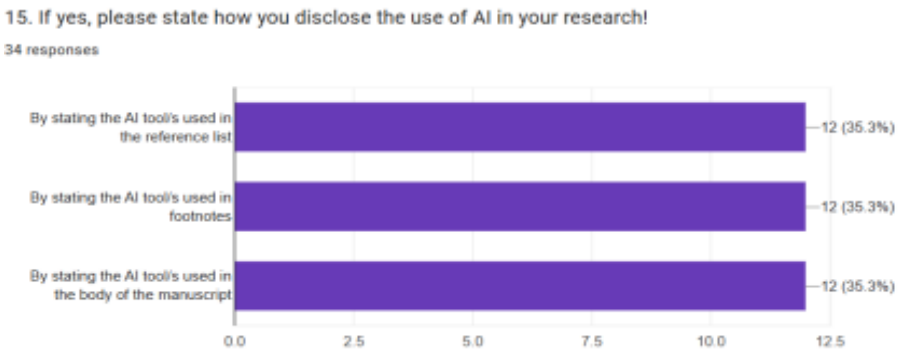


Figure 8. *Respondents' preferred section for disclosing the use of AI tools*

Moreover, the respondents reveal inconsistency in the way they disclose the use of AI in their research as their answers are evenly distributed across the three proposed options: inclusion in the reference list (35.3%), in footnotes (35.3%) and within the body of the manuscript (35.3%) (Figure 8). This uniform distribution further indicates the absence of clear and standardized guidelines regarding where and how AI usage should be reported in academic writing.

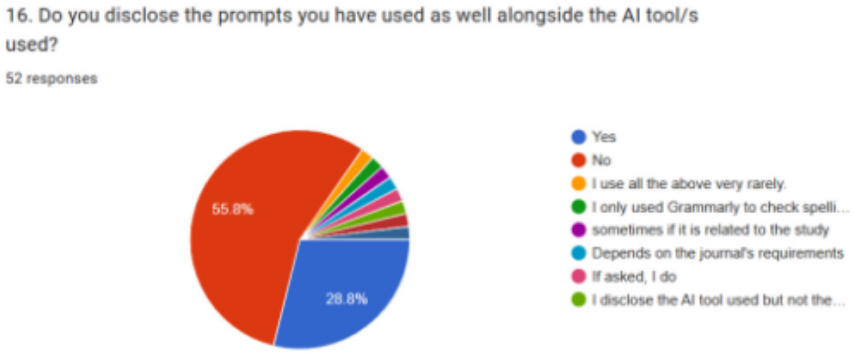


Figure 9. *The respondents' opinions as to whether prompts used in AI tools should be disclosed in research papers*

The majority of respondents (55.8%) report that they do not disclose the prompts they use, while 28.8% indicate that they do provide such information. A very small proportion note that they disclose prompts only when this is explicitly required by the journal in which their work is published. These findings too highlight the lack of standardized practices and clear guidelines regarding prompt disclosure in academic writing.

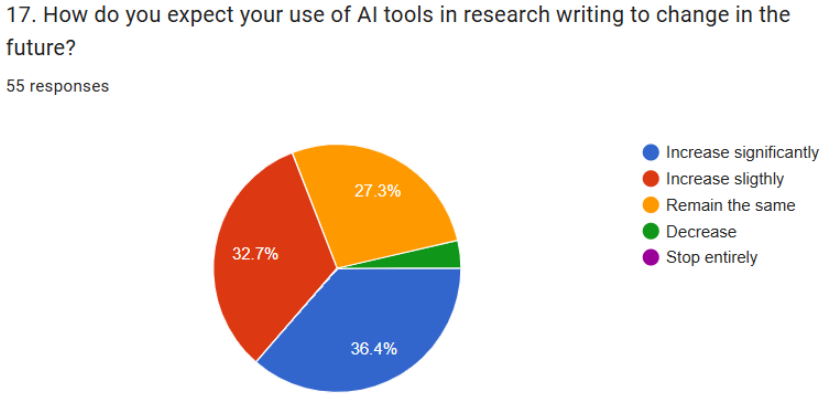


Figure 10. *The respondents' expectations about the use of AI in the future*

Respondents' opinions are divided regarding the expected impact of AI on their future research. A total of 36.4% believe their research activity will increase significantly, while 32.7% anticipate a slight increase, and 27.3% expect it to

remain unchanged. A small proportion (3.6%) indicate that their research activity may decrease. Notably, none of the respondents believe that AI will lead them to stop conducting research altogether (Figure 10). These findings suggest that university language teachers do not share a unified perspective or a clearly defined outlook on the future influence of AI on their research practices.

As to the last open-ended question, which invited additional comments on the use of AI for research-related purposes, a total of 30 responses were collected, revealing several recurring themes. Overall, the responses reflect a cautious and reflective attitude toward AI in academic research. One prominent pattern is the *limited or non-existent use of AI tools*, with some respondents stating that they "use AI very rarely" or they avoid it altogether. In some cases, this is due to unfamiliarity, as one respondent noted being "not familiar with the use of different AI tools," although acknowledging that "a lot has changed recently". Among those who do use AI, there is a clear consensus that it should function only as a *supportive tool*. Respondents emphasize that it "should be used to help and support us, but [...] can never replace human creative skills," and that "human expertise should remain priority". Its use is therefore restricted to tasks such as "correcting the grammar," "draft[ing] tables," or organizing content, as it is seen as "more supportive rather than creative." At the same time, *ethical concerns and issues of reliability* strongly shape respondents' views. Some describe AI as "potentially very dangerous," stressing the need for careful regulation, while others argue that its use conflicts with "research integrity". Concerns about accuracy are also evident, with reports that AI outputs must be "carefully double checked", as they can be incorrect or misleading. Although AI is acknowledged as a *time-saving tool*, many respondents feel that "the ethical considerations outweigh the benefits". Nevertheless, there is recognition that AI will likely become unavoidable, described by some as "an everyday reality" or even "a revolution", which highlights the need for *proper training and ethical guidelines*. In sum, these answers point to a balanced but cautious perspective: AI is accepted as a useful support tool, but its use remains limited due to ethical concerns, trust issues, and a strong emphasis on maintaining human expertise and academic integrity.

Conclusion

This study contributes to the growing body of research on AI in academia by providing empirical insights into how university language teachers perceive and utilize AI tools across different stages of the research process. The sample used in this study can be considered appropriate and reliable, as it includes respondents with substantial academic experience and a solid background in research. The diversity of the sample, particularly in terms of academic titles, research interest and number of published papers as well as geographical location, further enhances the validity of the findings by ensuring a broader and more representative perspective.

The results indicate that language university teachers have predominantly positive opinions and have already begun to integrate the benefits of AI tools into their research practices, with only a negligible proportion still showing resistance to their use. They report using AI tools for various purposes across different stages of the research process; however, the findings suggest that these tools are most frequently employed for language-related tasks, such as paraphrasing and rephrasing, grammar and vocabulary editing, improving academic style, and translation. In addition, respondents use AI for identifying and summarizing relevant literature, detecting plagiarism, generating ideas, brainstorming research topics, and drafting abstracts. Although participants demonstrate awareness of and reliance on a range of AI tools such as ChatGPT, Grammarly and DeepL, Gemini, Copilot, etc., ChatGPT clearly emerges as the most frequently used tool across all stages of the research process. This finding is consistent with the results of Xu (2025), which similarly highlight the dominance of ChatGPT in research-related activities. This finding points to a preference for general-purpose AI applications rather than a more diversified use of specialized tools.

At the same time, although the respondents do not seem to have a unified perspective or a clearly defined outlook on the future influence of AI on their research practices, they show a balanced understanding of both the advantages and the challenges associated with AI use. They recognize its potential to support academic work, while also expressing awareness of important ethical concerns, including issues of authorship, plagiarism, research authenticity, and the potential negative impact on their creativity and critical thinking. These findings are consistent with previous studies (Laher, 2025; Tang et al., 2023), further supporting their validity.

Overall, the study highlights the need for clearer guidelines, institutional recommendations, and targeted training to support the ethical and effective use of AI in academic research and transparent disclosure of the use of AI tools and prompts in research papers. This conclusion is aligned with the recommendations suggested by researchers such as Khalifa and Albadawy (2024). Providing such support would enable researchers to make more informed, responsible, and diversified use of AI technologies in their scholarly work.

References

Artiana, N., Fakhrurriana, R. (2024). EFL undergraduate students' perspective on using AI-based ChatGPT in academic writing. *Language and Education Journal*, 9(1), 1-11.

Behera, K. A. (2024). Using ChatGPT in Teaching/Learning Language Skills. *Literary Oracle*, 8(1), pp. 22-32.

Chae-young, M. (2024). EFL Learners' English Writing Feedback and Their Perception of Using ChatGPT*. *Journal of English Teaching through Movies and Media*, 25(2), pp. 26-39. DOI: https://doi.org/10.16875/stem.2024.25.2.26.

Črček, N., Patekar, J. (2023). Writing with AI: University Students' Use of ChatGPT. *Journal of Language and Education*, 9(4), pp. 128-138. https://doi.org/10.17323/jle.2023.17379.

Fitria, T. N. (2023). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. *ELT Forum: Journal of English Language Teaching*, 12(1), pp. 44-58. https://doi.org/10.15294/elt.v12i1.64069

Floris, F. D., Renandya, A. W. (2025). Artificial Intelligence Tools for Research Writing: Practical Tips for Teachers. *The Electronic Journal for English as a Second Language,* 29(1). pp. 1-21. https://doi.org/10.55593/ej.29113int2.

Imran, M., Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature. *Contemporary Educational Technology*, 15(4), ep464. https://doi.org/10.30935/cedtech/13605.

Jen, S. L., Salam, A. R. (2024). Using Artificial Intelligence for Essay Writing. *ArabWorld English Journal (AWEJ) Special Issue on ChatGPT*, pp. 90-99. DOI: https://dx.doi.org/10.24093/awej/ChatGPT.5.

Khalifa, M., Albadawy, M. (2024). Using artificial intelligence in academic writing and research: An essential productivity tool. *Computer Methods and Programs in Biomedicine Update*, Vol. 5, 100145. https://doi.org/10.1016/j.cmpbup.2024.100145.

Kim, S. H., J. Y. Kim (2021). Learner Perceptions of ChatGPT in a Korean EFL Classroom. *Language Learning & Technology*, 25(2), pp. 1–19.

Laher, S. (2025). Using AI in academic writing: what's allowed and what's not. *South African Journal of Psychology*, 55(2), pp. 155–158. DOI: 10.1177/00812463251338244 journals.sagepub.com/home/sap.

Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: a mixed methods intervention study. *Smart Learning Environment*, 11(9). https://doi.org/10.1186/s40561-024-00295-9

Marzuki, Widiati, U., Rusdin, D., Darwin, Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective. *Cogent Education*, 10: 2236469, pp. 1-17. https://doi.org/10.1080/2331186X.2023.2236469.

Masoudi, H. (2024). Effectiveness of ChatGPT in Improving English Writing Proficiency among Non-native English Speakers. *International Journal of Educational Sciences and Arts*, 3(4), pp. 62-84. http://dx.doi.org/10.59992/IJESA.2023.v3n4p2.

Tang, A., Li, K-K., Kwok, K. O., Cao, L., Luong, S., Tam, W., (2023). The importance of transparency: Declaring the use of generative artificial intelligence (AI) in academic writing. *Journal of Nursing Scholarship*, 56(2), pp.1-5. DOI: 10.1111/jnu.12938.

Tran, H. N., Le, T. T. N., Tran, V. B. U. (2025). AI Tools in Learning Academic Writing: Benefits and Challenges for MA Students in the English Language Studies at the Industrial University of Ho Chi Minh City. *International Journal of AI in Language Education*, 2(1), pp. 74-91. DOI: https://doi.org/10.54855/ijaile.25215

Xu, Z. (2025). Patterns and Purposes: A Cross-Journal Analysis of AI Tool Usage in Academic Writing. *CoRR,* abs/2502.00632. https://doi.org/10.48550/arXiv.2502.00632.

