

# Hans-Jörg Rheinberger

## A Remark on Gaston Bachelard's Idea of a Psychoanalysis of Knowledge<sup>1</sup>

### Introduction

In the early literature devoted to Gaston Bachelard's engagement with psychoanalysis, Marie-Louise Gouhier's contribution to the Colloque de Cerisy on Bachelard in 1970 set a standard.<sup>2</sup> In more recent research, the chapter that Cristina Chimisso devoted to "The Study of the Psyche" in her book *Gaston Bachelard. Critic of Science and the Imagination* stands out for its careful historical contextualization of Bachelard's forays into the psychological literature of his time.<sup>3</sup> There is an abundance of more recent secondary literature.<sup>4</sup> But a considerable number of these contributions can be classified as paraphrases that go no further than the realm of textual repetition.

<sup>1</sup> For a preliminary note on the topic, see Rheinberger, H.-J. "Bemerkungen zu Gaston Bachelards Idee einer Psychoanalyse der Erkenntnis," in Th. Ebke and S. Hoth (eds.), *Die philosophische Anthropologie und ihr Verhältnis zu den Wissenschaften der Psyche. International Yearbook for Philosophical Anthropology* 2018, vol. 8. Berlin and Boston: De Gruyter, 2019, pp. 185–191.

<sup>2</sup> Gouhier, M.-L. "Bachelard et la psychanalyse. A. La rencontre; C. L'accommodement et la rupture," in *Bachelard, Colloque de Cerisy*. Paris: Union Générale des Editions, 1974, pp. 138–147; 160–174.

<sup>3</sup> Chimisso, C., *Gaston Bachelard. Critic of Science and the Imagination*. London and New York: Routledge, 2001.

<sup>4</sup> See, e.g., *Bachelard et la psychanalyse. Cahiers Gaston Bachelard*, N° 6. Dijon: Centre Gaston Bachelard de l'Université de Bourgogne, 2004; Bonicalzi, F. "La psychanalyse entre science et reverie," in *Gaston Bachelard et l'écriture. Cahiers Gaston Bachelard*, N° special. Dijon, Centre Gaston Bachelard de l'Université de Bourgogne, 2007, pp. 90–102; Lamy, J. "Pédagogie de la raison, psychanalyse de la connaissance et culture scientifique chez Gaston Bachelard," in *Bulletin n° 11 de l'Association des Amis de Gaston Bachelard* (2009): 101–122 (HAL archives-ouvertes: hal-01818326); Eyers, T. *Post-Rationalism. Psychoanalysis, Epistemology, and Marxism in Post-War France*. London: Bloomsbury Academic, 2013; Hub Zwart, "Iconoclasm and Imagination: Gaston Bachelard's Philosophy of Technoscience," in *Human Studies*, vol. 43 (2020): 61–87. The considerable stock of literature in Portuguese and Polish on this topic is unfortunately beyond the scope of this paper.

The present contribution focuses entirely on the *epistemological* aspects of Bachelard's view of psychoanalysis, leaving aside its role in his writings on literary imagination. The paper approaches the problem by way of a *structural reading*, following and expanding on Jacques Poirier's observation that "the Bachelardian appropriation of psychoanalysis proceeds from a displacement." Poirier summarizes this as follows: "The analytic lexicon is well covered, but in a different syntax."<sup>5</sup> In a similar vein, Marie-Louise Gouhier spoke of the "import" of a method worked out in another field.<sup>6</sup> Consequently, I will try to glimpse what hovers *between* Bachelard's words, that is, his syntax. Sometimes it flares up, but sometimes it is disguised. Above all, I will argue that Bachelard's often idiosyncratic use of psychoanalytic vocabulary does not concern the study of an individual psyche, but the analysis of a discursive historical-cultural process. The present paper is thus limited to what could be called the "psychoanalytical gesture" found in Bachelard's writings of the late 1930s. In particular, I shall concentrate on its first major manifestation in the book *La Formation de l'esprit scientifique* from 1938, with a side-glance to *La Psychanalyse du feu* (1938) and a brief reference to *Le Rationalisme appliqué* (1949).

