**A Brief History of Computer-Assisted Language Learning (CALL)**

The history of CALL presents something of an endangered species in terms of early documentation, as advancing technology has rendered many early books irrelevant, with valuable information lost except in stable university collections. Preserving this history is crucial not only to understand how CALL's focus has evolved but also to prevent researchers from overlooking earlier developments and reinventing the wheel.

**The story begins in the 1950s** with massive **mainframe computers**, available only at university research facilities. These early systems, while limited by their size and accessibility, were nonetheless put to use in language instruction, particularly in teaching Russian for military purposes at pioneering institutions like Stanford University, Dartmouth University, and the University of Essex. The Cold War political climate, especially following the USSR's launch of Sputnik in 1957, often influenced funding for these projects.

**A watershed moment came in 1959** with the development of **PLATO** (Programmed Logic/Learning for Automated Teaching Operations) at the University of Illinois. Unlike other attempts at computer-based language instruction, PLATO's computer and programming language were custom-designed for teaching. The system incorporated features that would become standard in CALL, including grammar explanations, vocabulary drills, and rudimentary spelling and grammar checkers. PLATO even managed to support Chinese characters, a significant technical achievement for its time. Initial work focused on Russian language teaching through a grammar translation approach, with courses requiring up to 70 hours to complete.

**The 1970s and 1980s** marked a shift from mainframe computers to **microcomputers**, bringing new possibilities through videodisc technology. Several groundbreaking programs emerged during this period. Macario, developed at Brigham Young University, demonstrated how existing materials could be adapted for language learning by turning a commercial Spanish film into an interactive learning experience. Monte vidisco pushed boundaries further by offering approximately 1,100 branching choices for learner responses, while Interactive Dígame pioneered teacher-led video-based learning activities.

**The Athena Language-Learning Project (ALLP) in the 1980s**, generously funded with US $70 million from various sources, brought significant innovations to the field. Programs like "**No Recuerdos**" and "**À la rencontre de Phillippe**" introduced sophisticated simulations and authentic language environments. "No Recuerdos" featured a compelling narrative about an amnesiac scientist racing against time to prevent a biological disaster in Latin America. The program's near-impossible objectives encouraged repeated attempts and fostered different learning strategies. Similarly, "À la rencontre de Phillippe" offered learners the chance to explore Paris while helping the protagonist find an apartment, using authentic materials like telephone conversations and apartment listings.

**The development of artificial intelligence** in language learning was particularly influenced by **ELIZA**, created by Weizenbaum. This program simulated a sympathetic listener through general comments, requests for explanations, and paraphrases of learner input. While not initially designed for language learning, ELIZA's approach influenced many subsequent CALL programs and continues to inform modern chatbot development. Early applications like Doctor and Parry demonstrated how such programs could sustain plausible connected discourse over lengthy exchanges.

**The 1990s witnessed a democratization of CALL** development through tools like HyperCard, introduced by Apple Computer. This program, using the metaphor of a stack of index cards, allowed teachers to create their own CALL applications by combining text, images, audio, and video with interactive elements. Popular programs like "Who is Oscar Lake?" emerged during this period, featuring live action video, animation, and multiple language options, demonstrating the growing sophistication of CALL software.

**The arrival of the twenty-first century has transformed CALL through Web 2.0 technologies** **and mobile devices**. Modern developments include the integration of language learning with everyday technology, social networking platforms, and collaborative learning environments. Mobile phones have become powerful learning tools, offering features that were once the domain of desktop computers. New applications like Earworms demonstrate how modern technology can support innovative approaches to language learning, in this case using music and repetition for passive learning.

Throughout this evolution, CALL has grappled with the balance between behaviourist and constructivist approaches to language learning. Many programs, even today, default to simpler behaviourist models due to programming constraints, though technological advances continue to enable more constructivist approaches. The field has moved from simple drill-and-practice exercises to complex simulations and authentic language environments, yet many of the fundamental challenges remain: creating genuine learning opportunities, providing meaningful feedback, and enabling authentic language practice.

This history demonstrates that while technology has evolved dramatically, from room-sized mainframes to powerful mobile devices, many of the core objectives in CALL remain consistent. The field continues to seek ways to create more effective and engaging language learning experiences, building on past innovations while embracing new technological possibilities. As we look to the future, the challenge remains to harness advancing technology in ways that truly enhance language learning, rather than simply digitizing traditional approaches.