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Commemorative Issue – *Transversal* at Ten

Debates and Developments after the Work of Ian Hacking

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Abstract: This article reflects on the first decade of *Transversal: International Journal for the Historiography of Science* (2016-2026) in relation to the most recent years and the enduring intellectual legacy of the philosopher of science Ian Hacking. Starting from the dossier dedicated to Hacking's work in *Transversal* (2023), it examines the main historiographical changes associated with the themes Hacking explored within this evolving historiographical landscape, evaluating his interventions in terms of analytical approaches, research objects, and conceptual structures. It also analyzes significant interpretative trends in the reception of Hacking's work during this period. Finally, it identifies — in addition to the consolidated interpretations of his legacy — gaps, tensions, and persistent unresolved problems in the historiography built around his work, thus pointing out possible lines of critical development.

Keywords: Ian Hacking; Historiography of Science; Style of Scientific Reasoning; Human Sciences

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During his prolific intellectual life, Ian Hacking (1936–2023) explored a wide range of topics, including, to name just a few, probability, scientific experimentation, the creation of phenomena, language, the problem of induction, proof and deduction in mathematics, statistics and chance, classifications in the natural and human sciences, transient mental illnesses, social construction, theories of meaning, truth, the realism/constructivism controversy, and styles of scientific reasoning. On this point, it is difficult to find any major contemporary philosophical debate to which Hacking did not make a significant contribution in some way.

Hacking characterized his own work as the result of taking a look at the rich complexity of the world. His insatiable curiosity and the idea that the objects of philosophical reflection must be sought outside the philosophical realm itself led him not only to do philosophy “in many different ways,” but also to make his work relevant and interesting not only to philosophy but to a variety of disciplines, from physics to psychology, psychiatry, and sociology.

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Trained as an analytical philosopher with an emphasis on philosophical logic, Hacking always thought of himself as being within that tradition. However, due to the profound influence exerted on a significant part of his work by philosophers of the continental tradition, Michel Foucault in particular, Hacking aimed to bridge the gap between these two traditions without diminishing the potential of either. He sought to show that analytical philosophy and historical sensibility need not be antithetical, but can rather converge.

In the period we are dealing with, there has been a growing and renewed interest in the exploration and analysis of his proposals; his corpus has been reread, systematized and laid out in books, articles and special issues of journals dedicated to analyzing his work.

In 2021, for example, *Philosophical Inquiries* included a section dedicated to the philosophy of Ian Hacking, which, according to its editors, was intended “to explore why Hacking has so largely influenced the field of history and philosophy of science” (Vagelli - Setaro 2021, 120). Within this framework, David Hyder’s article analyzes the analytical side of the analytical-continental equation that nourishes historical epistemology. To this end, he examines the tradition of empiricist naturalism and the emergence, within Hacking’s work (as well as in that of Goodman and Kuhn), of naturalized transcendental structures that resemble Wittgensteinian language games and the correlated multiplication of “worlds.” For their part, Manolis Simos and Theodore Arabatzis evaluate the historical claim that the philosophical study of experimentation is an invention of the 1980s and that its central figure is Hacking. After analyzing different accounts of the subject, they conclude by developing what they call a contextualist narrative, which does not approach experimentation in an essentialist way but rather through a narrative that questions how it becomes a philosophical problem for certain authors and with what aim, thus allowing for a repositioning of the philosophy of experimentation in relation to the specific debates in which he participated, such as the realism-antirealism debate, Science Wars, and the incommensurability debate. Last but not least, Sullivan focuses on a set of conceptual tools that Hacking proposed for understanding how laboratory sciences stabilize and for explaining what such stability means for the prospects of scientific unity and the discovery of new branches in experimental science. At the same time, she uses these tools to understand the sources of instability and disunity in rodent behavioral neuroscience, and the grassroots collaborative initiatives aimed at establishing stability in this area of research, as well as to indicate some implications for the unity of science and the creation and discovery of new branches in cognitive neuroscience.

That same year saw the publication of the book, *The Texture in Ian Hacking’s work: Michel Foucault as the guiding thread of Hacking’s thinking* (Martínez 2021). The main idea of this work is that, despite the apparent diversity in Hacking’s corpus, there is an underlying texture, woven by his interest in the analysis of the historical and situated conditions of possibility of the emergence of scientific concepts and objects, which Hacking inherits from Michel Foucault and adapts to his own interests. That is to say, it argues that the influence of Michel Foucault’s thought can be identified as a thread running through Ian Hacking’s work, interwoven into its structure and appearing with varying degrees of visibility, although always present. The book offers a systematized view of Hacking’s work from a perspective different from that of his writings on experimentation and scientific realism in the natural sciences, the topic for which he was often best known in the Anglo-Saxon philosophical sphere. The proposal is that Hacking’s work is not divided into watertight parts, but rather that, in its network structure, the apparent sections function as interconnected nodes, among which four fundamental ones can be distinguished: style of scientific reasoning & doing, probability, making up people, and experimentation and scientific realism. From each of these nodes, lines of research emerge that intertwine and articulate each other.