### "Il ne faut pas voir la réalité tel que je suis"

Gaston Bachelard, who was simultaneously a philosopher and historian of science, a poetologist of literary imagination and a kindred spirit of contemporary artists and poets, wrote two books whose titles featured the term psychoanalysis. Both of them appeared in 1938. First came *La Formation de l'esprit scientifique*, with the subtitle *Contribution à une psychanalyse de la connaissance objective*,<sup>7</sup> and then, in November of the same year, a slim volume entitled *La Psychanalyse du feu*.<sup>8</sup> Both titles are somewhat surprising at first sight. Rather than announcing the psychoanalysis of a subject, they appear to promise that of an object, albeit each of a different kind. I propose to take this grammatical transference seriously. The two objects aimed at are quite different: on the one hand, the process of gaining scientific knowledge, and on the other hand, the imagery of fire in both literary and scientific writings. Even a cursory reading tells us that Bachelard uses the notion of psychoanalysis in a rather unconventional manner – "neither worrying about textual fidelity nor about a rigorous usage of its operational concepts," as Jean-Jacques Wunenburger

<sup>5</sup> Poirier, J. "Gaston Bachelard: vers la psychanalyse et au-delà," in *Cahiers Gaston Bachelard* No 6. *Bachelard et la psychanalyse*. Dijon: Centre Gaston Bachelard de l'Université de Bourgogne, 2004, pp. 25–35, p. 26, 30. All the following quotations from French texts have been translated by the author.

<sup>6</sup> Gouhier, M.-L. 1974, "Bachelard et la psychanalyse," p. 144.

<sup>7</sup> Bachelard, G., *La Formation de l'esprit scientifique. Contribution à une psychanalyse de la connaissance objective*. Paris: Vrin, 1938a.

<sup>8</sup> Bachelard, G., *La Psychanalyse du feu*. Paris: Gallimard, 1938b.

once remarked.<sup>9</sup> Some commentators, such as Maryse Choisy, an analysand of Sigmund Freud and later founder of the journal *Psyché*, even went so far as to claim that Bachelard “did not understand anything of psychoanalysis” in the original sense of the word.<sup>10</sup>

Be that as it may, in *La Formation de l'esprit scientifique*, Bachelard almost interchangeably talks of “psychology” instead of “psychoanalysis,” or even of a “pedagogy of the objective attitude.”<sup>11</sup> He appears to have assembled his sources with comparable eclecticism. The only psychoanalyst in the more strictly professional sense who is quoted more often in *La Formation de l'esprit scientifique* – six times altogether – is the British physician and subsequent biographer of Freud, Ernest Jones.<sup>12</sup> We find more scattered references to the Russian neurologist Constantin von Monakow,<sup>13</sup> the American psychologist James Baldwin,<sup>14</sup> the Swiss pastor and psychologist Oskar Pfister,<sup>15</sup> the French philosopher and psychiatrist Pierre Janet,<sup>16</sup> the French physician René Allendy with his wife Yvonne Allendy,<sup>17</sup> and finally to the founder of psychoanalysis himself, the Austrian physician Sigmund Freud.<sup>18</sup> The latter, however, appears only once and rather marginally in the context of a quote from the Allendys.

The main reference for *La Psychanalyse du feu*, in contrast, appears to be the Swiss psychiatrist Carl Gustav Jung.<sup>19</sup> Marie Bonaparte, Freud's famous French patient and later advocate of psychoanalysis in France, is quoted here once in passing.<sup>20</sup> It seems that Bachelard was looking in the realm of psychology at large for conceptual offers that would help him come to terms with assessing the dynamism of the acquisition of scientific knowledge and its historical development. We can share Wunenburger's view that this search was “epistemologically marked by the attachment to scientific work” and was thus moving in the very same realm of epistemology,<sup>21</sup> in which Bachelard's other books were situated at that time. In later years, in particular in his *Poétiques*, the dynamism of poetic action would become more prominent. With regard to Bachelard's poetology, the study by Vincent Therrien still seems to be un-

<sup>9</sup> Wunenburger, J.-J. *Gaston Bachelard, poétique des images*. Fano: Editions Mimésis, 2014, p. 139.

<sup>10</sup> *Psyché*, 2<sup>e</sup> trimestre 1963, p. 13, quoted in Gouhier, M.-L. “Bachelard et la psychanalyse.”

<sup>11</sup> Bachelard, G., *Formation de l'esprit scientifique*, p. 239, 242.