ЧОВЕКЪТ И МАШИНАТА: ДОКУМЕНТИ ОТ БРИТАНСКАТА ИНДУСТРИАЛНА РЕВОЛЮЦИЯ

Татяна Лефтерова-Стойчева

THE MAN AND THE MACHINE: DOCUMENTS OF BRITISH INDSUTRIAL REVOLUTION

Tatyana Lefterova-Stoycheva[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/AKQY3186

Индустриалната революция е периодът от развитието на човешката цивилизация, когато машината се превръща в ключов икономически и социален фактор. Процесът към усвояването на технологии, които, използвайки нови източници на енергия, да заместят или да допълнят човешкия труд, за първи път се осъществява в Англия. Причините за това първенство са от най-различен характер като наличие на капитали, работна ръка, пазари, евтина енергия, развит воден транспорт, адекватна държавна политика, но до голяма степен и от възможностите за приложение на техническите открития. Интересът и жаждата за иновации характеризират британската социална среда, а перспективите да се произвежда повече количество продукция и да се увеличат печалбите чрез замяна на човешкия трудов капитал са изкушаващи за предприемчивите британци. Тяхната способност да създават и да адаптират нови производствени технологии е изключителна, като комуникацията между изобретателните експериментатори и прагматичните бизнесмени е успешна и плодоносна.

Статистиката на патентите показва, че през 60-те години на XVIII век се наблюдава рязко увеличаване в нивото на откривателството и техническите иновации в производството – за период от десет години са издадени повече от двеста патента. Това е нечуван рекорд дори за британското общество и бележи началото на Индустриалната революция (Deane, 1979, p. 135). Голямо количество открития допринася за прогреса, но някои от тях се признават за особено значими, затова се използва определението „макроизобретения“.

1 Tatyana Lefterova-Stoycheva, PhD is a Senior Assistant and a lecturer of Modern General History at the Department of History and Archaeology of *Konstantin Preslavsky* University of Shumen. Her academic research includes Modern General History, British social history, problems of Industrial Revolution. Email: t.lefterova-stoycheva@shu.bg

Copyright © 2026 Tatyana Lefterova-Stoycheva

Article history: Received: 20 June 2026; Edited: 24 June 2026; Revised: 30 June 2026; Accepted: 2 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

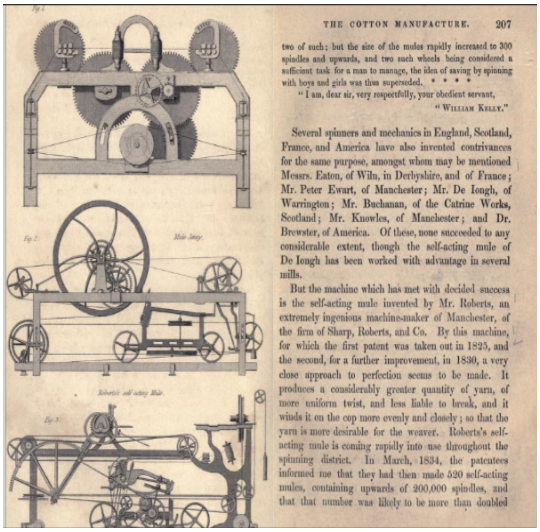
Историците наричат парния двигател най-важното макроизобретение или „чудото“ на Индустриалната революция, а Ригли дори използва израза „иконичен символ на Новото време“ (Wrigley, 2010, p. 42). Известно е, че няколко изобретатели допринасят за неговата поява, но Джеймс Уот е ученият, който го прави икономически приложим.

Механичният стан е другото макроизобретение с голямо икономическо значение, защото бележи механизацията в текстилната индустрия (Mokyr, 1999, p. 21). Това е отрасълът, който обикновено се свързва с началото на индустриализацията и отваря големи възможности за технически нововъведения. Робърт Алън определя памучното производство като чудото на английската индустриална революция (Allen, 2009, p. 183). До средата на XVIII век този сектор не е определял нивото на брутния продукт в страната, докато през първата половина на XIX век, благодарение на машините, заема половината дял от износа. Британия се превръща в „работилницата на света“. Техническите нововъведения в отрасъла са направени основно през XVIII век. Например „Летящата совалка“ на Джон Кей се появява през 1733 г., като улеснява процеса на тъкане и стимулира всички други открития за преденето. „Въртящата се Джени“ на Джеймс Харгрейфс датира от 1764 г., а Ричард Аркрайт я доусъвършенства и отваря първата воденична фабрика през 1771 г. „Механичното муле“ на Самюъл Кромптън (1779) прави Ланкашир и Клайсайд центрове на текстилната индустрия. През 1785 г. Едмънд Картрайт създава механичния стан, но той става комерсиално успешен няколко години по-късно. Ключовият момент е, когато на границата на двете столетия двигателят се въвежда в текстилното производство и отваря нови възможности за предприемачите. През следващия век машините най-вече се доусъвършенстват. Модернизацията им създава условия за преход от нискоинтензивна и нископлатена структура, където децата са основна работна сила, към високоинтензивна и високоплатена, където са нужни квалифицирани възрастни (Bolin-Hort, 1989, p. 57).

Употребата на машините и на парния двигател променя пейзажа на градските центрове и подсказва, че общността се е откъснала от традиционните методи за производство и е направила първата крачка към съвременността. Появява се новата производствена институция – фабриката, където хората се трудят заедно под един покрив, спазват трудова дисциплина и дейността им е съобразена с ритъма и скоростта на машините. Но преди въвеждането на парния двигател за задвижването на машините се е използвала силата на водата, затова първите фабрики се строят край реките и не винаги в населени места. Появява се проблемът с работната ръка и предприемачите се насочват към използването на децата от приютите, т.нар. *енорийски чираци*. Отваря се една нова страница на бизнес отношения, в които фабрикантите могат да разчитат на тази безплатна трудова сила, генерирайки силен начален старт на текстилното производство. Наемането на жени и деца се превръща в част от цялостната стратегия за намаляването

на разходите за труд, тъй като по традиция техните възнаграждения са по-ниски. Затова много учени смятат, че Индустриалната революция е свързана с увеличаване на детската експлоатация. Поради тази причина, както и поради другите тежки социални проблеми, някои изследователи са безпощадни в критиката си към собствениците на фабрики и към фабричната система като цяло (Hammond, 1917, p. 192).

Разглежданият документ (Фигура 1) дава представа за опитите на инженерите да намерят технически решения, които да ограничат разходите чрез използване на евтиния детски труд. Усъвършенстването на машините обаче е сложен и тромав процес. Търсенето на технически подобрения е свързано с различни предизвикателства, при които откривателите често се опитват да отговорят на очакванията на предприемачите, но са ограничени от нивото на научния прогрес. При условия на безмилостна конкуренция, натиск на пазара и социални бариери те не спират да търсят максимално най-ефективните и печеливши методи на производство, надявайки се също усилията им да получат обществено признание. Освен високата социална цена под формата на експлоатация и тежки условия на труд и на живот, която най-уязвимите групи плащат в името на прогреса, виждаме, че пътят на откривателството също е тежък и развитието на технологиите не е еднопосочно, а често е свързано с колебания, забавяния, реорганизации, пълна смяна на курса, отхвърляне на методи, които изчерпват своето значение, и търсене на нови работещи решения.



THE COTTON MANUFACTURE. 207

two of such; but the size of the mules rapidly increased to 300 spindles and upwards, and two such wheels being considered a sufficient task for a man to manage, the idea of saving by spinning with boys and girls was thus superseded. * * * *

"I am, dear sir, very respectfully, your obedient servant,

"WILLIAM KELLY."

Several spinners and mechanics in England, Scotland, France, and America have also invented contrivances for the same purpose, amongst whom may be mentioned Messrs. Eaton, of Wilts, in Derbyshire, and of France; Mr. Peter Ewart, of Manchester; Mr. De Iongh, of Warrington; Mr. Buchanan, of the Catrine Works, Scotland; Mr. Knowles, of Manchester; and Dr. Brewster, of America. Of these, none succeeded to any considerable extent, though the self-acting mule of De Iongh has been worked with advantage in several mills.

But the machine which has met with decided success is the self-acting mule invented by Mr. Roberts, an extremely ingenious machine-maker of Manchester, of the firm of Sharp, Roberts, and Co. By this machine, for which the first patent was taken out in 1825, and the second, for a further improvement, in 1830, a very close approach to perfection seems to be made. It produces a considerably greater quantity of yarn, of more uniform twist, and less liable to break, and it winds it on the cop more evenly and closely; so that the yarn is more desirable for the weaver. Roberts's self-acting mule is coming rapidly into use throughout the spinning district. In March, 1834, the patentees informed me that they had then made 520 self-acting mules, containing upwards of 200,000 spindles, and that that number was likely to be more than doubled

Фигура 1. Модели на предачни машини и краят на писмото на Кели, от *History of Cotton Manufacture in Great Britain*, Eduard Baines, London, 1835.

Книгата, в която е поместено писмото, е издадена през 1835 г. от Едуард Бейнс, който проповядва философията на класическия либерализъм (Baines, 1835). Твърдо убеден във възможностите на свободния пазар и на конкуренцията, той страстно защитава фабрикантите и се изявява като апологет на фабричната система. В период, когато общественият дебат по отношение на детската експлоатация и условията на труд се развихря до много високи нива, Бейнс предпочита да игнорира въпроса за социалните последици, бедността и експлоатацията. Целта на неговото изследване е, описвайки дългата и трудна история на откривателството и на

техническите иновации, да докаже, че памучната индустрия преди всичко може да преобрази обществото и да доведе до икономически просперитет.

Писмото датира от 1829 г., но не е адресирано до Едуард Бейнс, а му е предоставено от получателя, мистър Кенеди, след което го цитира в своята книга. Авторът, Уилям Кели, е шотландски инженер, мениджър на предачни фабрики в Ланарк и един от ранните изобретатели, които се опитват да автоматизират предачната машина. От писмото става ясно, че през 1790 г. той е първият, който прилага водна сила за нейното задвижване, което води до значително увеличаване на размерите ѝ. Така Кели се е надявал, че машината ще може да се обслужва от млади работници или деца, което се е очаквало да е икономически ефективно, затова през 1792 г. я патентова. Но в крайна сметка този модел отпада, защото техническото развитие води до допълнително уголемяване и необходимостта от опитни оператори. Усилията на Кели се оказват напразни и на други откриватели принадлежи честта да създадат предачна машина, която да се радва на траен успех и приложение. В духа на своите политически цели Едуард Бейнс използва текста на писмото не толкова като исторически източник за ранните премеждия на откривателството, колкото да докаже, че техническото развитие води към отпадането на детския труд в текстилната индустрия, а не държавните закони и регулации – мнение, което се споделя и от някои съвременни изследователи (Kirby, 2003, pp. 94-95; Nardinelli, 1990, p. 121; Bolin-Hort, 1989, p. 106).

А това е текстът на самото писмо според публикацията на Едуард Бейнс:

„Мистър Кели, по-рано от фабриката в Ланарк, също през 1792 г. създава самостоятелно задвижвана предачна машина, а следното писмо от него до мистър Кенеди, писано на 8 януари 1829 г. и споделено с мен от получателя, съдържа някои интересни детайли относно подобренията, които мистър Кели е направил:

„Първо, през 1790 г. започнах да използвам енергия от водата за традиционните машини, т.е. задвижвахме ги чрез вода, но по познатия начин (от гледна точка на структурата или рамата с вретената), включвайки ръчен труд при макарите: поставяйки колелата (или предачните машини) отляво и отдясно, един предач можеше да управлява едновременно две предачни машини вместо една.

