SEMANTIC WEB AND THE SEMIOTICS OF COMPUTER COMMUNICATION

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By computer communication we mean the following three types of communication processes that involve computers: human-computer communication, man-to-man communication mediated by computers and computer-to-computer communication. Each of the three represents a different semiotic process in which the balance between symbolic – on the one hand – and iconic and indexical – on the other hand – aspects of communication has always determined its (complete or partial) success or failure. In this paper, we will study two of these semiotic processes: human-computer communication (taking into account its symmetric nature: man-to-computer and computer-to-man communication) and computer-to-computer communication (mainly with respect to the implications of the new generation of the WWW: the Semantic Web).

1. Man-to-Computer Communication: the Role of Programming Languages

Since the early '40, when Konrad Zuse built his series of four electronic computers (Z1 to Z4) and devised a programming language for them, called PlanKalkul, the centre of the human-computer communication process has been the code used by programmers in order "to tell the computer" what to do and how to do it. Programming languages – like computers – have been tracked by using the term "generation". They have been also classified by "level", taking into account solely their resemblance to the English language. Each new generation of programming languages meant not only a more performant programming tool but also a more natural means of communication between man and computer. Thus, when analysing the semiotic aspects of different programming languages one can better appreciate the different degrees of iconicity, indexicality and symbolicity that exist – like in natural languages – in programming languages too. With the difference that the evolution of programming languages from one generation to the other changed – more or less dramatically – the balance between the conventional and the motivated signs in the favour of the last ones.

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