<sup>12</sup> *Ibid.*, p. 41, 42, 48, 133, 178, 179.

<sup>13</sup> *Ibid.*, p. 19, 244, 245.

<sup>14</sup> *Ibid.*, p. 240.

<sup>15</sup> *Ibid.*, p. 145.

<sup>16</sup> *Ibid.*, p. 234.

<sup>17</sup> *Ibid.*, p. 133, 178.

<sup>18</sup> *Ibid.*, p. 178.

<sup>19</sup> Bachelard, G., *Psychanalyse du feu*, p. 49, 67, 218.

<sup>20</sup> *Ibid.*, p. 181.

<sup>21</sup> Wunenburger, J.-J. *Gaston Bachelard, poétique des images*, p. 136.

surpassed.<sup>22</sup> Jean Lacroix, a philosopher colleague and friend of Bachelard at the University of Dijon during the 1930s, has argued that the quintessence of Therrien's study was to expose Bachelard's forays into "the new literary spirit" as an "inventory of the *imaginary real*."<sup>23</sup> In what follows, I will restrict myself to Bachelard's exposure of the "scientific spirit" and its target, the "*scientific Real*."<sup>24</sup>

What is Bachelard looking for? In *La Formation de l'esprit scientifique*, his general aim appears to be, on the one hand, a better understanding of how scientific knowledge comes into being, less as an individual achievement than as a cultural accomplishment. On the other hand, he attempts a clarification of what a mental attitude has to look like that encourages and promotes the process of scientific knowledge acquisition – scientific knowledge taken as being synonymous with knowledge of objects. At the beginning of the sixth chapter of *La Formation de l'esprit scientifique*, Bachelard writes: "Our actual task is not to study the psychology of the ego, but to follow the wanderings of a thought in search of the object."<sup>25</sup> Or, as Brazilian philosopher Constança Marcondes César phrased it: "The Bachelardian reading of the writings on psychoanalysis serves above all as an instrument of critique of knowledge and of culture."<sup>26</sup> We can also state this aim by quoting the inimitable aphorism attributed to Paul Eluard that Bachelard used as an *exergon* to his *Psychanalyse du feu*: "I must not look on reality as being like myself."<sup>27</sup>

In other words, we are dealing with a "psycho"-analysis of the quest for knowledge about reality, of a thought in search of the objects and, not least – as the quote implies – the pitfalls that it encounters on its course. Here, at first, the concept of analysis appears to point to the effort of exposing a dynamic, an activity rather than the description of a state of affairs in the sense of a static logical structure. There is, however, a second dimension to it, and one that is characteristic for Gaston Bachelard's epistemological thinking in general. It is the normative dimension inherent in an epistemological analysis – in contrast to a historicist or a material analysis. To analyze thus has a twofold meaning, as is actually the case in classical psychoanalysis as well: on the one hand, we are

<sup>22</sup> Therrien, V. *La Révolution de Gaston Bachelard en critique littéraire. Ses fondements, ses techniques, sa portée. Du nouvel esprit scientifique à un nouvel esprit littéraire*. Paris: Klincksieck, 1970; emphasis added.

<sup>23</sup> Lacroix, J. "Préface," in Therrien, V. *Révolution de Gaston Bachelard*, p. XI.

<sup>24</sup> Bachelard, G. *Le Nouvel esprit scientifique*. Paris: Félix Alcan, 1934, p. 8; capital in the original, emphasis added.

<sup>25</sup> Bachelard, G. *Formation de l'esprit scientifique*, p. 98.

<sup>26</sup> César, C.M., "Herméneutique et psychanalyse chez Bachelard et Ricoeur," in Wunenburger, J.-J. (ed.), *Gaston Bachelard. Science et poétique, une nouvelle éthique?* Paris: Hermann, 2013, pp. 399–423, quote from pp. 402–403.

<sup>27</sup> Paul Eluard, as quoted in Bachelard, G. *Psychanalyse du feu*, p. 9. The phrase is used as the title of a painting by Max Ernst for Eluard dating from 1923. Today the painting is housed at the Centre Georges Pompidou, Musée National d'Art Moderne, Paris.

dealing with the exposure of a mechanism that, as a rule, displays the character of a repression, and remains hidden for precisely that reason; while on the other hand, the ultimate goal of the exposure is to provide options for action in the context of the activity under analysis. Thus, for Bachelard, to psychoanalyze the scientific mind-set means at one and the same time to dissect *and* to cultivate, that is, to promote it.

