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A Linguistic Analysis of Borrowings in Modern English (Based on Technical Lexis)

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Abstract

This article examines the linguistic features of borrowings in modern English based on technical lexis. The relevance of the study is обусловлена the rapid development of science and technology, which has led to the continuous expansion of English vocabulary through borrowing processes. The aim of the research is to identify the sources, types, and functions of borrowed lexical units in technical discourse. The study employs methods of linguistic analysis, classification, and contextual interpretation. The empirical data include approximately 100 lexical units drawn from technical texts and IT-related discourse. The findings suggest that borrowings play a crucial role in the formation of technical terminology and reflect ongoing processes of globalization and knowledge exchange. It is argued that borrowings contribute to the standardization and internationalization of professional communication.

Keywords: Borrowing, technical lexis, English language, terminology, linguistic analysis, IT discourse

1. Introduction

Modern English is characterized by a high degree of openness to lexical borrowing, particularly in the domain of technical and scientific communication. The rapid advancement of technology and the intensification of global interaction have significantly increased the influx of borrowed lexical items into the language.

Borrowings constitute a major source of lexical enrichment and reflect broader processes of globalization, innovation, and intercultural

exchange. In technical discourse, they serve not only a nominative function but also a cognitive one, enabling the precise representation of specialized concepts.

Despite the extensive body of research on borrowing, the specific linguistic features and functional roles of borrowed elements in contemporary technical lexis require further investigation, especially in the context of emerging digital technologies.

Scientific novelty

- the study systematizes types of borrowings in technical terminology;
- it identifies key donor languages influencing modern English technical lexis;
- it highlights the role of borrowings in the development of IT-related discourse.

Research hypothesis

It is hypothesized that borrowings in modern English technical lexis are driven by globalization and technological innovation and function as key elements in the formation of an internationalized professional vocabulary.

Literature review

Borrowing has long been recognized as a fundamental mechanism of lexical expansion. Classical studies emphasize that borrowings arise from language contact and cultural interaction.

Contemporary research highlights their role in shaping scientific and technical terminology, particularly in the context of digital communication and global knowledge exchange. Scholars also note the increasing dominance of English as a source of international terminology in technology-related fields.

2. Methods

The methodological underpinning of the study comprises:

- linguistic analysis;
- classification of lexical units;
- descriptive method;
- contextual analysis.

The empirical corpus includes approximately 100 lexical items extracted from technical texts, scientific articles, and IT-related materials.

3. Results

3.1. Sources of borrowings

Source language	Examples	Domain

Latin	*data, formula*	science
Greek	*technology, analysis*	engineering
French	*machine, engineer*	industry
German	*diesel, quartz*	manufacturing

The findings indicate that classical languages remain a major source of scientific terminology, while European languages contribute significantly to technical vocabulary.

3.2. Types of borrowings

Type	Examples	Characteristics
Direct borrowings	*robot, laser*	retain original form
Calques	*superconductor*	structural translation
Hybrid forms	*microprocessor*	mixed origin

3.3. Functions of borrowings

Function	Example	Role
Nominative	*software*	naming new concepts
Cognitive	*algorithm*	conveying knowledge
Communicative	*interface*	enabling global communication

3.4. Borrowings in contemporary IT lexis

The rapid development of digital technologies has led to the emergence of numerous borrowed terms, particularly from English, which dominate global IT discourse.

Table 4. IT-Related borrowings

Term	Origin	Meaning	Type
AI (Artificial Intelligence)	English	machine intelligence	abbreviation
blockchain	English	distributed ledger technology	direct borrowing
algorithm	Arabic → Latin → English	step-by-step procedure	historical borrowing
cloud computing	English	remote data processing	calque

interface	French → English	interaction system	adapted borrowing
data mining	English	data analysis process	calque
neural network	English	computational model	calque
cryptocurrency	English	digital currency	hybrid

3.5. Contextual usage (authentic examples)

The analysis of technical discourse reveals frequent usage of borrowed terms:

- *"AI is transforming industries through automation and data-driven decision-making."*
- *"Blockchain ensures secure and transparent transactions across distributed networks."*
- *"Cloud computing provides scalable infrastructure for data storage and processing."*

These examples demonstrate the international character of technical vocabulary and the tendency toward lexical standardization.

4. Discussion

The findings confirm that borrowings play a central role in the development of modern English technical lexis.

Borrowed lexical units function as instruments of standardization, facilitating communication among specialists across different linguistic and cultural backgrounds.

The increasing use of terms such as *AI*, *blockchain*, and *cloud computing* indicates the emergence of a global techno-discourse, in which English operates as a lingua franca.

Furthermore, the limited adaptation of these terms in other languages suggests a tendency toward lexical uniformity in the field of technology.

5. Conclusion

The present study has demonstrated that lexical borrowing constitutes a fundamental mechanism in the development of modern English technical lexis. The analysis of empirical data confirms that borrowings are not random phenomena but are systematically shaped by technological innovation, globalization, and the increasing interconnectedness of scientific communities.

The findings reveal that borrowed lexical units perform multiple functions, including nominative, cognitive, and communicative roles, thereby facilitating the accurate transmission of specialized knowledge. In particular, the dominance of English-derived terminology in IT discourse—such as *AI*, *blockchain*, and *cloud computing*—highlights the emergence of a unified global terminological system.

From a linguocultural perspective, borrowings can be interpreted as indicators of cultural and technological exchange, reflecting shifts in knowledge production and dissemination. Their widespread use across different linguistic contexts suggests a tendency toward standardization and the formation of a transnational professional discourse.

Moreover, the limited adaptation of many borrowed terms indicates a growing preference for maintaining their original forms in order to preserve semantic precision and ensure mutual intelligibility among specialists. This tendency reinforces the role of English as a global lingua franca in scientific and technical communication.

At the same time, the study acknowledges that the process of borrowing is dynamic and continues to evolve in response to emerging technologies, particularly in rapidly developing fields such as artificial intelligence and digital finance. This underscores the need for ongoing research into the mechanisms of lexical innovation and adaptation.

In conclusion, borrowings not only enrich the lexical system of modern English but also serve as key instruments in the construction of a globalized knowledge economy. Future research may benefit from incorporating corpus-based methodologies, cross-linguistic comparisons, and the analysis of digital communication platforms to further explore the evolving nature of technical vocabulary.

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