Предачните машини от този период основно се задвижваха с въжета, направени от отпадъци от памучните фабрики, тръгващи от въртящ се вал в средата на помещението и разпределяни на различните страни чрез макари над маховиците. Впоследствие този метод на задвижване беше заменен с ремъци – много по-добър начин и по-добре адаптиран към новите предачни машини. Оттогава идеята за самостоятелно задвижваната машина постоянно ме занимаваше и търсех начини как да я вкарам в употреба, а

след като известен брой пъти се получи много добре, през лятото на 1792 г. получих патент. Целта тогава беше преденето да се извършва от млади хора. Затова беше необходимо подвижната рама да се изтегля без ръчно задвижване на макарите. Отначало ние използвахме машините напълно самостоятелно при всички действия – маховикът се въртеше постоянно, а след като вретената достигнеха пълното усукване на нишката, спираха и водачът или падащият механизъм се спускаше от вътрешната им страна и краищата се освобождаваха от нишката едновременно с вдигане на водача или вътрешния падащ механизъм (ако може така да се нарече). Когато външният водач, или направляващ механизъм, се завъртеше и стигнеше до определена точка във вътрешността на вретената, тогава се освобождаваше или по-скоро се издърпваше чрез ремъчна шайба, привеждаше се в движение, което се предаваше и на вретената, и в същото време на подвижната рама (подобно на начина, по който се задвижваше голямата предачна машина). Но при описаната самозадвижваща се предачна машина, която извършваше всяко движение сама, след като вретената спираха, бяха нужни приблизително три оборота на маховика, за да се задвижи водачът и да се приведе в действие споменатата шайба, което продължаваше в подвижната рама, но всичко това водеше до голяма загуба на време. Затова ние премахнахме тази част от механизма и оставихме машината да спира при пълното усукване на нишката, а в този момент момчето или момичето, без да докосва маховика, завърташе падащия механизъм, което неминуемо задвижваше вретената и рамата, а навивката на преждата върху вретеното се нагласяше според наклонена плоскост или чрез други средства.

Ако някой пита защо самозадвижващите се предачни машини не продължават да се използват, вие знаете, че първоначално предачната машина побираше 144 вретена, и когато се приложеше задвижваща сила, предачът обслужваше едновременно две. Но размерът на машините бързо се промени до 300 и повече вретена, а две такива машини се оказаха твърде тежка задача да се обслужват само от един човек, така се изостави идеята да се спестява от труд чрез използване на момчета и момичета.

Оставам, драги сър, с най-дълбоко уважение, Ваш покорен слуга,

Уилям Кели.“

* * *

Освен за откривателите, за всички други представители на епохата промените покрай Индустриалната революция са свързани с трудности и нови предизвикателства. Докато инженерите се надяват да предложат технически най-добрите решения, като увеличат продукцията и намалят разходите, за занаятчиите това означава загуба на препитанието, тъй като не могат да удържат на конкуренцията на по-евтиното фабрично производство. Те срещат подкрепата на обществените кръгове, които са склонни да идеализират миналото и ръчния труд, споделяйки носталгията

employment, and starving for want of food. To illustrate this we will give a few instances out of many that could be cited.

In one of the large machine shops in Manchester, the following machines have been introduced since the year 1838.

One plaining machine, equal to fourteen men, employs one man or boy to direct it. *Five* smaller ones equal to three men each, employ one person each.

One blotting machine equal to twelve men, one person directs it.

One self-acting lathe, equal to three men, with one person to superintend it.

One nut-cutting machine, equal to three men, employs one boy.

One screw-cutting machine, equal to ten men, employs one boy.

One wheel-cutting machine, equal to twenty men, employs one man.

One boring machine, equal to ten men, employs one person.

In another shop, there are twenty self-acting lathes, equal to *one hundred men*, one man, or a boy, attends two of them.

Eight plaining machines, equal to *ninety-six* men, one man, *or* a boy attends one of them.

One *nut*-cutting machine, upon a further improved principle, equal to twenty men, employs one boy only.

Фигура 2. Фрагмент от *Stubborn Facts from the Factories, by a Manchester Operative, published and dedicated to the Working Classes,* William Rashleigh, London, 1844.

и преклонението пред традиционните ценности. Негативното отношение на обикновените хора към машините, които са възприемани като причина за всички злини и следователно трябва да бъдат унищожавани, в този смисъл е напълно разбираемо. Организираната съпротива създава пречки за предприемачите, прилагането на иновациите се забавя и така някои от първите фабрики нямат шанс да просъществуват. Движението на лудитите се заражда в Йоркшир, известен с текстилното производство, като първите акции датират още през 1770 г., а в периода 1811-1816 г. стават масови. Когато през 1812 г. се стига до убийството на индустриалец и за да защити собствеността на фабрикантите, Парламентът въвежда смъртно наказание за чупенето на машини. Срещу кампаниите се включват армията, конницата и специално назначените шпиони – така през пролетта на 1813 г. 13 лидери на движението са екзекутирани (Ward, 1962, pp. 6-11). Противно обаче на някои разпространени в литературата представи, лудитите са квалифицирани и образовани занаятчии, а не примитивна тълпа от разгневени и ограничени плебеи, които действат стихийно. Тяхната цел е единствено унищожаването на машините, които ограбват труда им (Benson, 1989, p. 179).

Процесът на замяната на човешкия труд с машинен продължава дълго и е част от обществения дебат. В следващия документ (Фигура 2) виждаме илюстрация на степента на заместване на човека и перспективите за отпадането му от трудовия пазар поради механизацията. Политическият памфлет „Натрапващи се факти за фабриките“ е написан от чартиста и тъкач Джеймс Лийч през 1844 г. Публикуван е в Манчестър, а целта на автора е чрез описване на тежките условия на труд във фабриките да повдигне въпроса за социалната цена на Индустриалната революция. От тук Фридрих Енгелс черпи вдъхновение за труда „Условията за работническата класа в Англия“. Тъй като за Лийч е рисковано да издава такъв памфлет, използва псевдонима „Манчестърски оператор“, а Уилям Рашли, в качеството си на политик и депутат от партията на торите, е издателят и спонсорът. Основният конфликт в произведението обаче не е между работниците и работодателите, а между привържениците на свободната търговия от Зърнената лига,

борещи се за отмяната на зърнените закони, и поземлената аристокрация, която защитава своите интереси, ограничавайки вноса на земеделска продукция. За разлика от Лийч, който единствено иска да покаже страданията на работниците, издателят Рашли преследва определени политически цели – за него суровите условия във фабриките са само аргумент и политическо оръжие срещу класата на фабрикантите, които са идеологически свързани с принципа на свободната търговия:

„Господата от Лигата ни уверяват, че въпреки че машините са свалили цената на труда в различни отрасли на производството, чрез въвеждането им работническата класа преди всичко се е облагодетелствала, тъй като е създала голям брой добре платени механици, които да изработват машините, и така докато една група работници е загубила, друга е спечелила. Вярно е, че за известен период механиците имаха доста добри възнаграждения, както и тъкачът, преди машината да унищожи неговото препитание, но да видим как стои въпросът сега с производителите на машини. Този отрасъл в момента придоби напълно различен облик в сравнение отпреди няколко години – вместо механиците да правят машини, сега една машина произвежда други машини, докато много механици се скитат по улиците без работа и търсещи прехрана. Като илюстрация на това ще посочим само няколко от всичките примери, които могат да се споменат.

В една от големите машиностроителници в Манчестър от 1838 г. са на разположение следните машини:

Една машина за рендосване, равностойна на труда на 14 мъже, се обслужва от един мъж или едно момче. Пет по-малки машини, всяка от които равностойна на труда на трима мъже, се обслужват от по един човек.

Пресоваща машина, равностойна на труда на дванадесет мъже, се обслужва само от един.

Един механизиран струг, равностоен на труда на трима мъже, само един работник оперира с него.

Една металорежеща машина за гайки, равностойна на труда на трима мъже, се обслужва от едно момче.

Една винторежеща машина, равностойна на труда на десет мъже, е достатъчно да се управлява от едно момче.

Една машина с металорежещ диск, отговаряща на труда на двадесет, се обслужва само от един мъж.

Една бор-машина, равностойна на труда на десет мъже, ангажира само един.

В друга работилница има двадесет струга, равностойни на труда на сто мъже, един мъж или едно момче контролира по две от тях.

Осем рендосващи машини, равностойни на труда на 96 мъже, само един мъж или момче наблюдава по една от тях.

Една металорежеща машина за гайки, с допълнителни подобрения, равностойна на труда на двадесет мъже, ангажира само едно момче.

Една режеща машина, равностойна на труда на двадесет мъже, управлявана само от един мъж или момче.

Горното описание на машини за производство на машини представяме само като примерен модел на случващото се в цялата страна. Дори според най-скромните изчисления машинопроизводствените машини в Манчестър през последните двадесет години се равняват на труда на три хиляди механици, които преди това са били ангажирани. И въпреки значителното нарастване, осъществено при така описания труд, до голяма степен дължащо се на чуждестранни поръчки от Русия или Прусия и др. страни към главните механици, през 1843 г. само в Манчестър има 450 души останали без работа."

* * *

" 1st. The door of the lodge will be closed ten minutes after the engine starts every morning, and no weaver will afterwards be admitted till breakfast-time. Any weaver who may be absent during that time shall forfeit three-pence per loom.

" 2nd. Weavers absent at any other time when the engine is working, will be charged three-pence per hour each loom for such absence; and weavers leaving the room when the engine is working without the consent of the overlooker, shall forfeit three-pence-

" 3rd. Weavers not being provided with nippers or shears, shall forfeit one penny for every day they are so unprovided.

" 9th. All shuttles, temples, brushes, oil-cans, wheels, windows, &c., if broken, shall be paid for by the weaver.

" 10th. One week's notice will be required previous to any weaver leaving the mill, or the work in hand will be forfeited. The master may discharge any hand without notice, for bad work or misconduct.

" 11th. If any hand in the mill be seen *talking* to another, *whistling*, or *singing*, will be fined *sixpence*.

" 12th. For every rod broken, one penny will be stopped.

" 13th. For every shuttle broken, one shilling.

" 14th. For every pair of temples, eight-pence.

Фигура 3. Фрагмент от *Stubborn Facts from the Factories, by a Manchester Operative, published and dedicated to the Working Classes*, William Rashleigh, London, 1844.

В същия памфлет се разкрива и друга страна от реалността във фабриките – дисциплината, налагана от собственици и надзиратели (Фигура 3). На работниците им е отнет контролът върху трудовия процес и това е промяна, свързана с въвеждането на машините, чието механично движение определя ритъма на работа. Собственикът трябва да се съобразява също и с изискванията на пазара, затова е склонен да налага непосилно работно време. В най-трудните периоди на индустриализацията, когато още няма трудово законодателство, работният ден в периоди на поръчки може да достигне повече от шестнадесет часа. Работниците се борят да запазят обичайните правила и практики от времето на занаятчийството, което прави жените и децата предпочитани като работна ръка от собствениците – не само защото им се плаща по-малко, но и защото по-лесно се подчиняват и поддават на контрол. Чрез разнообразни наказания и глоби, а при децата и чрез физическо насилие, работодателите

налагат своите регулации, методи на работа и отчитане на времето. Целта е да се произведе възможно най-голямо количество продукция чрез употреба на човешкия капитал до краен предел.

Като първи механизиран сектор, в текстилната индустрия най-рано се въвеждат правилата на трудовата дисциплина и натискът, който текстилните работници усещат, е най-голям. Не е случайно, че сред тях през 30-те години на XIX век се заражда Движението за десетте часа, чиято цел е намаляване на работното време за всички – мъже, жени и деца. Идеята на лидерите на Движението е на работниците да се даде възможност да се възстановят след работа и така животът и здравето на най-голямата обществена група да бъдат съхранени. Но работодателите и техните политически защитници яростно отстояват възможностите да извличат максимална икономическа полза от своите подчинени:

„В някои фабрики е позволено да работят единствено жени, с изключение на няколко мениджъри, не защото жените могат да се справят по-добре или да изкарат повече продукция, а защото се приема, че се съпротивляват по-малко на несправедливостта, която ежедневно под някаква форма им се стоварва.