## The quest for knowledge

In the following short analysis I will concentrate on a number of epistemologically significant passages from Bachelard's *La Formation de l'esprit scientifique*. By contrast, *Psychanalyse du feu* marks the beginning of a new genre of Bachelard's writings,<sup>28</sup> his poetologies, and would accordingly need a separate interpretation – not least concerning the notion of “complex” – *complexe de Prométhée, complexe d'Empédocle, complexe de Novalis, complexe de Hoffmann* – that is used extensively, if not exuberantly, in these writings. All the same, I would like to start with a longer passage from the end of the first chapter of *La Psychanalyse du feu*, because it is here that Bachelard summarizes and expresses the quintessence of the preceding book better than in any comparable passage of the latter:

One of the advantages of the psychoanalysis of objective knowledge that we propose appears to lie in the examination of a zone less deep than the one in which the primitive instincts operate; and precisely because this zone is intermediate, it has a determining influence on clear thought, on scientific thinking. Knowing and constructing are desires that one can characterize in themselves, without bringing them necessarily in relation with the will to power. In human beings, there is a veritable *will to intellectuality*. One underestimates the need to understand if one brings it under the absolute dependence of the principle of utility, as pragmatism and Bergsonism do. We therefore propose to range under the notion of *Prometheus complex* all those tendencies that push us to know as much as our fathers, more than our fathers, as much as our teachers, more than our teachers. It is, however, only by handling the object, by perfecting our knowledge of objects that we can hope to position us more clearly at the intellectual level we have admired with our parents and our teachers.<sup>29</sup>

I will return to several aspects of this quotation in the course of the following remarks. For the time being, let us note that Bachelard understands the activity of gaining knowledge as a “psychological activity” *sui generis*, as “essentially polytropic,”<sup>30</sup> as an activity that results in incessantly drawing a demarcation line between inside and outside. Bachelard states this clearly at the end of his book *La Formation de l'esprit scientifique*: “To live and re-live the moment of objectivity, to remain permanently in the *nascent state* of objectivation, requires a constant

<sup>28</sup> This has been repeatedly pointed out since the publication of Gouhier, M.-L. “Bachelard et la psychanalyse.”

<sup>29</sup> Bachelard, G. *Psychanalyse du feu*, pp. 30–31; emphasis in the original.

<sup>30</sup> Bachelard, G. *Formation de l'esprit scientifique*, p. 41; emphasis in the original.

effort of de-subjectivation. The supreme pleasure consists in oscillating between extroversion and introversion in a spirit that is psychoanalytically liberated from the two servitudes of the subject and of the object.”<sup>31</sup> In his later work, in particular in *Le Rationalisme appliqué*, Bachelard would become even more explicit about this point when stating, against the “accusation of ‘psychologism’” for which he was criticized, that he was engaged in determining what he called “the *differential of de-psychologization*” with respect to intellectual life.<sup>32</sup> And in order to tackle this goal, he continued, the kind of “psychoanalysis” that he had in mind “must address the problem of a non-psychological psychology, the problem of a de-personalized personality in accordance with the development of the person.”<sup>33</sup> He concluded: “The cultural psychoanalysis that we try to develop amounts to *de-personalizing* the powers of the super-ego or, by the same token, to *intellectualizing* the rules of culture.”<sup>34</sup>

### The epistemological obstacle

The central concept in which this essential tension in the process of gaining knowledge is condensed like in a burning glass is the concept of the “epistemological obstacle.” Bachelard introduces it in exactly this context, at the very beginning of *La Formation de l'esprit scientifique*. The first chapter of the book opens with the following passage, a passage that is worth quoting in full:

If one looks for the psychological conditions of the progresses of science, one soon reaches the conviction that *it is in terms of obstacles that one must pose the problem of scientific knowledge*. Doing so does not mean to consider external obstacles such as the complexity and the fugacity of the phenomena, nor to incriminate the feebleness of the senses and the human mind: It is in the act of knowing itself, in its innermost, that appear, by a kind of functional necessity, sluggishness and troubles. It is there that we will demonstrate the reasons for stagnation and even regression, that we will disclose the causes of inertia we call epistemological obstacles. Knowledge of the real is a light that always also projects shadows somewhere. It is never immediate and plain. The revelations of the real are always recurrent. The real is never ‘what one might believe,’ it is always what one should have thought. [...] In fact, one knows *against* previous knowledge, in destroying badly founded knowledge, in surmounting what, in the mind itself, mounts obstacles against spiritualization.<sup>35</sup>

Despite the decade-long pedagogical experiences that Bachelard, albeit in passing, mentions throughout the book, he does not want to speak here as a pedagogue or a psychologist, even if he is using this vocabulary at times, and

<sup>31</sup> *Ibid.* pp. 248–249.

