

The Cohen Event

Art and the forcing of truths



The Cohen Event (2021)
Five steel plates, 40 x 40 cm each

A few years before his death, the great logician Kurt Gödel said the following about forcing, the revolutionary technique invented in 1963 by the mathematician Paul Cohen to prove the undecidability of the continuum hypothesis [1]:

« Forcing is a method to make true statements about something of which we know nothing. »

This discovery, for which Paul Cohen was honored with the prestigious Fields Medal in 1966, put an end to almost a century of uncertainty regarding the question posed by Georg Cantor: is there an infinite “between” the countable (i.e. the set of integers 0, 1, 2, 3, ...) and the continuous (i.e. the set of points on a line, or the set of numbers real)? Cohen, thus completing the work of Gödel [2], proved by the forcing method that this question is undecidable: it cannot be elucidated, positively or negatively, by the axioms of set theory as they stand today.



The Cohen Event, disposed on the beach at Wissant (France)

But how does this discovery, fascinating as it is, have any relation to art? It was not until 1988 and the publication of *Being and Event* by Alain Badiou [3] that *forcing* entered the philosophical scene. Cohen had answered the question "What is a truth?" in the mathematical universe by showing how "to make true statements about something of which we know nothing" (Gödel, [1]), by forcing the creation of so-called *generic sets* (that is to say infinite sets of which nothing is known but which nevertheless affirm a truth).

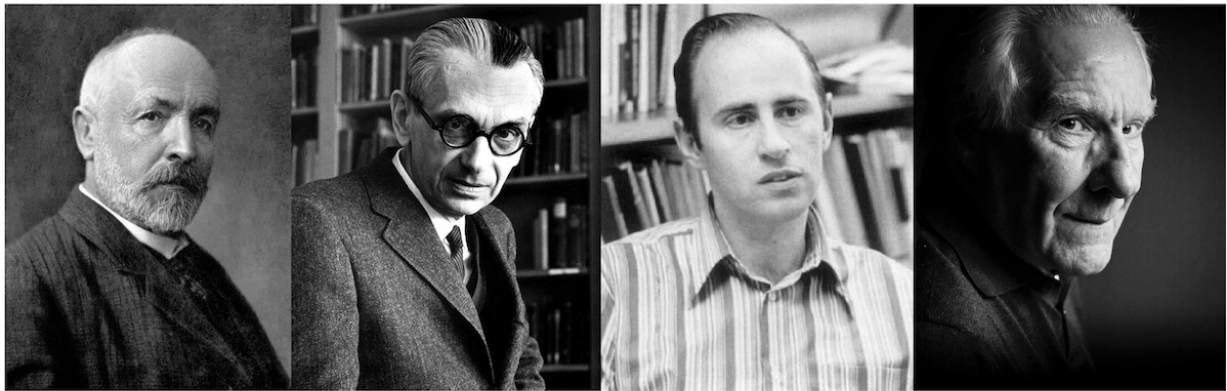


Here is how Badiou speaks of Cohen's discovery: "We find in it a concentration of thought, an inventive beauty, a surprise of the concept, a risky rupture, in short an intellectual aesthetic, which we can if we want compare with the greatest poems of this century, or the politico-military daring of a revolutionary strategist, or the most intense emotions of a romantic encounter..." [4].



Peter Hallward reminds us that "Artistic events take place at the border of what is formless, even monstrous, the point at which the formal resources of the existing arts are overextended (for instance, chromatism as the saturation of the classical tonal system)." [5]. It is there, indeed, at the edge of form and formlessness, that artistic events very rarely occur, as for example with Arnold Schönberg, Barnett Newman or Paul Celan.

The Cohen event is my attempt to force something by appropriating Gödel's sentence and transposing it from one condition (mathematics) to another (art). But it is also a tribute, a multiple tribute: to Cantor, Gödel, Cohen and Badiou of course, but also to those artists who transcended didactic, romantic or classical modes to invent new forms and allow others, in being faithful to them and by hazardous paths, to construct infinite generic configurations, i.e. Truths.



Georg Cantor

Kurt Gödel

Paul Cohen

Alain Badiou

Michel Tombroff
January 2021
www.tombroff.com

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Collection Jacques Verhaegen & Catherine Philippon

- [1] H. Wang. *A Logical Journey – From Gödel to Philosophy*, The MIT Press, Cambridge, 1996
- [2] K. Gödel. *The Consistency of the Continuum Hypothesis*. Princeton University Press, Princeton, 1993.
- [3] A. Badiou. *L'être et l'événement*. Seuil, Paris, 1988.
- [4] A. Badiou. *Le Séminaire – Vérité et sujet (1987-1988)*, Fayard, Paris, 2017.
- [5] P. Hallward. *Badiou : A Subject to Truth*. University of Minnesota Press, Minneapolis, 2003.