Голяма част от жените във фабриките са омъжени и не малко от тях имат и деца. Често се случва на мъжа да му бъде отказана работа в същата фабрика и при тези обстоятелства бедното създание е принудено да остави съпруга си в леглото в пет сутринта, като бърза да изпълни ежедневно повтарящия се робски труд, за да осигури оскъдна храна за него, за себе си и за нещастните си деца. Често сме ставали свидетели на жени в последната фаза на бременността, които се трудят непосилно от сутрин до вечер покрай никога неспиращите машини, и, притиснати от природата до изтощение, те сядат за кратка разтуха, но в този момент мениджъра ги вижда и ги глобява за нарушението с шест пенса. В някои фабрики дори престъплението да поседнеш на земята за малко се наказва с цял шилинг, но господарите и техните правила говорят сами за себе си.

Първо правило: вратата на цеха се затваря сутрин десет минути, след като се включат двигателите, като след това никой тъкач не се допуска до времето за закуска. Всеки, който отсъства дотогава, ще бъде глобен три пенса на стан.

Второ правило: тъкачите, отсъстващи по всяко време, докато двигателят работи, ще бъдат глобявани по три пенса на час за всеки стан; както и тъкачите, напуснали помещението без позволението на надзирателя.

Девето правило: всички счупени совалки, четки, масленици, колела, прозорци и др. се заплащат от тъкачите.

Единадесето правило: ако някой се заговаря, свири с уста или пее, се глобява шест пенса...

Дванадесето правило: за всяка счупена игла се задържа едно пени...

Шестнадесето правило: за всяко счупено колело, от един до два шилинга и шест пенса според размера. Всеки тъкач, видян от работното си място да ..., се глобява шест пенса ...

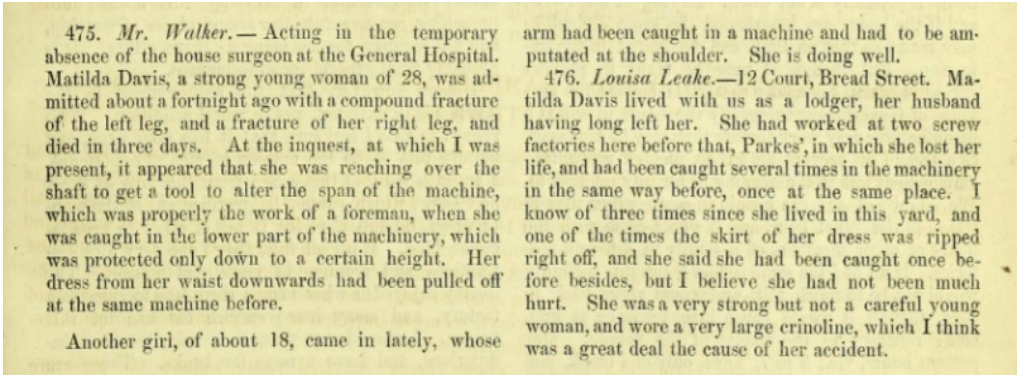
Често се случва тъкачът да отиде сутринта на работа и да установи, че часовникът е с петнадесет минути по-напред в сравнение с предната вечер. Стрелките на фабричния часовник не винаги се преместват чрез вътрешни колелца, но много често с малко външна помощ, което винаги се случва след като работниците вечерта са напуснали фабриката... Читателят най-добре ще разбере причината, след като го информираме, че често сутрин се вижда как тридесет или четиридесет човека чакат пред заключената входна врата, докато отговорникът за глобите обикаля с книгата и брои становете на отсъстващите работници. Веднъж бяхме преброили деветдесет и пет човека да чакат пред входа в пет и половина сутринта. Начинът да се извърши това елегантно обирджийство беше чрез преместването на стрелките с половин час напред, т.е. вечерта е имало петнадесет минути изоставане от градския часовник, докато сутринта е имало петнадесет минути избързване. Всеки от тези деветдесет и пет човека беше глобен с по три пенса...

В същата фабрика преди известно време един от отговорниците за глобите беше освободен и на неговата позиция беше поставен нов служител. След като изкара две седмици, собственикът го попита защо в книгата за орязванията има писано малко, човекът отговори, че за него това е толкова много, че дори се срамува да погледне в лицето тъкачите, които среща на улицата. Тогава собственикът го наруга и обвини, че му струва пет паунда на седмица повече в сравнение с предния служител и че ще го изрита от работа. Човекът беше освободен и друг, който си познаваше по-добре задълженията, зае неговото място."

* * *

Освен с налаганата дисциплина, дългото работно време и експлоатацията, фабричните работници се сблъскват и с друг проблем – въздействието, което машината може да упражни върху човешкото тяло. В малките семейни работилнички на занаятчиите е било различно, но още в първите години на механизацията става ясно, че фабричните наранявания могат да са много опасни за здравето и живота на работниците. От работодателите в обичайния случай не се получава компенсация или подкрепа, затова те не са възприемали обезопасяването като своя отговорност. А машините са мощни, големи и безпощадни, изработени от дърво или метал, разположени в не особено подходящи сгради и тесни пространства, и веднъж попаднал в тяхната силна схватка, човекът се оказва безсилен да се отскубне без последствия. Работниците трябва да прибират дрехите и косите си, за да избегнат фатална ситуация. Особено опасна е практиката машините да се почистват, докато работят, за което основно се използват децата, които ловко трябва да

се провират между отделните движещи се части. В литературата са описани трагични случаи на разкъсани малки тела. Инцидентите в текстилните фабрики основно са свързани с горните крайници. Дори малко невнимание може да е причина за големи злополуки, свързани с ампутации на пръсти или цели ръце, дори смърт. Поради огласяването на инцидентите в пресата и обществения натиск, властите са принудени да вземат отношение по въпроса. През 1843 г. се назначава комисия, чиито доклади съдържат нужните препоръки, така фабричният закон от 1844 г. включва изисквания за обезопасяване на машините. Въпреки това инспекторите продължават да докладват за множество нарушения и злополуки с трагични последствия, а през първото десетилетие след издаването на закона, т.е. до 1854 г., статистиката отчита 38 000 нови случаи, от които 477 с фатален край (Kirby, 2013, pp. 93-97).



475. *Mr. Walker.*— Acting in the temporary absence of the house surgeon at the General Hospital. Matilda Davis, a strong young woman of 28, was admitted about a fortnight ago with a compound fracture of the left leg, and a fracture of her right leg, and died in three days. At the inquest, at which I was present, it appeared that she was reaching over the shaft to get a tool to alter the span of the machine, which was properly the work of a foreman, when she was caught in the lower part of the machinery, which was protected only down to a certain height. Her dress from her waist downwards had been pulled off at the same machine before.

Another girl, of about 18, came in lately, whose arm had been caught in a machine and had to be amputated at the shoulder. She is doing well.

476. *Louisa Leake.*—12 Court, Bread Street. Matilda Davis lived with us as a lodger, her husband having long left her. She had worked at two screw factories here before that, Parkes', in which she lost her life, and had been caught several times in the machinery in the same way before, once at the same place. I know of three times since she lived in this yard, and one of the times the skirt of her dress was ripped right off, and she said she had been caught once before besides, but I believe she had not been much hurt. She was a very strong but not a careful young woman, and wore a very large crinoline, which I think was a great deal the cause of her accident.

Фигура 4. Свидетелствата на г-н Уолкър, хирург, и на Луиза Лийкс, от *Children's Employment Commission*, Third Report, 1863.

Законът от 1844 г. се отнася за текстилните фабрики. Друг недостатък е нежеланието на много работодатели да го спазват. До края на века има сведения, че децата почистват машините в движение, освен това останалите производства не подлежат на контрол от страна на държавата. Поради разрастването на икономиката и механизацията обществености и филантропи алармират за проблемите в различните отрасли. Затова през 1863 г. за пореден път чрез Парламента се издейства комисия, която да проучи условията на труд в сектори, останали извън обсега на приетите до този момент регулации. Като резултат ограничителните законови мерки се разпростират върху все по-широк дял от производства. Тяхното проследяване дава представа за развитието на държавната социална политика. В началото на Индустриалната революция работникът не е имал права и животът му и здравето му не са били защитени, но за повече от столетие настъпва промяна и сигурността на работното място започва да се разглежда като приоритет.

Следващите документи са свидетелски показания, които Комисията от 1863 г. записва и докладва пред Парламента. Принципът е да се събира информация чрез интервюиране на всички участници в трудовия процес –

работници, надзиратели, управители и собственици, а след това резултатите да се публикуват, за да се предизвика обществен дебат и да се търси законово решение. В случая Комисията извършва проучвания в Бирмингам, който е известен като средище на металопроизводството. От документите става ясно, че въпреки тежката и опасна работа, жените и децата са част от трудовата сила. Работното време може да е непосилно, включващо дори и нощни смени. Индустриалната революция не е в най-критичната си фаза, но социалните условия принуждават много представители на работническа класа да поемат рискове за живота и здравето си. Машините не са обезопасени и вероятността да се изпадне във фатална ситуация се приема като отговорност на невнимателните работници, затова надзирателят решава проблема чрез налагане на глоби, а не чрез технически подобрения:

„469. *Мистър Джордж Бойс, управител:* Във фабриката в Бирмингам работното време е от 8 до 19 часа, но тук самите работници пожелаха то да е от 8 до 18 часа и да имат един почивен ден в събота, което прави 60 работни часа седмично без времето за хранене. Някои от тях идват от три или четири мили разстояние, а други от Олдбъри. В Бирмингам те не биха могли да станат достатъчно рано, за да пристигнат навреме. Понякога се налага да работим по седем дни седмично, до осем часа и пием чай. Наскоро ни се наложи да въведем две смени – дневна и нощна, но не достатъчно дълго, за да преценя дали това беше добре. За мое учудване не срещнахме трудности при набирането на хора за двете смени. Преди една седмица, т.е. преди експеримента, бих казал, че няма да се получи. Дори да търсим само няколко допълнителни работници, мъжете стават по-взискателни дали ще ги приемат. Момичетата на 15-16 години първоначално получават по 5 шилинга на седмица, а като започнат да изкарват на парче, достигат приблизително 10 шилинга, само някои до 15-16. Отнема известно време, докато свикнат с работата.

Тук не сме имали смъртни случаи или тежки инциденти, освен някоя друга загуба на пръст или нещо от този род. Имали сме обаче няколко случая на захващане на кринолини или рокли от валовете, които се движат точно на нивото на коленете. Всъщност това става често, но поради тази причина валовете се движат много леко, а и за да не се повредят машините при спирането, така че не се стига до тежки наранявания. Все пак това е много неприятно, защото момичето започва силно да пищи, последвано и от другите. Имал съм по три случая за ден, но може би и месец без нито едно захващане. Като установих, че трябва да има някакъв контрол, започнах да налагам глоби и три месеца нямаше нито един инцидент. Би могло да се каже, както и аз мислех, че уплахата и загубата на роклята са достатъчно наказание, но очевидно е била нужна и глоба.

Мисля, че работещите тук са по-добре от останалите в Бирмингам по отношение на образование и поведение. Наистина смятам, че тук има повече, които могат да четат и да пишат. Голяма част посещават училища,

съдя по това, че ги канят на училищни чаени партита, получавам съобщения от духовници с молба да ги пусна от работа...