<sup>32</sup> Bachelard, G. *Le Rationalisme appliqué*. Paris: Puf 1949, p. 48; emphasis in the original.

<sup>33</sup> Bachelard, G. *Rationalisme appliqué*, p. 71.

<sup>34</sup> *Ibid.* p. 71; emphasis in the original.

<sup>35</sup> *Ibid.*, pp. 13–14; emphasis in the original.

he is deeply concerned and outspoken about this point.<sup>36</sup> His book is not about an individual psychic faculty, but about a collective cultural phenomenon. “By the way,” he remarks, “we cannot aim at being complete in our demonstrations because, given the nature of our book, we cannot pursue a *direct psychology*; we are entitled only to a *reflexive psychology*, one that results from reflections on the theory of knowledge.”<sup>37</sup> The target of such a “reflexive psychology” is the shapes of *externalization* of the acts of knowing, not the actual act of knowing in its psychic reality – in other words, its “reflexes” as they present themselves in the reifications and sediments of the history of the sciences. It is the history of the sciences that offers its rich archives for tracing the different embodiments of the epistemological obstacle in its varying historical guises. Consequently, the source materials for Bachelard’s reflections are texts on natural philosophy with a focus on the seventeenth and the eighteenth centuries.

For Bachelard, it is clear that our everyday apprehension of the phenomena of the life-world represents the primary obstacle to be surmounted on the way to a scientific assessment of the reality. The immediate sensory perceptions of the world around us and their – vitalistic and substantialist – supercharging with our bodily experiences and our essentialist musings form the decisive obstacle against an apprehension of reality that does justice to its phenomena in terms of their relations to one another. To be more precise: it is a deceptive immediacy because, to paraphrase Paul Eluard’s dictum, it presents “reality as being like myself.” The scientific spirit has to form itself against this kind of primordial experience, against what is taken to be plain observation. The scientific spirit does not emerge from this perceived immediacy by a gradual process of refinement; it must break with it. The notion corresponding to the “epistemological obstacle” is thus that of an “epistemological rupture.” As Bachelard says, “According to our opinion, one must accept the following postulate for epistemology: The object cannot be addressed as something immediately ‘objective’; in other words, the march toward the object is not itself initially objective. We must thus accept a veritable rupture between sensory and scientific knowledge.”<sup>38</sup> In the history of the sciences, this rupture materializes itself as, and is epitomized by, the transition from the practice of observation to that of experimentation: “[T]here is rupture, and not continuity, between observation and experimentation.”<sup>39</sup>

The knowledge of objects in the sense of a knowledge aimed at scientificity can therefore not be characterized as a possession, which an individual could own once and forever; it must be regarded as an interminable collective process. As

<sup>36</sup> For a slightly different reading, but one that remains conscious of the fact that Bachelard is wary of “psychologism,” see Lamy, J. “Pédagogie de la raison.”

<sup>37</sup> Bachelard, G. *Formation de l’esprit scientifique*, p. 132.

<sup>38</sup> *Ibid.*, p. 239.

<sup>39</sup> *Ibid.*, p. 19.

such, it is definitely not reducible to the achievement of a solitary individual. It is a transgenerational and cultural phenomenon:

In order to be really sure that *stimulation* is no longer at the basis of our objectivation, in order to be really sure that the objective control is a *reform* rather than an echo, one has to arrive at a *social control*. We therefore propose – risking to be accused of a vicious circle – to found objectivity on the behavior of someone else, in other words, [...] we pretend to choose the eye of the other – always the eye of the other – to see the form – the fortunately abstracted form – of the objective phenomenon: Tell me what you see, and I will tell you what it is.<sup>40</sup>

