CHAPTER 19

FROM METAPHYSICS TO METACHEMISTRY¹

ALFRED NORDMANN
Department of Philosophy, Technische Universität Darmstadt

THE PROMISE OF METACHEMISTRY

In 1940 appeared La Philosophie du Non by Gaston Bachelard. The American edition of 1968 translates the title obviously enough as The Philosophy of No and 10 years later, the German followed with Die Philosophie des Nein. And yet, Die Philosophie des Nicht would have been more appropriate and in English—impossible though it sounds—Philosophy of Non. After all, taking his cue from non-Euclidean geometry, Bachelard revels in the “non” of non-Aristotelian logic, non-Cartesian epistemology, non-Baconian science, non-Kantian ontology, non-Newtonian mechanics, and non-Lavoisian chemistry. In all these cases, the “non” does not signal a negation or antithesis but marks Euclidean geometry as a special case of a differentiated non-Euclidean geometry, Lavoisian chemistry as a limited set of practices which is dialectically reflected in non-Lavoisian chemistry, etc. (Bachelard 1968, 55, 115)

According to Bachelard, new experimental procedures and practices of the sciences introduce new ways of identifying, positioning, inferring, or stabilizing events. The sciences thus add over time new layers of conceptualization for properties to “take root” (Bachelard 1968, 45), new spectro-lines to the “epistemological profile” of notions like “mass,” “energy,” or “substance.” Bachelard, therefore, introduces his philosophy of the “non” not as a general theory of science but as an attempt to capture and articulate the significance of an emerging new science that creates in its wake also a new philosophy (cf. Bachelard 1984, 3): Bachelard’s “non” gives “some pre-sentiment of a profound revolution in chemical philosophy.” Signaling this imminent revolution, Bachelard continues, “metachemistry would already seem to be a possibility.”² And: “Metachemistry would be to metaphysics in the same relation as chemistry to physics” (Bachelard 1968, 45). This essay explores Bachelard’s promise of metachemistry. Along the way, it assembles a series of clues that suggest that in the meantime, metachemistry has been more fully articulated or realized in the work of Bruno Latour.³ Though he does not use that term, Latour’s Pandora’s Hope (Latour 1999), for example, is a metachemical treatise. However, while Bachelard tries to determine for a new scientific age the relation between metaphysics and metachemistry, Latour offers metachemistry as a way to dissolve...
metaphysical pseudo-problems for science in general. This difference calls for an exploration of intellectual contexts. Beginning with the challenge issued by chemist-turned-philosopher Émile Meyerson, this exploration might continue with the response to that challenge by some-time-chemist Gaston Bachelard, and then perhaps conclude with Bruno Latour’s inheritance of Meyerson’s and Bachelard’s problematics even as he rejects their rationalism. However, instead of reconstructing contexts and trajectories of influence, the following remarks primarily attempt to get past the idiosyncrasies of Bachelard’s style—the excess of neologisms, in particular—and clarify his contrast of metaphysics and metachemistry:

Metaphysics could have only one possible notion of substance because the elementary conception of physical phenomena was content to study a geometrical solid characterized by general properties. Metachemistry will benefit by the chemical knowledge of various substantial activities. It will also benefit by the fact that true chemical substances are the products of technique rather than bodies found in reality. This is as much as to show that the real in chemistry is a realization. (1968, 45)

Bachelard’s suggestion can be unpacked by highlighting the various stages of this movement from different conceptions of “substance” to the physical, social, as well as conscious “realization of the real.” Implicitly and explicity, the metaphysics and metachemistry of science will be juxtaposed throughout.

THE SUBSTANCE OF “SUBSTANCE”

Metaphysics, Bachelard suggests, operates with an impoverished, insubstantial notion of substance which it inherited—as did classical physics—from the Greek conception of science and its interest in that which persists through change. “Metaphysics could have only one possible notion of substance because the elementary conception of physical phenomena was content to study a geometrical solid characterized by general properties” (Bachelard 1968, 45).

The general properties of elements are the properties of matter, whether considered as extension and impenetrability or in terms of force or energy. From the spatio-temporal arrangements and re-arrangements of these elements, everything is thought to be composed. This notion of substance is entirely undifferentiated; it does not distinguish anything in particular but characterizes everything material. At the same time, it is generously hypothesized as a pervasive substrate of reality. According to physics and metaphysics, for everything that happens and for far more that could happen, there are latent, immutably lawful general properties waiting to be activated and to manifest themselves. Nature has thus become overpopulated with innumerable dormant powers that are semantically significant yet physically inconsequential. The varied critiques of metaphysics, therefore, targeted the hypothetical character of substance (though rarely its multiplication beyond necessity), but kept maintaining that all that could be meant by the term “substance” is a persistent constituent of reality. So, while some critics now claimed that reason or subjectivity is the substance of the world, and while others took the category “substance” in a Kantian