475. *Г-н Уолкър, заемащ временно позиция в Обществената болница поради отсъствието на хирурга* (Фигура 4): Матилда Дейвис, силна млада жена на 28 години, беше приета преди около две седмици с тежка фрактура на левия крак и още една на десния, като почина три дена по-късно. По време на разследването, на което присъствах, се установи, че тя се е пресегнала над вала, за да вземе инструмент, за да смени настройката на машината, което по принцип е работа на надзорника. Тогава била захваната от долната част на машината, която е била обезопасена само на малка височина. И преди роклята ѝ е била откъсвана от кръста при същата машина.

По-късно постъпи друго момиче на 18 години, чиято ръка е била захваната в машината, и се наложи ампутация от рамото. Сега се възстановява успешно.

476. *Луиза Лийкс. Бред стрийт, 12*: Матилда Дейвис живееше при нас като квартирантка, тъй като съпругът ѝ я беше оставил отдавна. Беше работила в две фабрики за винтове преди Паркс, където загуби живота си, и няколко пъти беше захващана в машината по същия начин, веднъж дори на същото място. Помня три такива случая, откакто живее в нашия двор, а при единия от тях полата на роклята ѝ дори беше откъсната. Беше споменала за още един случай преди това, но без да е пострадала много, мисля. Тя беше доста силна, но непредпазлива млада жена и носеше много голям кринолин, което според мен до голяма степен стана причина за инцидента."

***

Разгледаните документи разкриват трудностите пред човека, когато се изправя срещу своето изобретение – машината. Нейната поява принуждава обществото да търси решения на въпроси, за които в миналото не се е предполагало, че ще се поставят. Трудностите пред откривателството, опитите за получаване на ефективен модел и обществено признание, страхът от социално изпадане, рискът да се окажеш ненужен, тежката реалност във фабриките и строгата дисциплина са само част от новите предизвикателства. Неумолимият ход на машините сякаш присъства, за да наруши естествения човешки ритъм и творчески устрем. Освен обезличаването на човека, досегът с металните безмилостни гиганти застрашава неговия живот. Не е учудващо, че в своето разочарование хората започват да изпитват носталгия по пасторалното минало, да идеализират ръчния труд и традициите, да отричат новите ценности и да се противопоставят на прогреса. Машината започва да се разглежда като причина за всички злини, като нещо, което трябва да бъде унищожено, а собствениците на фабрики да бъдат стигматизирани като самозабравили се хора, които искат да съсипят нацията. Но причината за страданието, увреждането на тялото и смъртта не се крие в самата машина, защото тя е продукт на човека, а по-скоро в отношението на самия човек

към другите, неговата грижа и внимание към чуждото добро. Нуждата от държавни регулации и налагането на принципи за безопасност, а също и необходимостта от осигуряването на възможности за рекреация и развитие се осъзнава все по-ясно. Британското общество притежава механизми за решаване на проблемите – медийна среда, възможности за обществен дебат и сблъсък на мнения, динамични законодателни процеси. Ако в началото изобретателите са имали за цел да се произвежда повече, впоследствие съхраняването на човешкия живот започва да се възприема като важен фактор и положителните резултати надделяват. Машината успява да се усвои като нова реалност, нейната необходимост започва да се признава от всички, тя трайно се интегрира в производствения процес и ползите ѝ се оценяват. Макар и изглеждаща заплашително в самото начало, тя се превръща в източник на блага и води до натрупване на печалби и благоденствие.

References

Allen, R. C. (2009). *The British Industrial Revolution in Global Perspective*. Cambridge: Cambridge University Press.

Baines, E. (1835). *History of Cotton Manufacture in Great Britain.* London: H. Fisher, R. Fisher and P. Jackson.

Benson, J. (1989). *The Working Class in Britain 1850-1939*. London and New York: Longman.

Bolin-Hort, P. (1989). *Work, Family and the State, Child Labour and the Organisation of Production in the British Cotton Industry, 1780-1920*. Lund: Lund University Press.

Children's Employment Commission. Third Report of the Commissioners (1863). London: Printed by George Edward Eyre and William Spottiswoode, for Her Majesty's Stationery Office.

Deane, P. (1979). *The First Industrial Revolution*. Cambridge: Cambridge University Press.

Hammond, J. L. & Hammond, B. (1917). *The Town Labourer, 1760-1832.* London: Longmans, Green.

Kirby, P. (2003). *Child Labour in Britain, 1750-1870.* Hampshire and New York: Palgrave Macmillan.

Kirby, P. (2013). *Child Workers and Industrial Health in Britain 1780-1850*. Woodbridge: The Boydell Press.

Mokyr, J. (1999). *The British Industrial Revolution, An Economic Perspective*. Colorado, USA and Oxford: Westview Press.

Nardinelli, C. (1990). *Child Labor and the Industrial Revolution*. USA: Indiana University Press.

Rashleigh, W. (1844). *Stubborn Facts from the Factories, by a Manchester Operative, published and dedicated to the Working Classes*. London: John Ollivier.

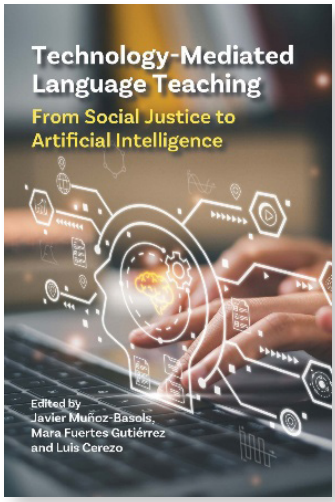
Ward, J. T. (1962). *The Factory Movement, 1830-1855*. London: Palgrave Macmillan.

Wrigley, E. A. (2010) *Energy and the English Industrial Revolution.* Cambridge: Cambridge University Press.

TECHNOLOGY IN LANGUAGE TEACHING: FROM AUXILIARY TEACHING TOOL TO ESSENTIAL EDUCATIONAL SETTING

Edward Donaghue[1], Freelance, United Kingdom

https://doi.org/10.46687/YYDP7975



Javier Munoz-Basols, Mara Fuertes Gutierrez and Luis Cerezo. *Technology-Mediated Language Teaching: From Social Justice to Artificial Intelligence*. Bristol: Multilingual Matters, 2025.

Edited by Javier Munoz-Basols, Mara Fuertes Gutierrez and Luis Cerezo, *Technology-Mediated Language Teaching: From Social Justice to Artificial Intelligence* is a three-part volume of thirteen chapters which reviews the effects of the Covid-19 pandemic on education, and discusses the need for a reappraisal of the use of technology in language teaching. It argues for teachers not only to be able to adapt learning to technology, but for a fundamental change in traditional teaching models in which technology is seen as central to the teaching process itself rather than a mere accessory. The book also argues that a realistic assessment of the effects of the Covid-19 pandemic on education means learners must take greater responsibility for learning. As such, the authors argue for a tech-mediated model of teaching which places technology at the center of the teaching and learning process.

Accordingly, the authors present a three-stage model of tech-mediated teaching: *Planning, Personalization, Implementation* (PPI). This model represents three basic steps or stages, encompassing an initial needs analysis, a consideration of individual learners and the learning context, and how such variables might impinge on learning, and an evaluation of resources and how they

1 Edward Donaghue has a Master's degree in TESOL from the University of Nottingham with distinction, Cambridge DELTA, and a BA degree in Russian Studies from Leeds University. He has an extensive teaching experience and worked as a teacher and teacher trainer at the British Council and International House in Poland, Bulgaria, Romania and Azerbaijan. He has taught English for academic purposes at the University of Nottingham, Nottingham Trent University, Kingston university, University of Sheffield, and Surrey International Institute at Dongbei University of Finance and Economics in China. Email: edonaghue@yahoo.com

Copyright © 2026 Edward Donaghue

Article history: Received: 2 July 2026; Edited: 4 July 2026; Accepted: 10 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

will be used. Overall, the book presents a discussion of each stage in the tech-mediated teaching process, and each stage of the discussion is divided into four chapters. In doing so, the authors aim to invite reflection by the reader on his or her own role in the process of technology-mediated teaching. This, in the view of the authors, represents a tool for technological empowerment for the educator.

Empowerment is further discussed from the perspective of the learner. As noted above, the effects of the pandemic and a technology-mediated learning environment mean learners must develop greater autonomy and ownership of their learning. The book deals with issues of justice and equity in relation to gender and uneven distribution of internet availability and connectivity between cities and rural areas. There is a discussion of the need for a realistic evaluation of the financial impact of the pandemic on universities, and the effectiveness of the tech-mediated model in terms of three identified educational gaps: *the teaching gap*, *the learning gap*, and *the digital gap*. These gaps are specifically related to language acquisition. The teaching gap refers to the need for educators to adapt from in-person to online learning environments. The learning gap concerns challenges faced by learners in terms of autonomy and identity in the virtual classroom, and the digital gap relates to availability, access and technology issues as they impact the learner.

The book is divided into sections 1, 2 and 3, and consists of thirteen chapters in total. Each section consists of four chapters, which discuss in turn the three stages of the PPI model. The book also offers the reader an alternative Interdisciplinary Reading Route which can be followed to make more efficient use of its contents. Part 1 of the book deals with planning technology needs. In chapter 1 (‘*Access to Technology and Social Justice*’) Melinda Dooly and Anna Coma-Quinn explore the need to consider access as a means of promoting social justice in online education given uneven internet access and the divergent socioeconomic status of learners. In chapter 2 (‘*Curriculum Planning and Development in Virtual Environments*’) Marta Gonzalez-Lloret deals with issues related to the planning of successful courses online, particularly the role of technology and the level of teacher training required to successfully integrate technology in education. Chapter 3 (‘*Virtual Teachers’ Beliefs and Competence*’), by Immaculada Gomez Soler and Marta Tecedor, is a discussion of teaching competencies, attitudes, and values in a study of 241 Spanish teachers in 39 countries with the aim of building digital competence and confidence among online language teachers. Daria Mizza and Fernando Rubio conclude the final section of part 1 (‘*Effective Technological Practices and Diversity*’) with a discussion – based on Universal Design for Learning (UDL) principles – of effective methodologies in online language teaching.

Part 2 of the book focusses on the personalization of teaching by exploring the link between technology and psychological aspects of learning such as motivation, anxiety and interaction. It discusses the development of methods in assessment and feedback from the point of view of learner differences. In chapter 5 (‘*Motivation and Virtual Learning*’), since motivation has previously been

researched mainly from an in-person teaching perspective, Luis Cerezo and Inigo Yanguas examine how learner motivation can be developed and maintained in a virtual learning environment. Chapter 6 (*'Anxiety and Virtual Learning'*) presents quantitative data on the anxiety which learners experience in online learning contexts. Zsuzsanna Barkanyi outlines the self-efficacy beliefs which tend to be present among students at the end of a course, and offers suggestions and recommendations for managing anxiety in online speaking activities. Chapter 7 (*'Interaction in Virtual Learning Environments'*) presents qualitative analysis by Javier Munoz-Basols and Mara Fuertes Gutierrez of interactions in a synchronous online teaching environment, and recommends interventions for the development of interaction in virtual learning environments. In chapter 8 (*'Assessment and Feedback in Virtual Learning Environments'*) Sonia Bailini concludes the second section of the book by exploring the advantages and disadvantages of online feedback. There is a discussion of formative and summative assessment, automated (AI or software-generated) and mediated (including teacher comments) electronic feedback, and the management of online testing.