This latter sentence can be read as an unmistakable allusion to Eluard's aphorism, quoted at the beginning of this paper. Bachelard concludes this passage: "It is this apparently nonsensical circle alone that can provide us with some security that we have completely abstracted from our primary visions."<sup>41</sup>

### An epistemology of error

In the end, Bachelard's historical epistemology is an epistemology of error, not unlike that which his contemporary Federigo Enriques developed in his essay *Signification de l'histoire de la pensée scientifique*. Bachelard quotes him approvingly in this context: "To reduce the error to the distraction of a tired mind would mean to confine it to the case of an employee who adds numbers. However, the field that has to be explored is much vaster, for what we have to do with is real intellectual work."<sup>42</sup> The ability to sideline an acquired piece of knowledge as an error is a prerequisite for a continued process of gaining fresh, new scientific knowledge. Thus, the structure of the epistemological rupture cannot be restricted to a break from everyday experience realized once and for all; it continues into the actual development of the sciences. It constitutes their temporal core structure.

It is this dynamism, this structure of a continually repeated break that Bachelard wishes to subsume under the notion of psychoanalysis in his *Formation de l'esprit scientifique*. In this context, psychoanalysis amounts to the auto-corrective activity of the scientific mind taken as a collective historical-cultural process. What the historical epistemologist can do is to expose this dynamism, helping to render it palpable as an "auto-critical irony."<sup>43</sup> When addressing the historical development of mathematics, Bachelard tells us: "Without much hesitation, I present [mathematical] rigor as a psychoanalysis of intuition, and algebraic thinking as a psychoa-

<sup>40</sup> *Ibid.*, p. 241; emphasis in the original.

<sup>41</sup> *Ibid.*, p. 241.

<sup>42</sup> Enriques, F. *Signification de l'histoire de la pensée scientifique*. Paris: Hermann 1934, p. 17.

<sup>43</sup> Bachelard, G. *Psychanalyse du feu*, p. 18.

analysis of geometrical thought.”<sup>44</sup> Elsewhere he contends: “Indeed, the Psychoanalysis that we propose should intervene in a culture of objectivity, must displace the interests.”<sup>45</sup> In this respect, making an error takes the generalized form of a concentration on displacement – a displacement that is, however, marked by an index of normativity:

Of what avail is an experience that does not rectify an error, that is flatly true, inarguably true? A *scientific* experience is an experience that *contradicts* the *common* experience. To note in passing, the immediate and ordinary experience always retains some sort of tautological character, it develops in the realm of words and definitions; it lacks precisely the perspective of *rectified errors* that, in our opinion, constitutes scientific thought.<sup>46</sup>

We can see here what it means for Bachelard that displacement, as difference, becomes the *leitmotif* of cultivating the scientific mind.

## The sponge

Bachelard devoted each of the main chapters of *La Formation de l'esprit scientifique* to a particular form that an epistemological obstacle can assume – citing examples from the history of the sciences in each case. This includes a whole chapter he wrote about a specific form of the kind of tautological explanation hinted at in the preceding quotation. One of the instances Bachelard highlights is closely connected to an ordinary object, the sponge, and the corresponding imagery drawn from everyday experience. In Chapter IV he shows that it was ubiquitously used as an explanation in the natural philosophy of the seventeenth and eighteenth centuries. The image of the sponge (*l'éponge*) is a typical example of an epistemological obstacle, and as such, I would like to review it briefly.

The sponge appears as a plain and obvious thing, something self-evident. Squeeze it and let it go. The object is of a porous nature; its constituent fibers build a network of internal cavities. Consequently, a sponge is able either to be compressed or to absorb other matters of a different consistency such as gases and fluids and to soak them in without merging with or dissolving in them. For Descartes, Bachelard tells us, the sponge was a paradigmatic example of a “rarefied” body, a body whose compactness is loosened and whose properties are defined by this kind of rarefaction: “What a sponge demonstrates to us is its sponginess. It shows us how a particular material ‘fills itself’ with another material. This lesson of *heterogenous plenitude* is sufficient to explain everything. Descartes’ metaphysics of space is a *metaphysics of the sponge*.”<sup>47</sup> This example also shows particularly well

<sup>44</sup> Bachelard, G. *Formation de l'esprit scientifique*, p. 237.

<sup>45</sup> *Ibid.* p. 9, capital in the original.

