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**TECH-DRIVEN GROWTH
OF ENGLISH SCIENTIFIC VOCABULARY**

The constant integration of computing technologies into different domains of science has led to the coining of new terminological expressions that denote hybrid areas of study. These lexical units were chosen from the dictionary [3] and other related sources [1; 2]. Fields such as *computer linguistics*, *computer modeling*, *computer design*, and *computer-aided engineering* illustrate the linguistic representation of interdisciplinary

convergence, where computer technologies become integral to other disciplines. These lexical items signal the blending of at least two spheres of human knowledge – computing and a specific scientific or engineering domain – thus reflecting the systemic interconnection between language, technology, and, and cognition.

The digital transformation of science has also produced complex innovations in applied fields, especially in medicine, where new technologies shape diagnostic and treatment methods [2, p. 36–47]. The development of *computer vision* and *augmented reality* has given rise to new conceptual frameworks and terminological systems. *Computer vision* represents both a theoretical and technological paradigm for designing machines capable of detecting, tracking, and classifying objects, which are further applied in industrial robotics, surveillance systems, and medical diagnostics. The application of such systems in healthcare has led to the emergence of terminological innovations like *computerized tomography* and *computer-aided detection*, demonstrating how technological progress directly affects the enrichment of scientific vocabulary.

A particularly active area of terminological innovation involves new types of medical instruments and equipment built on digital technologies. Expressions such as *electronic stethoscope*, *digital stethoscope*, and *scanning electron micrograph* exemplify how the English lexicon adapts to designate the technological sophistication of new devices. The addition of the adjectives *digital*, *electronic*, and *scanning* to traditional scientific nouns marks a process of linguistic hybridization, whereby new technological features become encoded in scientific discourse through lexical modification. This illustrates how language continuously evolves to accommodate the conceptual and practical novelties of technological progress.

Another major domain influenced by computer technology is the development of *augmented reality* systems, which integrate virtual and physical environments. The creation of *augmented elements of reality* has introduced a new conceptual category that merges human perception with computer-generated imagery. In English, such innovations stimulate the formation of new lexical units and semantic extensions that encapsulate technological hybridity. Furthermore, the introduction of *wearable tech* – computing devices integrated into clothing and accessories – demonstrates how the boundaries between technology, body, and language are increasingly blurred. In the medical field, augmented reality is now applied in surgical practices, particularly in laparoscopy, allowing precise visualization of internal structures. The appearance of such terminology in scientific discourse reveals how the evolution of English vocabulary parallels the expansion of technological functionality.

The interplay between information technologies and scientific research has also led to the emergence of new metascientific terminology reflecting changes in methods of evaluating knowledge production [1, p. 15–16]. The term *altmetrics* (alternative metrics), which appeared in the early 2010s, represents a paradigm shift in academic assessment. Unlike the traditional *impact factor*, which quantifies journal prestige based on citation counts, altmetrics rely on *electronic platforms* and online networks to capture the broader digital footprint of scholarly communication. The rise of this lexical unit reflects not only the digitalization of research evaluation but also the growing importance of speed, accessibility, and interactivity in the modern scientific ecosystem.

Thus, the technology-driven expansion of English scientific vocabulary represents a complex linguistic response to the digital transformation of human knowledge. The emergence of new lexical units exemplifies how innovations in computing and data science redefine not only research practices but also the linguistic means of representing them. English continues to serve as both a medium and a mirror of scientific progress – absorbing, reshaping, and disseminating the concepts that arise from the ongoing fusion of technology and intellect.

References

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3. Weik M. *Computer Science and Communications Dictionary*. New York : Springer, 2000. 2006 p.