In the same vein, to recognize, highlight and contribute to the critical analysis of Hacking’s work, in 2023, the dossier *Ian Hacking: The Style of Scientific Thinking & Doing in the*

Historiography of Science, was organized in the journal *Transversal*. which we take as our starting point for reflection in these pages. In that special issue, Jennifer Jill Fellows reflects on the interaction between people and the tools and devices that embody AI. Although they are indifferent kinds, these machines have been designed to deceive us into believing they are interactive kinds. Interacting with these devices that mimic interactive kinds, even though they are not, has negative consequences for people; this is because, while they give us a new way of making up people and affecting their self-understanding, and consequently causing changes, they are not affected at all by the feedback loop. María de los Ángeles Martini, for her part, studies Hacking's appropriation of the work that Steve Shapin and Simon Schaffer carried out in *Leviathan and the Air-Pump* as a rewriting of the history of seventeenth-century English experimental philosophy. Her analysis focuses on the tension between contingency and permanence in order to investigate the two historiographical narratives as attempts to overcome what Richard Bernstein calls "Cartesian anxiety." To this end, Martini examines the philosophical commitments implicit in Shapin and Schaffer's history, analyzes Hacking's appropriation of Fernand Braudel's *longue durée*, in his quest to configure a historical philosophy of science that energizes permanence, and reconstructs his rewriting of seventeenth-century English experimental philosophy as a narrative that places materiality at the center of the contingent of permanence. Last but not least, Martini addresses the notion of a way of life as a core point in the ways in which Hacking, Shapin, and Schaffer seek to move beyond Cartesian anxiety. Continuing with the topic of reasoning styles, Jack Ritchie, in his text, proposes this notion as a key tool for understanding the broader structure of Hacking's work. According to the author, the styles project grants Hacking two fundamental tools: on the one hand, "a way of distinguishing science from non-science", and on the other hand, "a structure that helps us understand why certain philosophical questions emerge, and, sometimes, a diagnosis of why in contemporary philosophy those questions are misguided." On this basis, Ritchie classifies the work of Hacking in terms of three categories: works that "attempt to explain the general idea of styles of thinking"; those that "investigate[s] aspects of a particular style (or sometimes combinations of styles) including its history" and, last of all, those that "work on subjects in which the six styles of thinking do not stably apply." Finally, he proposes that the label "naturalism" could be a better fit for the work of Hacking, given his concern with using the empirical sciences, up to and including history, to address philosophical questions. Joseba Pascual-Alba and Jaume Navarro, in their contribution, analyze Hacking's dual (and plural) conception of the unity of science, understood as both "singularity" and "harmonious integration." They maintain that it is precisely the plurality of styles that allows for some general and peculiar kind of unity in the sciences, thus achieving unification by integration. By understanding integration as a pluralistic notion of unity, Hacking liberates the notion of unity from monism. Applying this dual notion of unity, Pascual-Alba and Navarro reveal how some notions of scientific unity defended in the philosophy of science are more pluralistic than might initially be thought, and show that the notion of special sciences implies a hidden monism which assumes the existence of a general science, which cannot be identified either historically or philosophically. Finally, Luca Sciortino addresses the question of which ways of thinking can be considered Hackinian-type styles of reasoning, discusses the idea of the need for necessary and sufficient conditions for the existence of a style of reasoning, and proposes considering the category of styles of reasoning as a prototype-based category, in which its members are determined by their degree of similarity to prototypes such as the statistical style of reasoning.

Two years later, *The Monist* published a special issue, *Perspectives on the Philosophy of Ian Hacking*, which addressed different aspects of Hacking's work. For example, with respect to Hacking's entity realism, Lydia Patton's article focuses on the philosopher's indexical theory of reference as a tool for analyzing the motivations behind his position, as well as its

