Jean Cavailles: life and death.

– Georges Canguilhem. (2/2)

Camille Akmut (trans.)

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[... we must now turn to his philosophy.]

In a sense Jean Cavailles has left us too little to be summed up, but enough so that we may convey his thought; in spite of his tragic end. — a life cut half, a work cut short.

When the time to settle on a topic for his thesis came, he had considered probability [*le calcul des probabilités*] for a subject. This project was later abandoned, the risk of being pulled towards physics, he said, was too great.

On the other hand, set theory – to which he had been introduced during his mathematics studies – could shed a light on the specificity of mathematics, as an autonomous and pure science; through its various and many stages, and twists and turns [*peripeties*] of the 19th c., through the internal logic [reason] of the turbulences it had caused within the ancient and classical mathematical disciplines.

The complementary thesis: *Remarks on the formation of the theory of abstract ensembles* [sets], and the principal thesis, *Axiomatic method and formalism*, were put to the test early, his idea: mathematics progressed only through refutation of intuition and only grew through abstraction; from which followed that the history of mathematical thought was that of a mutual questioning of its various branches – “free from historical contingency”.

(...)

Understanding the creation of a mathematical theory was neither a matter of psychology, nor history, in its common sense definition, even though we are talking about history of science — too often treated as natural history.

During the defense of his thesis, Cavailles had this to say to one of his judges, who held against him to have paid too little attention to the psychological facts of mathematics:

“Sir, this problem is in no way the one I am examining - and of no interest to it.”

One of the ‘historical contingencies’ that historians and philosophers of science have to consider sometimes, are the calls of physics – short of mathematical (computational) methods – to mathematics.

Cavailles had found this thesis, made explicit as an objection, in the Amersfoort debates of/in 1938. He answered back, that the successive schema which bound intuition of the senses to thought, are not necessarily prisoners of history, and added :

“Whatever the importance of physics with regard to the situation of new mathematical problems, and the construction [*edification*] of new theories, the authentic development of mathematics, under the accidents of history, is guided by an internal dialectic of notions.”

Cavailles thus had refuted, without waiting for them, the interpretations given by Marxist philosophers – no doubt in good faith, and of good intentions – to the closing lines of *On the Logic and Theory of Science*.

(...)

Cavailles has always read, studied, and one can say practiced Spinoza. He had found in him, despite his hardness, more true spiritual life than in Leibniz or in Malebranch. And, to Spinoza he had returned after Husserl.

For a time, certainly, he had hoped to find in phenomenology the start of a rigorous theory of mathematical creations. (...) Cavailles had heard the lectures of Husserl in 1929, which gave way to *Cartesian Meditations*; he was, with Jean-Paul Sartre – who had made an entirely different use of it, one of the first philosophers of his generation to have access to this new philosophy, of which the rest of us were ignorant for the most part.

(...)

Cavailles: hero of the Resistance, executioner of an "essential" task.

In his rare moments liberated from combat, he wrote his "Introduction to [the subject of] Logic", a work that never saw the day of light, and which Charles Ehresmann and I have now given the title *On the Logic and Theory of science*. This text ends abruptly on a series of enigmatic pages — object as I have alluded to, to various interpretations.

An enigma worth an Annunciation.

(...)

To the question : "Why [academics]?" – Jean Cavailles, beyond his mere existence as a professor, had given an unforgettable answer. Through acts. Science in acts... Cavailles, a combat philosopher, taught us that practice could not be separated from theory; Sister of dreams, daughter of rigor.

COMMEMORATION AT THE ORTF
France-Culture - October 28th, 1969

What I saw and knew of Jean Cavailles since we first met at the Ecole Normale Supérieure — to tell you of all of it would be too long. But, to be too abrupt would render this task insignificant too.

Thus I'll simply say what the relationships between his thought and actions were.

First, I should insist on the fact that, for him, choosing resistance was a pure imperative — no compromises. He hadn't waited for a "Call", expecting none.

Neither was he made to be an outlaw, on the grounds of his race, politics, [sexuality, etc.]

His chose action as the result of an entirely free will.

(...)

Cavaillès was a rigorous philosopher.

To him, philosophy was closer to mathematics than literature. He thought that the activities of a philosopher were closer to the domains of proofs, than to the confessions or exhalations of subjectivity [found in other philosophies].

He knew Germany well, having spent time there under a scholarship of the Rockefeller foundation. Nothing had come as a surprise to him where the causes, motivations, and objectives of Nazism went.

Cavaillès was of Protestant origins, son of an officer. He did not share our pacifist and anti-militarist sentiments, or feelings.

This being said, and known, he joined the Resistance as an act of logic.

(...)

A chief executioner, a philosopher terrorist: there you have it, Cavaillès.

Behind the respectable disguise of a Professor of Logic, he hid his other activity, that mattered.

(...)

There was something monstrous about Cavaillès' tenacity. A unique figure — truly.

A philosopher loaded with explosives, a tenacious realist, resolute without optimism. —

That's not a hero? What is!

Translator's notes

Canguilhem does not specify exactly when Cavailles was introduced to set theory, but from the previous section we can infer or at least hypothesize that this was during his undergraduate degree; perhaps in preparatory school; perhaps even around high-school.

“Pure science” meaning sufficiently independent from neighboring disciplines, sciences. ”A constituted” discipline.

Was the judge... Gaston Bachelard?

“*Contingence(s) historique(s)*” appears, for example, in ‘The Congress of Vienna at Pragues’...

· “*le calcul des probabilites*”:
(Now) antiquated form.