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LEXICAL EXCHANGE AND THE PHENOMENON OF SEMANTIC EXTENSION OF LEXICAL UNITS

Abstract: This article provides a comprehensive examination of the dynamic interplay between lexical exchange—the process of borrowing and integrating words across languages—and semantic extension—the process by which words acquire new or shifted meanings. Drawing on foundational theories in historical linguistics, lexical semantics, and language contact studies, as well as contemporary corpus-based and computational methodologies, this review synthesizes current understanding of these phenomena. It delineates core concepts, explores the cognitive and sociolinguistic mechanisms driving semantic change, and analyzes how contact-induced lexical innovation often serves as a catalyst for semantic extension. The paper surveys diverse methodological approaches, from traditional philological analysis to modern vector space models, for detecting and quantifying semantic shift. Illustrated with cross-linguistic case studies, the analysis underscores that lexical exchange is not merely a process of addition but a complex driver of systemic reorganization within the lexicon. The theoretical implications for semantic typology, contact linguistics, and computational linguistics are discussed, concluding with directions for future research that integrates qualitative and quantitative paradigms to further unravel the intricacies of lexical evolution.

Key words: lexical borrowing, semantic change, semantic extension, language contact, metaphor, metonymy, computational linguistics, historical linguistics, lexicology.

Language: English

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1. Introduction

The lexicon of a language is a dynamic, ever-adapting repository of a community's knowledge, culture, and social interactions. Two of the most potent forces driving this continuous evolution are semantic extension and lexical exchange. Semantic extension, a subfield of semantic change, involves the processes through which existing lexical units gain, lose, or shift their meanings over time (Traugott & Dasher, 2002). Concurrently, languages are permeable systems that routinely acquire new lexical material through contact with other languages—a process known as lexical exchange or borrowing (Hock & Joseph, 2009; Winford, 2014).

These two dynamics are not independent; they are deeply intertwined in a symbiotic relationship. A borrowed lexical item (a loanword) enters a recipient language with a specific semantic value, but it does not exist in a vacuum. It enters a pre-existing semantic

and structural ecosystem, where it must find its place. This integration often triggers a chain reaction of semantic adjustments: the loanword itself may undergo semantic extension—broadening, narrowing, or shifting—to fit new communicative contexts and cultural frameworks (Haspelmath, 2009). Conversely, native words may shift their meanings in response to the introduction of a loanword, either to avoid synonymy or to specialize in a related semantic domain (Durkin, 2009).

This paper synthesizes classical and contemporary research to explore the intricate nexus of lexical exchange and semantic extension. It aims to provide a detailed overview of the mechanisms at play, the methodological tools for their investigation, and the theoretical implications of their interaction, arguing that contact-induced lexical innovation is a primary engine of semantic change.

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2. Definitions and Conceptual Distinctions

A clear understanding of the core concepts is essential for analyzing their interaction.

2.1 Semantic Extension and Semantic Change

Semantic extension refers specifically to the process where a lexical unit develops new senses, thereby expanding its semantic range. It is a key type of semantic change, which is the broader superordinate category encompassing all alterations of meaning, including total loss (Blank, 1999). Classical typologies, evolving from the work of Bréal (1897/1964) and Ullmann (1962), categorize semantic changes along several axes:

- **Broadening/Generalization:** A word's meaning becomes more inclusive (e.g., Old English *dogga*, a specific breed, generalized to all canines).
- **Narrowing/Specialization:** A word's meaning becomes more restrictive (e.g., Middle English *deor* (animal) narrowing to Modern English *deer*).
- **Metaphorical Extension:** Meaning is transferred across conceptual domains based on perceived similarity (e.g., the *foot* of a mountain).
- **Metonymic Extension:** Meaning shifts based on contiguity or association within a single domain (e.g., the *White House* for the U.S. presidency).

• **Pejoration:** A word develops a more negative connotation (e.g., *silly* originally meaning "blessed, innocent").

• **Amelioration:** A word develops a more positive connotation (e.g., *knight* originally meaning "boy, servant").

