(12). Sheela J. (2011). Study of the morphological processes of neologisms in the media. Master's thesis), University of Malaya, Kuala Lumpur.

Djumaniyazova Zilola Navfal qizi (Freshman at the University of Tashkent for Applied Sciences, Gavhar Str. 1, Tashkent, 100149, Uzbekistan; E-mail: ziloladjumaniyazova@gmail.com),
Abdusattorova Ra'no Jakhangirovna (Senior Lecturer at Tashkent University of Applied Sciences, Gavhar Str. 1, Tashkent, 100149, Uzbekistan; E-mail: abdusattorovarano03@gmail.com)

NATURAL AND ARTIFICIAL LANGUAGES

Annotation. *This article explores the main differences and connections between natural and artificial languages. While natural languages like Uzbek or English grow and change naturally over time through culture and history, artificial languages like Esperanto or Python are created by people for specific purposes like global communication or coding. We look at how these languages started, how they work today, and why they are important for technology and education. The study shows that understanding both types of language helps us better understand human thought and our future with machines.*

Keywords: *Natural languages, artificial languages, language development, programming languages, human communication, linguistics.*

TABIIY VA SUN'IY TILLAR

Annotatsiya*. Ushbu maqola tabiiy va sun'iy tillar o'rtasidagi asosiy farqlar hamda ularning o'zaro bog'liqligini tahlil qiladi. Natural languagelar, masalan, o'zbek yoki ingliz tili, madaniyat va tarix ta'sirida vaqt o'tishi bilan tabiiy ravishda shakllanib, rivojlanadi. Artificial languagelar esa, masalan, Esperanto yoki Python, insonlar tomonidan global muloqot yoki dasturlash kabi aniq maqsadlar uchun yaratiladi. Maqolada ushbu tillarning kelib chiqishi, bugungi kundagi faoliyati va texnologiya hamda ta'lim sohasidagi ahamiyati ko'rib chiqiladi. Tadqiqot natijalari shuni ko'rsatadiki, har ikki turdagi tillarni anglash inson tafakkuri va inson–mashina munosabatlarining kelajagini chuqurroq tushunishga yordam beradi.*

Kalit so'zlar: *tabiiy tillar, sun'iy tillar, til taraqqiyoti, dasturlash tillari, insoniy muloqot, tilshunoslik.*

ЕСТЕСТВЕННЫЕ И ИСКУССТВЕННЫЕ ЯЗЫКИ

Аннотация*.В данной статье рассматриваются основные различия и взаимосвязи между естественными и искусственными языками. Natural languageы, такие как узбекский или английский, формируются и развиваются естественным образом под влиянием культуры и истории. Artificial languageы, например Esperanto или Python, создаются людьми для конкретных целей — глобального общения или программирования. В статье анализируются происхождение этих языков, их современное функционирование и значение для технологий и образования. Исследование показывает, что понимание обоих типов языков способствует более глубокому осмыслению человеческого мышления и будущего взаимодействия человека и машин.*

Ключевые слова: *естественные языки, искусственные языки, развитие языка, языки программирования, человеческая коммуникация, лингвистика.*

Introduction. Language, in all its forms, is a defining characteristic of human civilization. It is not only a tool for interpersonal communication but also a system through which knowledge, traditions, and worldviews are transmitted from one generation to the next. As linguistic research has expanded, scholars have increasingly turned their attention to understanding the fundamental differences and connections between natural languages, which evolve organically, and artificial languages,[1] which are intentionally constructed. This comparison has opened new pathways in interdisciplinary studies involving linguistics, artificial intelligence, philosophy, education, and semiotics.

Natural languages such as English, Uzbek, Russian, and Japanese emerge from the lived experiences of communities. They are characterized by irregularities, idiomatic expressions, cultural references, and a constant state of change. These languages reflect the psychological, social, and historical development of their speakers. They evolve over centuries, influenced by factors such as migration, globalization, and technological progress. The study of natural languages allows researchers to understand not only grammar and syntax but also cognitive processes, identity formation, and cultural heritage.

