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SEMANTICS OF TERMS IN THE FIELD OF INFORMATION TECHNOLOGY AND THEIR CULTURAL INTERPRETATION

Bozorova Viloyat Muzaffarovna

Senior teacher of Interfaculty Department of Foreign Languages,

Faculty of Foreign Languages, Bukhara State University

Abstract: The field of information technology (IT) has given rise to a wide array of specialized terms that are now integral to global communication and interaction. However, these terms often possess semantic nuances and cultural connotations that vary across linguistic and national boundaries. This article explores the semantics of IT-related terminology in English and their interpretation through a cultural lens. It discusses how cultural contexts influence the creation, adaptation, and understanding of such terms and highlights challenges in cross-cultural translation and usage. By examining selected examples, the paper aims to bridge the gap between technological language and cultural meaning, promoting more effective and culturally aware communication in the digital age.

Keywords:semantics, information technology, terminology, cultural interpretation, linguistic adaptation, digital culture

Information technology has rapidly evolved into one of the most influential sectors of the 21st century, reshaping not only the ways we work and communicate but also the language we use. The rise of new technologies has necessitated the creation of novel terminologies, many of which originate in English due to the dominance of English-speaking countries in tech innovation. However, the meanings and uses of these terms are not static; they are influenced by semantic evolution and cultural context. This article aims to explore the intricate relationship between the semantics of IT terms and their cultural interpretation, focusing particularly on how terms are adapted, understood, and redefined in different cultural environments.

1. Semantic Features of IT Terminology

1.1 Lexical Properties of IT Terms

IT terminology is characterized by:

- **Conciseness and Precision**: e.g., "bit", "byte", "cache", "bug"
- **Metaphorical Usage**: e.g., "cloud", "cookie", "virus", "firewall"
- **Acronyms and Abbreviations**: e.g., "HTML", "URL", "AI", "IoT"
- **Borrowed and Coined Terms**: Many words are borrowed from general English or invented for technological use.

1.2 Semantic Evolution

Terms like “cloud” originally referred to weather but now imply internet-based data storage. Semantic shifts occur due to metaphorical expansion and context-driven redefinition.

2. Cultural Interpretation of IT Terms

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2.1 Cultural Framing in Terminology

Words such as **"cookie"** (in IT: a small piece of data) or **"firewall"** (a security measure) carry meanings that are culturally bound. For example, the term "cookie" may sound harmless or even appealing in Western contexts but may be confusing or misleading in cultures unfamiliar with such metaphorical naming.

2.2 Localization vs. Globalization

IT companies often choose between:

- **Localization**: adapting terms culturally (e.g., Japanese uses katakana for IT terms)
- **Globalization**: retaining original English terms in foreign usage (common in Uzbek, Russian, and Arabic)

Both strategies reflect cultural values: localization supports linguistic identity, while globalization aligns with technological integration.

2.3 Cultural Resistance and Acceptance

Some cultures resist adopting English-origin IT terms, preferring native equivalents. For example:

- In France, **"ordinateur"** replaces "computer".
- In Uzbekistan, **"kompyuter"** is a phonetic borrowing, but efforts exist to create Uzbek-based equivalents.

This tension reveals how deeply cultural identity influences terminology.

3. Case Studies

3.1 "Cloud Computing"

In English, "cloud" suggests something intangible and vast, a metaphor for remote data storage. In cultures where metaphors are interpreted more literally, this term may be misunderstood unless explained in context.

3.2 "Hacker" vs. "Cracker"

Originally, a **"hacker"** was a skilled programmer, but in media, it now implies a cybercriminal. This negative semantic shift is reinforced globally, affecting perception across languages. Some cultures try to distinguish **"white-hat hackers"** from **"black-hat hackers"**, but the term's connotation remains culturally shaped.

3.3 "Spam"

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This term, derived from a canned meat brand, refers to unwanted digital messages. The origin of this metaphor is based on a 1970s Monty Python sketch — an example of how pop culture influences semantic development. This cultural background is lost on many non-English-speaking users.

4. Challenges in Translation and Cross-Cultural Usage

4.1 Semantic Equivalence

Finding exact semantic matches in other languages is difficult. Terms like **"interface"**, **"streaming"**, or **"networking"** have abstract meanings that vary by cultural and technological context.

4.2 Idiomatic and Colloquial IT Language

Colloquial IT phrases (e.g., "crash the system", "boot up", "drag and drop") are deeply rooted in English idioms. Translating them into structurally different languages often leads to loss of nuance or misunderstanding.

4.3 Machine Translation Limitations

Many machine translators struggle with IT terms, treating them too literally or ignoring cultural meaning. This has implications for education, international collaboration, and user experience.

5. Toward a Culturally Inclusive IT Lexicon

To foster better global communication:

- **Cultural Sensitivity in Term Creation**: Consider multicultural audiences when coining new terms.
- **Standardized Multilingual Glossaries**: Create centralized databases of terms with cultural notes.
- **Interdisciplinary Collaboration**: Involve linguists, IT professionals, and cultural experts in terminology development.

Conclusion

The semantics of IT terms are not merely technical; they are culturally constructed and interpreted. As the world becomes more interconnected through digital platforms, understanding the cultural underpinnings of technological language is essential for inclusive and effective communication. A culturally aware approach to IT terminology fosters better comprehension, reduces misunderstandings, and respects linguistic diversity in the global digital sphere.

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