2.2 Lexical Exchange and Borrowing

Lexical exchange denotes the process by which a language (the recipient) adopts lexical elements from another language (the donor). This encompasses:

- **Loanwords:** Words borrowed directly and often phonetically adapted (e.g., English *sushi* from Japanese).
- **Calques (Loan Translations):** Words or phrases translated morpheme-by-morpheme (e.g., English *skyscraper* calqued into French as *gratte-ciel*).
- **Semantic Loans:** Where an existing native word acquires a new meaning under the influence of a foreign word (e.g., the meaning of English *mouse* extended to a computer device by analogy).

The initial meaning of a borrowed item is typically its donor meaning, but it is immediately subject to the semantic pressures of the recipient language, making it a prime candidate for subsequent semantic extension (Myers-Scotton, 2006).

3. Mechanisms Driving Semantic Extension

The cognitive and pragmatic mechanisms that propel semantic extension are universal, but their instantiation is often shaped by cultural and linguistic context.

3.1 Metaphor and Metaphorical Extension

Metaphor is a fundamental cognitive tool for understanding abstract concepts in terms of concrete ones (Lakoff & Johnson, 1980). Metaphorical extension creates polysemy by mapping a word from a source domain to a target domain. For example, the vocabulary of computing is replete with metaphors: *virus*, *firewall*, *cloud*, *stream*, and *feed* all draw on source domains of biology, construction, meteorology, and agriculture to conceptualize digital phenomena.

3.2 Metonymy and Associative Extension

Metonymy operates within a single conceptual domain, using one entity to refer to another closely associated entity. Common patterns include:

- PART FOR WHOLE (*wheels* for car)
- PRODUCER FOR PRODUCT (*I own a Picasso*)
- PLACE FOR INSTITUTION (*Wall Street* reacted)

Metonymy is a powerful driver of semantic change in high-frequency words and is often context-dependent (Traugott & Dasher, 2002).

3.3 Generalization and Specialization

These processes are often driven by sociotechnical change. Generalization occurs when a term for a specific item comes to label a whole class (e.g., *Kleenex* for facial tissues). Specialization occurs when a general term becomes specific (e.g., *meat* originally meaning "food" in Old English, specializing to "animal flesh"). Contact situations can force specialization; when a loanword and a native word are near-synonyms, they often diverge by specializing in different contexts (Durkin, 2009).

3.4 Pragmatic and Social Motivations

Semantic change is not merely a cognitive process; it is embedded in social interaction. Factors such as euphemism (using *pass away* for *die*), taboo, in-group identity, and prestige can trigger semantic shifts, particularly pejoration and amelioration (Allan & Burridge, 2006). The adoption of prestige loanwords, for instance, can lead to the pejoration of native synonyms.

4. The Interaction of Lexical Exchange and Semantic Extension

The intersection of borrowing and semantic extension is a fertile ground for lexical innovation. Several patterns of interaction are prominent.

4.1 Post-Borrowing Extension of Loanwords

A loanword, once integrated, often undergoes semantic extension independent of its donor language. The English word *podium* was borrowed from Latin, meaning a raised platform. In English, it has undergone a metonymic extension to mean the "first-

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place finish" in a competition (standing on the podium). This sports-related meaning is a distinctly English development.

4.2 Semantic Narrowing through Loan Competition

When a loanword enters, it can create a synonymic pair with a native word, leading to semantic narrowing for one or both. After the Norman Conquest, English borrowed many French words related to governance and cuisine (e.g., *beef*, *pork*). The native English words (*cow*, *pig*, *swine*) remained but narrowed to refer primarily to the live animals, while the French-derived terms specialized for the meat, a division of labor driven by social stratification (Hock & Joseph, 2009).

4.3 Calquing and Induced Semantic Extension

Calquing can introduce new conceptual frameworks that lead to semantic extension. The German word *Weltanschauung* ("worldview") was calqued into English. This calque then enabled the metaphorical extension of *worldview* into various contexts, from philosophy to marketing, demonstrating how a borrowed structure can facilitate new semantic pathways.

4.4 Morphological Reanalysis and Subsequent Extension

Borrowed words are sometimes reanalyzed by speakers of the recipient language, which can open new paths for semantic extension. The English suffix *-able* (from Latin *-abilis*) was reanalyzed as a productive morpheme that could be attached to native Germanic verbs (e.g., *readable*, *drinkable*). This morphological liberation led to the massive semantic extension of the *-able* construction far beyond its original Latin bounds.

5. Methodological Approaches to Documenting Semantic Extension

The study of semantic extension has evolved from philological analysis to data-driven computational models.

