Post-Hilbertian Programme and Its Post-Gödelian Stumbling Block. II
Logical, Phenomenological, and Philosophical Limits of the Set-Theoretical Quest for Mathematical Infinity

Edward Belaga

David Hilbert's foundational expectations and their brutal refutal by Kurt Gödel created the most disheartening paradigm of the formal scientific thinking : the stronger are the axiomatic foundations (in other words, expressive power) of a formal theory, the more inevitably stumbles one upon very natural and formally admissible in this theory claims, which cannot be neither proved no refuted without some nontrivial extension of the said axiomatic foundations. And in most interesting cases, the extension in question has to be either the claim itself, or, rather arbitrary and with equal plausibility, its logic negation!

There is no other modern domain of formal studies where this post-modern paradigm is so pronounced, as in set theory and its *ZF* axiomatics.

The trouble is hidden exactly where our *ZF* pride resides : in the powerful built-in iterative mechanism of set generation. Thus, *ZF* has gained in its creative power on the expense of its descriptive power, becoming an interactive programming language which supplies an advanced "user" with sophisticated options of creation of, and manipulation with, artificial infinite totalities (similar to computer graphic images) : *"Only the first few levels of the cumulative hierarchy bear any resemblance to external reality. The rest are a huge extrapolation based on a crude model of abstract thought processes. Gödel himself comes close to admitting as much."* [Simpson 1988], p. 362. .

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Stephen G. Simpson [1988] : Partial realizations of Hilbert's Program. *J. Symbolic Logic* **53** (1988) 349–363.

Address: IRMA, Université Louis Pasteur, 7, rue René Descartes, 67084 Strasbourg Cedex, France
E-mail: belaga@math.u-strasbg.fr