Part 3, which constitutes the final part of the volume, is an exploration of different ways in which online learning tools can be used to maximize students' online learning experience. These include hybrid and flipped learning models as well as virtual immersion, and are discussed in the context of the innate human need and capacity for storytelling. It posits that flipped models of learning are especially effective in online learning because they provide opportunities for grammar instruction which is asynchronous, allowing valuable time for meaningful communicative work to be done synchronously. In chapter 9 (*'Hybrid and Online Teaching and the Flipped Classroom'*) Robert Blake, Lillian Jones and Cory Osburn discuss the most important features of hybrid and flipped learning in an online environment from the viewpoint of learner interaction as well as practical recommendations relating to course design, and how to deal with language and culture in an online environment. In chapter 10 (*'Digital Language Immersion (DLI) and Virtual Exchanges'*) Carlos Soler Montes and Olga Juan-Lazaro outline how online learning environments can be used to address student needs for meaningful language practice. They show how virtual learning can recreate the intercultural dimension and rich learning environment traditionally associated with study abroad. Chapter 11 (*'Competences and Language Digitalization: Podcasts and Digital Stories'*) is an investigation by Ana Oskoz of how podcasts and stories can stimulate student capacities for imagination and meaning-making through reading, writing and listening activities, and promote literacy and autonomy through participation in a technological language community. Chapter 12 (*'Digital Ludic Pedagogies'*) represents the final chapter of section 3. In this chapter, Luis Cerezo and Joan-Tomas Pujola provide a summary of principles underpinning the integration of games in the language classroom, including videogames, educational robotics and extended reality (XR) – a blend of virtual and real-world environments. The chapter includes advice on the use of digital

ludic pedagogies in the teaching of grammar and vocabulary, and outlines the findings of the latest research into the role of digital technology and gamification in incidental and intentional vocabulary learning.

The final chapter, chapter 13 ('*Opportunities for Artificial Intelligence (AI) in Language Teaching and Learning'),* represents an epilogue to the book. In it, Javier Munoz-Basols and Mara Fuertes Gutierrez focus on the potential of AI to transform education and language teaching. The authors explore the possible uses of AI as well as issues of accountability, effectiveness and ethics. They argue that AI represents an opportunity for increased practice and exposure at the level of the individual learner, and a paradigm shift in opportunities for interaction, autonomy and self-assessment.

The book follows a logical structure. Sections 1 and 2 define concepts and outline the historical development of the topic. This is followed by a discussion of the current state of research on the matter, practical suggestions, and recommendations for further research and reading. Section 3 focusses on the use of particular teaching tools online, and gives an overview of the current state of play on the topics covered, including syllabus design and methodology as well as suggestions for further research and reading. The book would provide a useful resource for teachers, researchers and managers wishing to improve their theoretical knowledge and practical skills in a tech-mediated teaching environment, or any teaching professional who lacks confidence in integrating technology and digital tools effectively in their teaching.

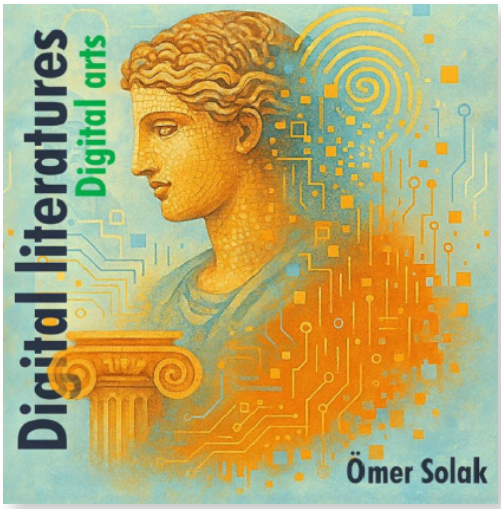
References

Munoz-Basols, J., Fuertes Gutierrez, M. & Cerezo, L. (eds.) (2025). *Technology-Mediated Language Teaching: From Social Justice to Artificial Intelligence*. Multilingual Matters: Bristol.

DIGITAL AESTHETICS AND ITS INTERDISCIPLINARY REFLECTİONS: READİNG ÖMER SOLAK'S *DİGİTAL LİTERATURES, DİGİTAL ARTS*

Samet Doykun[1], Çanakkale Onsekiz Mart University, Türkiye

https://doi.org/10.46687/DNEH8880



Ömer Solak. *Digital Literatures, Digital Arts Movements, Works, Genres*, 2025.

Ömer Solak's *Digital Literatures Digital Arts Movements, Works, Genres* is not only a comprehensive study but also a pioneering contribution to the understanding of the cultural transformation brought about by the digital age in literature and the arts. The author systematically examines the development of digital literature and digital arts since the late twentieth century, situating movements, works, and aesthetic approaches within a clear conceptual framework. The book aims to demonstrate how traditional literary and artistic forms have been reshaped by digitalization and how disciplinary boundaries have increasingly blurred.

In the introduction, Solak lays out the distinction between "movement – genre – form," defining movement as a collective tendency, genre as theme- and content-oriented categorization, and form as structural features. This conceptual clarity serves as the foundation throughout the book. Moreover, in the "Foreword" and "Notes for the Reader," the author emphasizes that the work is addressed not only to academics but also to a broader audience interested in digital literature and digital arts.

In *Chapter 1 (Types of Digital Literature)*, Solak examines hypertext fiction, blog fiction, social media narratives, and digital poetry in detail. Through analyses of early hypertext classics such as Michael Joyce's *Afternoon, a Story*

1 Samet Doykun, PhD, is Associate Professor at the Department of Turkish and Social Sciences Education, Faculty of Education, Çanakkale Onsekiz Mart University, Türkiye. His academic interests include folklore, folk literature, oral tradition, cultural heritage, ritual studies, digital folklore, and folklore education, ORCID: 0000-0001-8231-270X. E-mail: sametdoykun@comu.edu.tr

Copyright © 2026 Samet Doykun

Article history: Received: 26 April 2026; Edited: 8 May 2026; Accepted: 2 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

(1990) and Shelley Jackson's *Patchwork Girl* (1995), he demonstrates the non-linear structure of the genre and its interactive engagement with readers. The theoretical grounding of these digital narratives is further connected to Espen Aarseth's notion of ergodic literature (Aarseth, 1997). In addition, the discussion of digital poetry, including kinetic poetry, code poetry, and spam poetry, highlights the new expressive forms enabled by technology, here linked to Janet Murray's vision of digital narrative (Murray, 1997).

In *Chapter 2 (Movements and Forms in Digital Arts)*, Solak offers a panoramic overview of digital visual arts. From two- and three-dimensional collages to net.art, software art, generative art, virtual reality, and video art, the book examines not only the technical aspects but also the cultural and aesthetic implications of these forms. Of particular importance is the focus on collectives such as Monochrom and Object: Paradise, through which Solak underscores the shift from individual to collective creativity in the digital age. This section also draws on foundational sources such as Wardrip-Fruin and Montfort's *The New Media Reader* (2003).

Chapter 3 (Interdisciplinary Transitions and Interactions) discusses how digitalization has blurred the boundaries between literature and art. Solak shows how works created in digital environments simultaneously embody narrative and visual/auditory features, rendering traditional classifications inadequate. Examples include the merging of hypertext narratives with video art and the transformation of poetry into code-based visual installations. This chapter stands out as one of the book's most original contributions, highlighting Solak's vision of literature and art as converging on a shared ground within digital culture.

In the conclusion, Solak stresses that digitalization represents not merely a technical transformation but also an aesthetic and cultural revolution. He argues that the reader is no longer a passive recipient but an active participant in the creation and interpretation of texts and artworks. Furthermore, he emphasizes the need for ongoing research and critical debate in light of the rapid pace of technological change.

The book distinguishes itself by its holistic treatment of both digital literature and digital arts. The introduction of hypertext fiction, blog fiction, and digital poetry alongside the detailed examination of movements such as net.art, software art, and generative art marks the study as a valuable contribution. Its comprehensive content, conceptual clarity, and well-chosen examples are among its strongest features. Solak's ability to explain technical terminology in a lucid manner also makes the book accessible not only to specialists but to general readers. In this sense, it functions as both a scholarly reference and a pedagogical resource suitable for interdisciplinary teaching and seminars on digital culture.

On the other hand, some sections remain introductory, with analyses that occasionally feel more descriptive than interpretive. At times, the rapid listing of examples gives the impression that aesthetic or sociocultural dimensions are

underexplored. Moreover, the relative lack of attention to Turkish examples of digital literature and art may be viewed as a limitation, leaving the work stronger in international scope but weaker in local contextualization. However, rather than diminishing the book's value, these gaps can be understood as invitations for future research, particularly in the context of Turkey's growing digital culture.

In its overall assessment, Solak's work provides a rare and much-needed theoretical framework for digital literature and art studies. By bringing together both classic electronic literature (Joyce, 1990; Jackson, 1995) and contemporary digital art movements, the book achieves a sense of coherence in the field and establishes strong connections with international scholarship. The clarity of its language, the accessibility of its concepts, and the breadth of its sources reinforce its academic credibility. Ultimately, *Digital Literatures Digital Arts Movements, Works, Genres* functions not merely as an introductory text but as a reference point that opens new avenues for scholarly debate and exploration.

With all these qualities, Solak's work stands as a fundamental resource for those seeking to understand the transformation of literature and art in the digital age. It will prove especially useful for graduate students and researchers in the humanities, while also serving as a valuable guide for digital artists, multimedia designers, and general readers interested in the aesthetics of digital culture.

References

Aarseth, E. J. (1997). *Cybertext: Perspectives on Ergodic Literature*. Baltimore: Johns Hopkins University Press.

Jackson, S. (1995). *Patchwork Girl*. Watertown, MA: Eastgate Systems.

Joyce, M. (1990). *Afternoon, a Story*. Watertown, MA: Eastgate Systems.

Murray, J. H. (1997). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. New York: Free Press.

Solak, Ö. (2025). *Digital Literatures, Digital Arts Movements, Works, Genres*. Publisher: draft2digital

Wardrip-Fruin, N., & Montfort, N. (Eds.). (2003). *The New Media Reader*. Cambridge, MA: MIT Press.

ЗА СХОДСТВАТА В (НЕ)СХОДНОТО В МОНОГРАФИЯТА НА ИВАН ВЕЛЧЕВ „LECTOR EX MACHINA. ЧИТАТЕЛЯТ В ДИГИТАЛНИЯ СВЯТ – КУЛТУРОЛОГИЧНИ И ОБРАЗОВАТЕЛНИ ИЗМЕРЕНИЯ”

Теменуга Тенева

ON SIMILARITIES IN THE INCOMPATIBLE IN IVAN VELCHEV‘S MONOGRAPH „LECTOR EX MACHINA. THE READER IN THE DIGITAL WORLD – CULTURAL AND EDUCATIONAL DIMENSIONS“

Temenuga Teneva[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/SSQO1347



Иван Велчев. *Lector ex machina. Читателят в дигиталния свят: културологични и образователни измерения*. София: УИ „Св. Климент Охридски“, 2024

Моето подхождане към изследването на Иван Велчев започна по обичайностите на текстовата рецепция със заинтригуване от темата, която вълнува и мен вече 20 години[2]. Заиграването в заглавието с античната развръзка „deus ex machina” създава очакване едновременно за някаква радикална („божествена”) промяна в същността на читателя и за технологичния (машинния) начин на случването ѝ. Разгръщането на формулата пък ме „линкна” асоциативно с „Под повърхността” на Н. Кар (Каг, 2012) и неговото обещание да заяви как интернет променя паметта и четенето. Така още на входа на прочита предразсъдъците ми бяха изкушени от очакване за изпитването им с различни провокативни казвания. Погледът върху житейската история на автора извика въпроса – защо човек с толкова богат опит в образователните институции, проиграл ролите на учител, оценител, експерт, редактор

1 Prof. Temenuga Teneva, PhD teaches Methodology of Literary Education at Shumen University. In addition to the field of methodology, she has interests and publications in the fields of literary science and the Internet as a place where literature can also live. She also conducts trainings to raise the qualification of teachers in Bulgarian language and literature.

Copyright © 2026 Temenuga Teneva

Article history: Received: 6 June 2026; Edited: 10 June 2026; Accepted: 20 June 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

2 В книгата си „Интернет и четене” (Teneva, 2007) се опитвам да видя подобията-в-различията между текста и хипертекста и да предположа перспективите от начина, по който литературата присъства в интернет.