5.1 Historical-Philological Methods

The traditional approach relies on the close analysis of historical texts, dictionaries, and glosses to trace the diachronic development of a word's meaning. Scholars like Traugott (2017) use this method to identify pathways of change, such as the tendency for meanings to become more subjective over time (e.g., *while* shifting from temporal "during the time that" to concessive "although").

5.2 Corpus Linguistics Approaches

Modern corpus linguistics uses large, digitized collections of texts from different time periods. By analyzing changes in collocational patterns (the words that frequently appear near a target word), researchers can infer semantic shifts (Hilpert & Gries, 2016). For example, a study of the word *gay* in historical corpora

would show its collocations shifting from "joyful" to "homosexual" over the 20th century.

5.3 Computational and Embedding-Based Methods

This is a rapidly advancing frontier. These methods represent words as high-dimensional vectors (embeddings) based on their distribution in large corpora. The meaning of a word is its position in this "semantic space." By comparing word vectors from corpora representing different time periods, algorithms can detect and quantify semantic change (Hamilton, Leskovec, & Jurafsky, 2016; Periti & Montanelli, 2024). For instance, the vector for *cell* in the 1980s would be closer to *prison* and *biology*, while its vector in the 2000s would also be close to *phone* and *mobile*.

6. Case Illustrations

6.1 The Semantic Journey of 'Computer'

The word *computer* originally referred to a person who performed calculations (c. 1600). With the advent of mechanical and electronic devices, the term was metaphorically extended to the machine. More recently, it has undergone further metaphorical extensions, such as in the phrase *quantum computer*, and metonymic extensions, as in *the computer is down*, meaning the entire IT system.

6.2 Contact-Induced Change in Uzbek: The Case of 'Dastur'

Regional studies provide rich examples. In Uzbek, the Arabic loanword *dastur* (دستور) originally meant "constitution" or "statute." Under Russian and later global English influence, the word underwent a significant semantic extension to also mean "computer program" (a calque or semantic loan from the Russian *программа*, which itself carries both meanings). This is a clear case of a loanword acquiring a new, technologically relevant meaning through contact, creating a new polysemous network (Scientists.uz, 2023).

6.3 The Narrowing of 'Deer' in English

As mentioned, *deer* narrowed from a general term for "animal" to a specific one. This narrowing was likely influenced by contact with French, where the generic term for animal was *bête* (from Latin *bestia*), and specific animals had their own names (*cerf* for deer). The pressure from a more differentiated lexical system contributed to the specialization of the native English term.

7. Theoretical Implications

The interplay between lexical exchange and semantic extension has profound implications for linguistic theory.

- **Semantic Typology:** It challenges simplistic views of semantic fields by showing they are often hybrid, shaped by successive layers of contact and internal innovation (Koptjevskaja-Tamm, 2008).

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- **Language Contact Models:** It demonstrates that borrowing affects not just the inventory but the very architecture of the lexicon, forcing reorganization of semantic networks (Myers-Scotton, 2006).

- **Cognitive Linguistics:** It provides naturalistic evidence for the productivity of universal cognitive mechanisms like metaphor and metonymy across different contact scenarios.

- **Computational Lexical Semantics:** It provides a real-world testing ground for models of semantic change, showing that contact events are key variables that must be incorporated to improve predictive accuracy (Tahmasebi, Risse, & Daud, 2021).

8. Conclusion

Semantic extension and lexical exchange are inextricably linked processes that collectively drive the evolution of lexical systems. Borrowed words are

not static additions; they are dynamic entities that enter the semantic ecosystem of the recipient language and immediately become subject to the same cognitive and pragmatic forces that reshape native vocabulary. They can act as catalysts, triggering chain shifts, specialization, and novel metaphorical extensions that redefine semantic fields.

The future of research in this area lies in the synergistic combination of methods. Detailed, qualitative case studies informed by historical sociolinguistics remain crucial for understanding the "why" behind semantic changes. Meanwhile, large-scale computational methods offer the power to detect the "what" and "when" across vast lexical datasets. By integrating these approaches, linguists can build more robust, predictive models of lexical evolution that account for both the universal cognitive underpinnings and the particularistic, contact-driven histories of the world's languages. The lexicon, as this review demonstrates, is a living record of both a culture's internal thought and its external interactions.

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