<sup>46</sup> *Ibid.* p. 10; emphasis in the original.

<sup>47</sup> *Ibid.*, p. 79; emphasis in the original.

why Bachelard describes these kinds of epistemological obstacles as “verbal obstacles” that prevent everyday wisdom from further inquiry.<sup>48</sup> In the end, they display a linguistic tautology: the sponginess of the sponge as it were. The early modern history of medicine is full of explanations of this kind in which a certain property of a phenomenon is declared to be its cause. A perfect example is humoral pathology, which dominated medical thinking – and medical practice – from antiquity until well into the nineteenth century. This type of explanation is also widespread in natural philosophy, as Bachelard demonstrates with further examples. Among others, he cites the French eighteenth-century natural historian René-Antoine Ferchault de Réaumur, who explained the compressibility of the air as follows: The air is a sponge, and one that is even more spongy than an ordinary sponge, but with which air can easily be compared and its elastic properties explained. This shows us, Bachelard says, what it means to display a “*generalized image*, expressed by a single word, leitmotif of an intuition without value.”<sup>49</sup> Scientific knowledge has to dispose of such images formed by everyday empirical evidence that shrink into a “pure and simple linguistic movement.”<sup>50</sup> In the end, science must replace them by mathematical relations. Of course, as Bachelard remarks, such images can come into play again at a secondary level: then they serve to lend “a little color” to relations that have become unintuitive, helping to stimulate the scientific spirit.<sup>51</sup> An example from a modern physics textbook would be the visualization of energy potentials by mechanical lifting devices.

The sponge thus stands for a historical example of one of the central notions in Bachelard’s conception of a historical epistemology *qua* psychoanalysis of objective knowledge: the epistemological obstacle. Bachelard’s epistemology proceeds from the assumption that scientific knowledge presupposes a rupture with everyday knowledge and its concrete images in order to escape the “danger of immediate metaphors” and to constitute itself as an ongoing process.<sup>52</sup> The epistemological cut from the imagery of everyday experience is decisive, but it is not the only one for all time. In the course of the further development of a science, the actual given state of knowledge always tends to settle into prosaic ordinariness and then to re-emerge as an epistemological obstacle to be overcome. The decisive point of Bachelard’s effort appears to consist in trying to conceptualize a movement of what Francesca Bonicalzi aptly calls an “open epistemology,”<sup>53</sup> one that corresponds to

<sup>48</sup> *Ibid.*, p. 73.

<sup>49</sup> *Ibid.*, p. 74; emphasis in the original.

<sup>50</sup> *Ibid.*, p. 75.

<sup>51</sup> *Ibid.*, p. 78.

<sup>52</sup> *Ibid.*, p. 81.

<sup>53</sup> Bonicalzi, F. “Gaston Bachelard: épistémologie ouverte et éthique de la connaissance,” in J.-J. Wunenburger (ed.) *Gaston Bachelard. Science et poétique, une nouvelle éthique?* Paris: Hermann, 2013, pp. 11–27, quote on p. 11; see also, for an early assessment, Denis, A.–M. “Psychoanalyse de la raison chez Gaston Bachelard,” *Revue philosophique de Louvain* vol. 61 (1963): 644–663.

the “open rationalism” of the modern sciences.<sup>54</sup> Bachelard describes it as an epistemology that sees science progressing by repeatedly breaking away from a given state of knowledge without being able to anticipate its future state, and without being able to judge its steps by immutable standards that are set once and for all.

## Concluding remark

I think the foregoing example is very useful for tracing the general contours that Bachelard’s idea of psychoanalysis assumes in his writings of the late 1930s. Briefly, it consists in the following: A displacement that was once virulent and is now no longer perceived as such is brought to consciousness again, which makes it ripe for a new displacement. We could also say that scientific knowledge, that is, knowledge *on the way* to its objects, is a permanent battle against submerged metaphors. Accordingly, the scientific spirit is characterized by a self-reflexive vigilance, a permanent effort and readiness to give up cherished beliefs when confronted with an experience that tells it otherwise. The acceleration of this process that Bachelard lived through in the 1920s and 1930s in physics inspired him to look out for conceptual opportunities that would help him to articulate it as a process of decentration of the – Cartesian – subject, and he recognized contemporary psychoanalysis as a resource for doing so.

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