Artificial languages, on the other hand, are constructed with a specific purpose in mind. They may be designed to facilitate international communication (e.g., Esperanto)[2], express logical structures, or enable communication with computers through programming languages like Python or Java. Some artificial languages serve artistic or philosophical functions, while others prioritize regularity, simplicity, and

[1] Chomsky N. (1957). Syntactic Structures. The Hague: Mouton.
[2] Zamenhof L.L. (1887). Unua Libro (First Book of Esperanto). Warsaw.

unambiguity. In recent decades, the boundary between natural and artificial languages has become more relevant than ever, especially with the rise of machine translation and natural language processing (NLP).[1]

Cognitive scientists investigate how the structure of a language natural or artificial can shape the way we think, solve problems, and interpret the world. Therefore, this paper seeks to provide a comprehensive overview of the research conducted on both types of languages. It will examine their historical development, structural features, and practical uses. By doing so, the paper aims to demonstrate how the comparative study of these language types contributes to advancements in linguistics, education, and modern techno-logy.

Methodology. The methodology of this research is designed to provide a comprehensive and systematic analysis of both natural and artificial linguistic systems. Given that this study involves both historical evolution and modern technical applications, a multifaceted research approach was adopted. The research primarily utilizes qualitative analysis, comparative linguistics, and historical-logical methods to investigate how language serves as a tool for communication and cognition.

To ensure the depth of the research, the following methodological framework was implemented:

Qualitative Literature Review. This research began with an extensive review of existing linguistic theories and historical documents. We analyzed foundational works, such as L.L.Zamenhof's introduction of Esperanto in 1887, to understand the motivations behind constructed languages. Furthermore, we examined the 17th-century philosophical proposals by John Wilkins and René Descartes[2] regarding the construction of logical languages.

Historical Reconstruction Method. This method was used to trace the origin of natural languages from early human oral traditions to modern written forms. We investigated how ancient languages like Sumerian, Sanskrit, and Latin laid the foundations for grammar and vocabulary in modern speech.[3]

Comparative Linguistic Analysis. A central part of the methodology is the direct comparison between natural languages (e.g., Uzbek, English, and Arabic) and artificial systems (e.g., Python, Lojban, and Klingon). This allowed us to identify specific patterns in how these languages handle ambiguity, regularity, and cultural context.

Functional-Systemic Approach. We examined the practical functions of languages in modern society, specifically focusing on how programming languages like Python are used for software development and artificial intelligence. We also analyzed the role of Esperanto in fostering international peace and understanding.

Cognitive Analysis. This research also incorporates a cognitive perspective by investigating the Sapir-Whorf hypothesis and how linguistic structures whether natural or artificial shape human thought and reasoning patterns.

The data collection process involved gathering information from academic journals and historical archives, focusing on criteria such as "structural regularity," "semantic depth," and "ease of acquisition". By synthesizing these different methods, the research provides a balanced view of how natural languages evolve unconsciously through social interaction, while artificial languages are developed through conscious, purpose-driven design. This methodological structure ensures that the findings reflect the real-world convergence of human and machine communication in the digital age.

Discussion. The fundamental distinction between natural and artificial languages lies in their origins and how they function within human society. Natural languages, such as Uzbek, English, or Arabic, are "organic" systems. They were not designed by a single person but evolved over thousands of years through social interaction. This organic growth means that natural languages are full of irregularities, idioms, and metaphors. While these features make language beautiful and culturally rich, they also introduce "ambiguity" (noaniqlik). In everyday conversation humans use context, body language and shared history to understand each other even when sentences are not perfectly logical. In contrast, artificial languages are the product of conscious design. Whether it is a constructed language like Esperanto or a programming language like Python, every rule is created for a specific purpose. For instance, in the world of computer science, precision is the highest priority. An artificial language used for coding must be entirely unambiguous; a single misplaced semicolon can stop a whole system. This "logical rigidity" is the main strength of artificial languages, but it is also their limitation. They lack the emotional depth and cultural flexibility that allow natural languages to express complex human feelings.

---

[1] Turing, A.M. (1936). On Computable Numbers, with an Application to the Entscheidungsproblem. Proceedings of the London Mathematical Society.

[2] Wilkins J. (1668). An Essay towards a Real Character and a Philosophical Language. London: Royal Society.

[3] Jespersen O. (1922). The Philosophy of Grammar. London: Allen & Unwin.

