

From Stone Age to Information Age: (Software) Languages through the Ages

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Information Systems can be traced back to prehistory, although at that time the way information was recorded and transmitted was obviously rudimentary. The “invention” of writing marks the move from Pre-history to History. It played a fundamental role in the apparition of complex societies and corresponding Information Systems. In fact, the story of Information Technology is actually closely linked to the History of Writing, the History of Computing and the History of Informatics. The notion of *information* is obviously central to all these fields, but what is interesting and sometimes forgotten is that no information can be shared without some agreement on some kind of *language*.

The notion of language is key, both for mankind and for Informatics. In this presentation we give a short presentation of languages, starting from natural languages, to languages for special purposes, languages for sciences and techniques, computer languages and finally what we coin as *Software Languages*, namely languages used to develop the Software. This includes ontologies, schemas, grammars, metamodels, and many kinds of proto-languages taking different forms. We argue that the notion of Software Language is a cornerstone of modern Information Systems. For the first time in the history of mankind implicit and informal descriptions of languages are no longer suitable to information-processing needs. Automatic processing will be possible only if the description of software languages is made explicit. We argue that this requirement should be considered both from a *scientific* and an *engineering* perspective, leading respectively to the emerging fields of *Software Linguistics* and *Software Language Engineering*.

Bio: Jean-Marie Favre is an Assistant Professor at the University of Grenoble. He works at the Laboratory for Informatics at Grenoble (LIG), which is one of the largest Computer Science laboratories in France. He defines himself as a Software Language Archaeologist Software Explorer. He studies the long-term evolution of large industrial software. He is a member of various research networks on Software Revolution, Reverse Engineering, and Model Driven Engineering. He co-organized various international events in particular the ATEM series and the International Conference on Software Language Engineering (SLE). He co-edited a book (in French) entitled "Beyond MDA : Model Driven Engineering". Finally he actively practices Community Engineering, Research 2.0 in the context of XFOR.



This work is part of the series “From Ancient Egypt to Software Language Engineering”.
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