на специализирано методическо списание, самият той с множество публикации по значими научни проблеми, се е решил чак сега на този проект? В процеса на четене звученето на този въпрос в главата ми се засили и в същото време започнаха да се дочуват моите предположени отговори за отговорността пред оставащото слово. Защото, както казва Чарлз Буковски, истинският автор пише не когато има да каже нещо, а когато вече не може да не го каже. И аз съм истински впечатлена от случването на това дълго задържано послание.

Зададена като вписване на един свят в друг (читателя, респ. литературата в дигиталността), темата на монографията предполага разглеждане на отношенията им в йерархичен порядък (присъствие на по-малко в по-голямо, на традиционно в новаторско), но и като предчувствие за ролята на „вписаността" (по Дерида) като коректив на вписващото пространство/множество. Очакването за промяна заедно с уточняването какво поради какво се променя (общуването поради дигиталността) извежда от комфорта на приютяването/в-писването и отваря хоризонтите на изследователския проблем към лингвистични, екзистенциални и социални, технологични и културни трансформации „с неочакван край". Образователните аспекти на темата са назовани в пояснява връзка с културологичните, защото образ-о-ването, ставането на същността/смисъла са най-очакваният култ-ивиращ резултат от всяко прехождане на едно към/в/от друго. Изясняването на обекта на изследване вече директно заявява, че ще се говори за „училищната дигитална култура – нейното създаване и специфика, взаимоотношенията ѝ с установения училищен модел, потенциалът ѝ с оглед на разбирането на текстовите феномени." (Velchev, 2024, p. 12) и така много обстойното представяне на двете култури – печатната и цифровизираната със сближаващите ги характеристики на „текстовост, междутекстовост, мрежовост" – се оказва необходимият контекст на задълбочения критически анализ на литературнообразователния дискурс – предмета на изследването, в който пък опитва да се впише дигиталността.

Първите две глави коментират дигитализацията, отнесена към текста – „Текст, междутекстовост, мрежа", и към читателя – „Читателят екран", като в същото време разкриват вътрешните им сходства с аналоговите им предходници: „цифровите технологии (в качеството си на инструмент, чрез който се осъществяват културни практики) и изкуството на словото /.../ работят на един и същи принцип – те трансцендират, отместват границите на актуалното „тук и сега", превръщат фактическия Аз /.../ във виртуален и по този начин насърчават рефлексията върху него" (ibid., p. 12).

В говоренето си за кибернетичното като семиотична система изследването предполага, че „подобно на езика дигиталната среда допуска синтагматично и парадигматично съчетаване на елементите и така позволява възникването на интерпретаторски дискурси от синтагматичен/

метонимичен и парадигматичен/метафоричен тип" (ibid., p. 94). В моето читателско „екранизиране"[3] на монографията това сродство се потвърждава в наблюденията на структурата и възприемането на текста – той също се разгръща в двата плана – синтагматичния, следващ извънредно прецизно логическата верига на до(из)казването (всеки параграф е следствие-продължение на предходния/те, изясняващ/и породените от темата проблеми), и парадигматичния, създаващ мрежовост вътре в себе си и отвореност към „създадените и създаващите се" дискурси отвъд него. Книгата на Велчев може да се чете като книга-игра – с отпратки напред, назад – напр. „вж. 1. Допускания в тази глава" или „вж. 2.1. Мрежи от метафори" (ibid., p. 29), когато сме вече на 2.2., или споменаването на „Царамбука" на Радичков, преди да се заговори за текста във връзка с постмодернистичния му прочит, давайки нови гледни точки „от" и направления „към" други проблеми на текста и четенето му; непрекъснато активизира междутекстови връзки.

Споделяйки респекта си от начините, по които Велчев използва различни изследователски стратегии (с открита симпатия към деконструктивистичните, но винаги с конструктивни пред/по/ложения в перспективите на отношенията между двете култури) с призоваване на утвърдени и налагащи се в съвременността авторитети в теориите за текста и дигиталното, все пак ще акцентувам според пристрастията си към литературоведските и методическите идеи за съвместяването на печатната и цифровата култура в полето на литературното образование. Защото и аз като автора съм убедена в „необходимостта методическите концепции да бъдат вписани в логиката на технологичното" (ibid., p. 111) и че „чрез дигиталната медия в частност читателят (ученик или учител) би могъл да преведе себе си от социално детерминиран индивид, отчужден от труда си и неговите резултати, в индивидуалност, неограничена от социалните предписания; в съзнание, което създава само себе си в естетическото преживяване и последващата рефлексия върху него" (ibid., p. 129). Съгласна съм и със заключението, че, основан на деконструкцията (протичащ, непрекъснато разпадащ едни и съчленяващ други конструкти), дигиталният свят разширява възможностите за вместване и разместване на текстовете в себе си, включвайки ги в „разнообразни системи на означаване" (ibid., p. 95), което пък предоставя на читателя учител/ученик много повече формиращи/образоващи гледни точки и към текстовете, и към означаващите ги медии.

В този смисъл много ми допада попътното илюстриране на теоретичните тези с интерпретативни примери, които могат да функционират и като методически модели в урока: за мрежата от метафори, пораждана от текстовете на „Две души" и „На Лора" (2.1.); за създаване на художествена уникалност като следствие от деконструкцията

3 Велчев използва метафората „екранизиране" като „взаимно проникване на текст и читател" – читателското съзнание е екран, върху който текстът „пише" своите означаващи (Velchev, 2024, p. 85).

на наративи и добавеното он-лайн битие на поемата „Септември" (ibid., pp. 35-43); за „застиналата подвижност" на текста, „задвижена" в акта на четене с Бокачовата новела за Саладин и Мелхиседек (I,3) (ibid., pp. 54-63); за постмодерната антинормативност в Радичковата „Царамбука" (ibid., p. 65); идеите за синтагматичния и парадигматичния прочит на „Да се завърнеш в бащината къща" на Дебелянов; осмислянето на езика, дигиталното и несъзнаваното като сходни структури чрез разчитането на митологичния и литературния код в разказа „Дамска чанта" на Димитър Динев (ibid., pp. 151-170). Подобен нетривиален подход (обикновено методическите модели са изведени в самостоятелна глава) е убедителна презентация „как се прави" препоръчваното, но неясно за много учители използване на различни интерпретативни техники в „публичното" четене в урока по литература.

Критическият анализ на ситуациите, в които се случва литературният разговор в училище, се разгръща по протежение на почти цялото изследване и поставя най-наболелите проблеми на литературнообразователния дискурс, произтичащи не толкова от промените на четенето в дигитална среда, колкото от конфликта между образователните стандарти и противопоставящата се на стандартизирането същност на самото четене. Познаването на системата дава на Иван Велчев възможност за справедливото ѝ оценяване от гледните точки на заеманите различни професионални позиции в нея. „Регламентите на училищното образование приемат индивида единствено като социален обект и в съответствие с това дефинират цели, които не насърчават оформянето на Аза, а единствено неговото приспособяване и подчиняване." (ibid., p. 234) – към критиката на клиентелисткото определение на ученика като „център" и маргинализирането на учителя като „периферия" в педагогическата ситуация. Отбелязва се липсата на специализиран софтуер, предназначен за литературното обучение, което допълнително затруднява процеса на вписване на дигиталното в образователното. За разлика от усещането за спонтанност, характерно за дигиталния дискурс, училищната практика *„изключва събитието на избора"* (основава се на вече избрани текстове чрез учебните програми) и се домогва към предзададен смислов хоризонт (определен чрез същите програми и ДОС). Поради това тази практика остава дълбоко аналогова в същността си – тя изключва присъщите на дигиталната култура деконструкционност, интерактивност („потребителят" априори е предвиден като пасивен), свободно асоцииране, нейерархичност и т.н." (ibid., p. 191). Насочваният от учителя диалог също препъва спонтанността на педагогическата комуникация. А конструктивистичните подходи, колкото и да са продуктивни, коментират взаимодействието между когнитивните равнища на отделния индивид, но не и между индивидите.

Като отговор на изказаните затруднения третата глава, „Дигитално образование по литература – въпроси и хоризонти", конципира някои

основни методически подходи и перспективи, които могат да реактивират читателя ученик с допускането,

> „че *е възможно конструиране на нов, „хоризонтален“ образователен модел,* в който àкторите (теория, практика, управление – бел. моя – Т. Т.) не са в отношение на субординация /…/ Предполагаме, че дигиталните технологии могат да бъдат метафори, чрез които системата на училищното образование да изрази по нов начин себе си” (ibid., p. 194).

Разбира се, преди това е необходимо да се предефинират целите му с насоченост към „квалификацията, социализацията и субективизацията” на ставащата личност, като всеки урок изгражда своята целева мрежа.

Продължение и конкретизация на методическите идеи на Владимир Атанасов (Atanasov, 2012) е апробирането на мултимодалния подход, на критическата методика, които активират, актуализират, остойностяват разностранен естетически опит. Анализът на анкетата, проверяваща нагласите на ученици от последните класове към мултимодалността с предизвикването им да ползват различни семиотични кодове за решаването на поставените с въпросите задачи, откроява последиците от образователните ограничения: непознаването на другите художествени езици и оттам – невъзможността да се чуе разговарянето им; несъзнаването на литературата като виртуалност. Но и започва да се приема схващането за художествения текст като отворена система. Отворен обаче остава и въпросът „дали интерпретацията на текста да се стреми да удържа утвърдения просвещенски начин на смислополагане, или да се откаже напълно от него, оставяйки се на един познавателен модел без ясни контури и без ясни последици” (Velchev, 2024, p. 217).

Заключението извежда най-важните достигнатости по темата за полагането на литературата в дигиталността, като обобщава, че „Със своята изменчивост, принципна незавършеност и разпръснатост този тип текст (дигиталният – бел. моя – Т.Т.) променя представата за литературна творба, автор и четене, предизвиква преразглеждане на литературния канон” (ibid., p. 263). В обратната посока на вписването – в образователната сфера са оправдани типовете употреба на дигиталните технологии, които „изграждат представа за текста като продуктивна смислова неустановеност, опитваща да въвлече читателя в разговор с битието”(ibid., p. 264). Подобно на финала на Гибсъновия „Невромантик”, последните думи на автора към читателите на монографията акцентуват най-важното: „технологията става ергономична, когато бъде одухотворена от човека” (ibid., p. 266).

Значимостта на изследването може да се обобщи в четири основни направления, отговарящи на отправните намерения: изясняване на „разпръснатата” и „екранната” същност на читателя на дигиталния текст; предефиниране на целите на литературнообразователния дискурс в съответствие с променените условия на протичането му; настояване да се

създаде специализиран софтуер, пригоден към четенето на литература в училище; методическата валидност на предложените по протежение на целия текст образователни стратегии да са съобразени с мисленето за/на културния диалог на аналоговото и дигиталното.

Във внушителния списък на библиографията се вижда колко непреведени на български език автори от различни научни направления, докосващи се до дигиталното, са намерили огласяване в текста на Иван Велчев. Заглавните определения на книгата ограничават в степен на постижимост „разпръснатостта" на прочита му на този проблем, но въпреки това целият текст е много разгърнат пример как съ-съществуват аналоговият и дигиталният читател – първият с предразсъдъците си, вторият – с непрекъснато добавящите се умения да улавя в движение ставащото тук и сега. И това съмишлие, основаващо тезата за „сходствата на (не)сходното", е другият много значим за мен принос на изследването. Защото, докато дойде времето в училище да останат само учители, родени в дигиталния свят, единственият начин да се случва образоване, съответно на утре, а не на вчера, е да има учители като Иван Велчев.