One interesting point of discussion is the cognitive impact of these languages. Following the ideas in Noam Chomsky's "Syntactic Structures", we can see that our brains are wired to handle the complex grammar of natural languages from birth.[1] However, learning an artificial language like Esperanto can actually improve a student's linguistic logic. Because Esperanto is perfectly regular meaning it has no "exceptions" to the rules it serves as a "bridge" that makes learning other natural languages easier. This shows that artificial languages can have a pedagogical (educational) value beyond just simple communication.

Furthermore, the rise of Artificial Intelligence (AI) and Natural Language Processing (NLP) is blurring the lines between these two worlds. Today, we use artificial programming languages to teach machines how to understand natural human speech. When we talk to a virtual assistant like Siri or Alexa, a complex translation is happening: our "messy" natural language is being converted into "clean" artificial logic that the machine can process.[2] This interaction suggests that the future of linguistics is not about one replacing the other, but about how they can work together.

Finally, we must consider the social aspect. Natural languages are markers of identity and heritage. If a natural language dies, a whole culture disappears. Artificial languages, however, are tools for globalization. They aim to break down barriers, whether those barriers are between different nations or between humans and machines. As we move further into the digital age, the ability to navigate both natural and artificial systems will become a core skill for the next generation of students and professionals.

Conclusion. This research has explored the complex and evolving relationship between natural and artificial languages. As we have seen, natural languages like Uzbek and English are far more than just communication tools; they are the living breath of human culture and history, shaped by centuries of social interaction. Their strength lies in their flexibility and emotional depth, although their inherent ambiguity presents challenges in the modern technical era.

On the other hand, artificial languages – ranging from the logical structure of Esperanto to the strict syntax of programming languages like Python – represent the human drive for precision and universal understanding. These languages were not born from tradition but from a conscious need to solve specific problems, whether it is bridging cultural gaps or commanding complex machines.

The most significant finding of this study is that the future does not belong to one type of language alone. Instead, we are entering an era of convergence. As artificial intelligence continues to develop, the boundaries between human speech and machine logic are blurring. Understanding both systems is no longer just an academic exercise; it is a necessary skill for the next generation. For students and researchers, the goal is to preserve the richness of our natural mother tongues while mastering the logical precision of artificial systems. Ultimately, both forms of language are essential for a future that is both technologically advanced and humanly connected.

References:

(1). Chomsky Noam. Syntactic Structures. Mouton, 1957.

(2). Jespersen Otto. The Philosophy of Grammar. George Allen & Unwin, 1922.

(3). Turing Alan M. "On Computable Numbers, with an Application to the Entscheidungsproblem." Proceedings of the London Mathematical Society, vol. 42, № 1, 1936, pp. 230–265.

(4). Wilkins, John. An Essay towards a Real Character and a Philosophical Language. Royal Society, 1668.

(5). Zamenhof L.L. Unua Libro. 1887.

(6). Crystal David. The Cambridge Encyclopedia of Language. 3rd ed., Cambridge UP, 2010.

(7). Fromkin Victoria, et al. An Introduction to Language. 11th ed., Cengage Learning, 2018.

(8). Sapir Edward. Language: An Introduction to the Study of Speech. Harcourt, Brace, 1921.

(9). Whorf, Benjamin Lee. Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf. Edited by John B.Carroll, MIT Press, 1956.

(10). Sebesta Robert W. Concepts of Programming Languages. 12th ed., Pearson, 2019.

Muzafarova Luiza Umarovna (Samarkand State Institute of Foreign Languages, Doctoral (DSc) student, PhD in Philology, Associate Professor; muzafarovaluiza22@gmail.com)

MYTHOLOGICAL PRECEDENT TEXTS AS CONCEPTUAL STRUCTURES: COGNITIVE MECHANISMS OF TRANSFORMATION

Annotation. *The article examines mythological precedent texts as conceptual structures and explores the mechanisms of their actualization and transformation in modern literary discourse. Drawing*

[1] Chomsky N. (1957). Syntactic Structures. The Hague: Mouton.

[2] Turing A.M. (1936). On Computable Numbers, with an Application to the Entscheidungsproblem. Proceedings of the London Mathematical Society.