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# The "Big Misunderstanding": "Logical Levels" and their Consequences

This article concerns a misunderstanding which up to now has not been recognized, although it has been widely debated. It relates to the role of mathematics in the life and social sciences, in psychology – and in therapies like NLP.

There was a crisis in mathematics at the beginning of this century: attempts to use mathematics to validate its own basic principles threw up antinomies, paradoxes and ambivalences, all of which had to do with the concept of self-referentiality. Self-reference, however, is the structural characteristic of subjectivity, which lies at the core of the social sciences, psychology, therapy and philosophy. Since Kant's *Critique of Pure Reason,* it is well known that the self-justification of pure reasoning is itself confronted with the same problem. Later, the problematic nature of the observer's standpoint in physics (Heisenberg's Uncertainty Principle) and in second order cybernetics was added to this.

Those scholars of the humanities who did not suffer a phobic reaction when confronted with mathematics and logic were extremely interested in the attempts by specialists in mathematics and logic to solve this problem. However, as most of them had only a very rudimentary understanding of the basic principles involved, they did not notice, although Russell and Whitehead and others explicitly pointed it out, that the solution to the problem lay not in the *integration* of self-referential structures and processes in the fundamental principles of maths and logic, but in their *exclusion*. Consequently, when they attempted to adopt models like Russell and Whitehead's theory of logical types, they were employing models that *eliminated* self-reference – which was not in the least what they intended.

This fundamental error has reached NLP through two channels: