Chapter 6
The Role of Unconscious Constructs in Logic and Their Applications to Informatics

ABSTRACT
Since phallic logic is the ancestral, irreducible and primordial logical nucleus of human psyche, phylogenetically implemented in its deepest unconscious meanders (we hypothesize that structural unconscious, according to Lévi-Strauss and Matte Blanco, springs out during homination process in concomitance with human brain formation and evolution) and afterwards ontogenetically re-enacted individually as a binary logic in the human consciousness, we may consider structural unconscious features as useful from a computational standpoint, so that we have compared this psychoanalytic construct with certain notions of computer sciences, like those of concurrent/parallel processes, synchronous/asynchronous circuits, temporal/modal logics, with the main purpose to formalize the main features of structural unconscious, like timelessness and the presence of logical contradictions. This has been mainly pursued from the standpoint of logic and its various trends.

6.1 INTRODUCTION
In this chapter, we discuss the role played by certain constructs of unconscious – as briefly outlined previously, above all according to Matte Blanco – mainly in logic, hence suggesting some related, possible applications to theoretical informatics and computing sciences, with the aim of trying to mould functioning of human psyche. Nevertheless, the notion of unconscious to which we wish to refer in this work, is that structural according to Freud and as revisited by Matte Blanco. We do not refer to cognitive unconscious of neurocognitive psychology, which seems to be much more close to preconscious than the Freudian one; we refer instead to the deep unconscious structures, just formalized by the work of Matte Blanco, hoping to may use it for computational aims. From more than a century, since Freud described the basic motivations and Ivan Pavlov the basic mechanisms of human behaviour, we have now a reasonable framework of the forces that drive us. But, a crucial yet unresolved issue concerns the...
primary relations between conscious and unconscious mental states. Most of people seem comfortable with the concept of an unconscious mental state, even if only for things like beliefs which we are not currently thinking about.

But there seems to be a division between those who think that the only legitimate conception of this sort is one that can be analysed in terms of a disposition to have the corresponding conscious experiences under certain conditions, and those who instead think, as Freud did, that it is legitimate to speak of unconscious mental phenomena, provided they operate in causing action and other mental events in ways sufficiently similar to those of the states of which we can become introspectively aware. Such states could be mental even though permanently unconscious. Freud himself thought they were all physical states of the central nervous system, but that we could in the present state of knowledge describe them only by means of a mentalistic theory. However, it seems that the scientific study of consciousness should include more discussion, to which philosophers may be able to contribute, of the place of consciousness in the larger domain of the mental, and of the extent of that domain and the relations, logical and otherwise, between its conscious and unconscious aspects (Kissin, 1986; Nagel, 1993).

After the decline of behaviourism and the consequent coming of cognitivism, basic concepts as those of attention, consciousness and unconscious, gradually came back as themes of psychology. This has enabled a possible empirical appraisal of the unconscious mental processes. Beyond previous either methodological and ideological prejudices, cognitivists themselves have become even more aware of the need for putting attention also to the interface between conscious and unconscious, until to speak of a cognitive unconscious (Conte & Gennaro, 1989; Kissin, 1986).

The first attempts to relate perception (P), consciousness (C) and unconscious (U) date back to the early neurophysiological studies made by Freud in the 1890s, which led to the drawing up of the fundamental work The Interpretation of Dreams (of 1899), where the basic distinction between perception (P) and consciousness (C) is laid out in a theoretical framework in which predominates the desiring dimension of a predominant underflow of unconscious phantasies which inescapably exist between subject and object, just at an unconscious level, and dynamically animated by an instinctual reservoir, yet ruled by a psychic agency said to be Ego (Conte & Gennaro, 1989; Kissin, 1986).

So, with Freud, the problem of unconscious, meant as the main construct of a possible model of human psyche, reached its highest levels of attention and interest. Afterwards, other psychological next trends tried to undervalue the role of unconscious, while other retook it but through other ways. Anyway, after pioneering Freudian work, the unconscious phenomenology yet undertook a not negligible role in the psychological research, even differently from the psychoanalytic standpoint. A particular relevance assumed the notion of unconscious in the post-Pavlovian Russian school, which tried to give experimental bases to this notion by means of scientific knowledge like neurology, cybernetics, linguistics, so giving, at the same time, a materialistic criticism to Freudian ideology (Bassin, 1972; Uznadze et al., 1972; Kissin, 1986).

Also Piagetian theory of intellective development, together to other approaches like the gestaltic, the perceptogenetic, and the microgenetic, more or less made reference to unconscious aspects of mental life in studying perception, put at the foundation of their study and research work. Hence, the behaviourism marked a breaking in the psychological research, banishing any possible reference to the psychological notions of unconscious, consciousness, memory, attention, and so forth. This course, dominated therefore by behaviourism and by the functionalistic culture promoted by the so-called New Look trend (Conte & Gennaro, 1989), gradually prepared the ground for the next cognitive trend, which even more became leader in the psychological sciences domain. It arose from the behavioural model based on the