В рефлексията на моя прочит на „Читателят в дигиталния свят" ми се иска да спомена книгата на Шошана Зубоф „Ерата на надзорния капитализъм: Борбата за човешко бъдеще на новата граница на властта" (Zuboff, 2019). Тя говори за това **как дигиталният текст чете дигиталния читател, с**ъбирайки данни за неговите интереси, занимания. Полученият в резултат т.нар. „сенчест текст" изгражда плътен дигитален образ на потребителя/читателя и се използва за предсказване на бъдещо поведение с цел максимално ефективни продажби, но не само...[4] Текстът в сянка е много по-богат и по-многопластов от «явния текст» (дигитален) за всеки човек, на който читателят е куратор или поне му е известно приблизително какво съдържа. Зубоф говори и за „безпрецедентното" като явление, объркващо разбирането: когато срещнем нещо неразпознаваемо, ние автоматично го интерпретираме през призмата на познати категории и по този начин правим невидимо точно това, което е безпрецедентно. Съществуващи „лещи" осветяват познатото и по този начин скриват истинската същност... Подобни идеи могат да помогнат за обучаването на младите хора как да съхранят, доколкото е възможно, автономността си и как да разпознават и опознават все по-често появяващите се „новости без история".

Началните ми нагласи на прочита, предчувстващи изпитване на разбирането ми за текста и за дигиталното, както и за тяхното вписване едно в друго, на финала на изказването ми за прочетеното са съпроводени от усещане за недоизказаност на многопосочните въздействия, които текстът на Иван Велчев оказа на читателската ми природа. В един друг дискурс бих възкликнала просто „Нямам думи!". Но се успокоявам с думите на самия

4 Социалните мрежи, търговските сайтове, които започват да ни предлагат повече от това, към което вече сме проявили интерес.

текст: „Чета, следователно не съм дефиниран(а) докрай“ (Velchev, 2024, p. 133). Защото няма по-голямо изкушение на желанието да продължаваш да бъдеш от съзнаването за недовършеност на това, което си. А книгата „Читателят в дигиталния свят“ вече пише по екраните на своите дигитални, но живи в човешкостта си читатели.

References

Atanasov, V. (2019). Kade e multimodalnata klasna staya?, *Bulgarski ezik i literatura*, 2019, 5, 471-489. [Атанасов, В. Къде е мултимодалната класна стая? *Български език и литература*, 2019, 5, 471-489.]

Kar, N. (2012). *Pod povarhnostta. Kak internet vliyae varhu cheteneto, misleneto i pametta.* Sofia: InfoDar [Кар, Н. *Под повърхността. Как интернет влияе върху четенето, мисленето и паметта.* София: ИнфоДар, 2012.]

Teneva, T. (2007). *Internet i chetene.* Shumen: *Konstantin Preslavsky* University Press [Тенева, Т. *Интернет и четене*. Шумен: Университетско издателство „Епископ К. Преславски“, 2007.]

Velchev, I. (2024). *Lector ex machina. Chitatelyat v digitalniya svyat: kulturologichni i obrazovatelni izmereniya*. Sofia: Universitetsko izdatelstvo „Sv. Kliment Ohridski“. [Велчев, И. *Lector ex machina. Читателят в дигиталния свят: културологични и образователни измерения*. София: УИ „Св. Климент Охридски“, 2024.]

Zuboff, S. (2019). *The age of surveillance capitalism: the fight for a human future at the new frontier of power*. New York: Public Affairs.

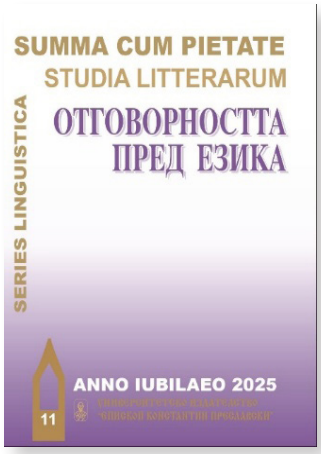
ЮБИЛЕЙНИЯТ СБОРНИК „ОТГОВОРНОСТТА ПРЕД ЕЗИКА“, Т. XI. АКАДЕМИЧЕН ДИАЛОГ МЕЖДУ ТЕХНОЛОГИИТЕ И СЪВРЕМЕННАТА ХУМАНИТАРИСТИКА (ПРОФ. Д-Р ВЕЛКА ПОПОВА НА 65 ГОДИНИ)

Ани Ангелова

THE ANNIVERSARY ANTHOLOGY „RESPONSIBILITY TOWARD LANGUAGE“, VOL. XI – AN ACADEMIC DIALOGUE BETWEEN TECHNOLOGY AND CONTEMPORARY HUMANITIES (PROF. PHD VELKA POPOVA AT 65)

Ani Angelova[1], *Konstantin Preslavsky* University of Shumen, Bulgaria

https://doi.org/10.46687/VCYA8577



Отговорността пред езика, т. XI. Сборник, посветен на 65-годишнината на проф. д-р В. Попова. Шумен: УИ "Епископ К. Преславски, 2025

В края на 2025 г. катедра „Български език“ при Факултета по хуманитарни науки на Шуменския университет „Епископ Константин Преславски“ отбеляза значимо събитие – публикуването на поредния XI том на сборника „Отговорността пред езика“ – едно ценно академично издание в лингвистиката. По единодушно решение на членовете на катедрата изданието е посветено на 65-годишния юбилей на дългогодишния преподавател и утвърден изследовател – проф. д-р Велка Попова – авторитетен представител на съвременната българска лингвистика.

Инициативата за издаването на юбилейния том се свързва с намерението нейни колеги и съмишленици да отдадат признание и да засвидетелстват уважение към приноса ѝ в научната, изследователската и преподавателската дейност.

1 Senior assistant professor Ani Angelova, PhD, is a member of the Department of Bulgarian Language at the Faculty of Humanities of *Konstantin Preslavsky* University of Shumen. Her research and teaching interests lie in the fields of lexicology, phraseology, and syntax of the modern Bulgarian language, general linguistics, corpus linguistics, etc. E-mail: a.angelova@shu.bg

Copyright © 2026 Ani Angelova

Article history: Received: 2 July 2026; Edited: 8 July 2026; Accepted: 12 July 2026; Published: 25 Oct 2026

This open access article is published and distributed under a Creative Commons Attribution 4.0 International License.

Сборникът съдържа 446 страници и представя богата и многопластова картина на съвременните езиковедски изследвания, като обединява научни разработки на утвърдени учени и млади изследователи от различни институции в България и чужбина – САЩ, Русия, Сърбия, Германия и др. Изданието впечатлява с обширния си тематичен диапазон, в което се поставят значими проблеми – от класически лингвистични въпроси до интердисциплинарни и приложни казуси, насочени към реалната езикова практика, които отразяват широкия спектър от професионалната дейност и научните интереси на проф. д-р Велка Попова.

Статиите в сборника условно могат да се обособят в няколко направления – психолингвистика и езиково развитие (включващо предимно особеностите на детската реч); граматика и теоретична лингвистика, разглеждащи въпроси като части на речта, клитики, модалност и др.); историческа и културна лингвистика, проследяващи развитието на езикови явления във времето; интердисциплинарни изследвания в сферата на приложната и когнитивната лингвистика, социолингвистиката и др.

Особено ценни в изданието са публикациите, които отразяват едно от изследователските направления, в които проф. д-р Велка Попова има съществен принос и устойчив интерес – корпусната и дигитално ориентирана лингвистика (разработване на електронни езикови ресурси, корпуси и др.), тъй като представят една значима за науката тенденция – взаимодействието между хуманитаристиката и дигиталните технологии, прилагането както на традиционни описателни подходи, така и употреба на технологично базирани методи, корпусни данни и т.н. в изследването на езика. Проблеми на дигиталната хуманитаристика са разгледани например в статията на П. Осенова и К. Симов, в която се анализират възможностите за моделиране на езикови категории. Акцентът попада върху необходимостта от изграждането на многоизмерни йерархии, обусловена от сложната същност на лексемите. Внимание към спецификата на компютърно опосредстваната комуникация насочва И. Овчинникова, като чрез множество анализирани примери проследява функционирането на думите в онлайн среда и тяхната семантична трансформация. Към дигитално ориентираното изследователско поле се отнася и разработката на Ст. Александрова, която разглежда мълчанието като пълноценен целесъобразен акт в онлайн комуникацията, служещ за регулиране на социалните отношения в интернет пространството. Подобна тематична ориентация следва в публикацията си и Т. Тодорова, като описва тенденциите в изследването на медийния дискурс и установяването на виртуалната среда като самостоятелен езиковедски обект.

Сборникът представя значими интегративни направления в съвременната българска лингвистика и очертава връзките ѝ с по-широки мултидисциплинарни полета. Тематичните раздели несъмнено показват взаимодействието и смисловото единство между езикознанието и технологиите – поместени са и изследвания, свързани с анализ на речеви сигнали, експериментални методи (като RMTS) и др. По този начин се откроява търсеният „академичен диалог“ – съвременната хуманитаристика не само интерпретира езика, но и го проучва чрез нови технологични инструменти и актуални методологии.

Текстовете, които разглеждат възможностите на електронните технологии, доказват техните предимства – оптимизация при работата с голям обем данни, по-бързо и ефективно изготвяне на анализи и др. и поставят нови предизвикателства пред хуманитаристиката – по-интензивна употреба на дигитални инструменти, корпусни данни, адекватни количествени методи и технологични средства, адаптирани в хуманитарните науки.

Том XI на поредицата „Отговорността пред езика“ е стойностно научно издание, което отразява актуалното състояние на езиковедските изследвания в България и по света, като отдава заслужено внимание на приноса на проф. д-р Велка Попова към науката и висшето образование и утвърждава мястото ѝ сред водещите достойни представители на съвременната българска лингвистика.

References

Bratanov, I. (ed.). *Otgovornostta pred ezika, t. XI – Sbornik, posveten na 65-godishninata na prof. d-r V. Popova*. Shumen: *Konstantin Preslavsky* University Press, 2025. [Братанов, И. (ред.). *Отговорността пред езика, т. XI - Сборник, посветен на 65-годишнината на проф. д-р В. Попова*. Шумен: УИ "Епископ К. Преславски, 2025]

Уважаеми колеги,

Темата на новия брой на списание *Любословие*, който предстои да бъде публикуван през 2027 г., е **ЦЕНТРОВЕ И ПЕРИФЕРИИ**. Каним ви да участвате с научно изследване по темата в областта на хуманитарните науки: класическа и модерна литература, лингвистика и културно-историческо наследство. Могат да се предлагат текстове и за документалната рубрика на броя – мемоаристика, текстове от архиви, непубликувани документи. Броят е отворен и за рецензии/анотации на новоизлезли у нас и в чужбина изследвания в тематичната област „Центрове и периферии".

Текстовете могат да бъдат на български или английски език. Статиите подлежат на двойно анонимно рецензиране. Списанието е индексирано в ERIH+, EBSCO, eLibrary, CEEOL, DOAJ и SCRIBD.

С уважение,

Проф. д-р Св. Неделчева

Главен редактор

Електронен адрес на редакцията: lyuboslovie@shu.bg

http://lyuboslovie.shu.bg/



Dear colleagues,

The new thematic issue of *Lyuboslovie* is entitled **CENTRES AND PERIPHERIES**, and it is to be published in 2027. It is our pleasure to invite you to participate with a research article on the topic in the fields of classical and modern literature, linguistics, and cultural and historical heritage. Texts can be submitted also for the Documentary section – memoirs, archives, unpublished documents, etc. Additionally, we accept reviews/annotations of newly published research in Bulgaria and abroad related to the current topic CENTRES AND PERIPHERIES.

The articles will be double blind peer reviewed. They can be written in Bulgarian or English. The journal is indexed in ERIH+, EBSCO, eLibrary, CEEOL, DOAJ, and SCRIBD.

Sincerely,

Prof. S. Nedelcheva, PhD

Editor in chief

Email: lyuboslovie@shu.bg

http://lyuboslovie.shu.bg/

ЛЮБОСЛОВИЕ

Издание на Факултета по хуманитарни науки

Шуменски университет „Епископ Константин Преславски”

© Авторски колектив, 2026

© Университетско издателство

„Епископ Константин Преславски”, 2026

ISSN 1314-6033