limitations. In relation to styles of scientific reasoning, Oscar Westerbland and Henk W. de Regt argue that Hacking's work on experimentation and styles of reasoning offers valuable insights into the current debate on the nature of scientific understanding, which has thus far focused almost exclusively on the role of theories and explanations. Scientific understanding, they assert, involves both representation and intervention. Jutta Schickore, for her part, uses Hacking's proposal about the scientific method and styles of reasoning to outline a historiographical-philosophical approach that allows for the study of the history of validation strategies in science, such as replication, control experiments, and significance tests, offering a sketch of what a philosophical anthropology and technology of validation strategies might look like. On the other hand, the positivist antecedents of the proposal of styles of reasoning are traced by Thomas Uebel, who argues that the styles project and a certain type of scientific meta-theory promoted by the so-called left wing of the Vienna Circle present real doctrinal similarities. Continuing the study of styles of reasoning, Matteo Vagelli examines how, in his early writings on styles, Hacking draws on the archaeology of Michel Foucault, more specifically on his notion of positivity. He argues, however, that from the 2000s onward, this notion becomes replaced by that of truthfulness, borrowed from Bernard Williams. Although Hacking presents this shift as a reformulation of the same ideas using alternative language, Vagelli argues that the two are only superficially similar and that some of Hacking's original intentions risk being lost or overlooked in the transition from the former to the latter. With respect to Hacking's work on the human sciences, Jonathan Tsou examines Hacking's account of looping effects and human kinds, arguing, in disagreement with Hacking, that some objects corresponding to classifications in the human sciences—for example, biological classes—remain stable despite the feedback generated by those classifications; that human science classifications that individualize biological classes produce stable projectable inferences; and that looping effects are a problematic criterion for distinguishing human science classifications from natural science classifications. Janette Dinishak, in her work, updates and expands Hacking's analysis of autism by focusing on the conceptual innovations of autistic people. She uses the concept of autistic space to illustrate their ongoing experiments in concept formation and to show how this space functions as a site for positive identity formation and as an engine of resilience, enabling autistic people to challenge expert knowledge and foster new forms of specialization and institutions in science, education, and advocacy for the rights of autistic people. E. Montuschi, for her part, presents an argument to demonstrate that the term objectivity, contrary to Hacking's assertion, serves an important function and should therefore not be discarded. She distinguishes between descriptive and prescriptive uses and shows that the concept should be retained for prescriptive reasons. She rebuts Hacking's objections by arguing that it is precisely because of its vagueness that the concept fulfills its intended purpose. Finally, Paul Roth points out that Hacking never addresses the discussion of the historical or narrative explanations he frequently employs. Given Hacking's typically high degree of methodological self-awareness, Roth interprets his silence as a sign of discomfort with his own approach in this key area of his work. Roth outlines how Hacking's work could be developed and complemented by a narrative explanation consistent with his general line of thought on what makes knowledge claims possible.

In addition to these works (and others) that address Hacking's work in general and reflect the variety of topics and reflections that can be derived from his proposal, it is also possible to analyze it from the perspective of the theoretical developments it has stimulated in specific areas or themes of knowledge. In this context, and without diminishing the importance of other current developments that take his proposals as their starting point, such as those related to scientific experimentation, historical ontology, historical epistemology, and the integration of the history of science and the philosophy of science, I will select only two here as representative of the potential of Hacking's work.

Despite the centrality of the styles project in Hacking's work and the widespread use of the notion of reasoning style in the history and philosophy of science, its characterization has not yet been sufficiently systematized and theorized, and the individualization of styles continues to generate controversy. As a consequence, a significant body of work reflects the current relevance and interest in the notion proposed by Hacking. In addition to the works which in this respect have already been mentioned, one can point, for example, to other works by Luca Sciortino which aim to clarify the philosophical assumptions and research objectives underlying the notion of style. Sciortino (2017) focuses primarily on answering the question of the philosophical roots of style, specifically, how the notion of style is integrated into the field of historical epistemology, and what a comparison between Hacking's project on reasoning styles and other similar projects suggests. Furthermore, in his book, *History of Rationalities. Ways of Thinking from Vico to Hacking and Beyond* (2023), Sciortino attempts to develop, correct and present in a more systematic way the notion of reasoning style. Although Hacking's project of styles of reasoning can be considered the latest sophisticated attempt to reconstruct the different ways of finding out that can be recognized in the history of science, his original thesis has never been assessed and developed into a comprehensive theory. The book addresses those problems and offers a taxonomy of the concept of "ways of thinking", which is an absolutely fundamental element of most of the philosophies that fall into a tradition of research called historical epistemology. It presents different notions of this concept that philosophers and historians of science have developed and focuses on Hacking's notion of style of reasoning with the aim of assessing it and developing it into a more systematic theory of scientific thought. Finally, he argues that Hacking's notion of styles of reasoning implies epistemic relativism and discusses its implications for the issue of contingency.

Another area where growing developments stemming from Hacking's proposals can be observed is the human and social sciences. For example, within the broader debate regarding the classification of mental illnesses, Hacking established himself as a central figure with a decisive influence on the philosophy of psychiatry. His analyses formed a conceptual framework that has been critically revisited and reworked. His proposal of the looping effect was so important that it marked the beginning of a new debate, with its own trajectory, which some authors have called the "looping debate." Although Hacking was not the first to analyze the dynamics that arise from classifications in psychiatry, his proposal has brought clarity, precision, and, chiefly, a novel approach within the context of contemporary philosophy of psychiatry. Debates based on the notion of the looping effect have evolved in different directions: some highlight the instability of classification; others point out how these types of loops can behave in unexpected ways, contrary to existing theoretical understanding; debates have arisen over realism versus nominalism and essentialism versus constructivism; and the distinction between interactive and indifferent kinds has been criticized. As just one example, I will mention the analyses of Jonathan Tsou (2016, 2021, 2025), in which he reconstructs Hacking's arguments about the looping effect and questions whether mental illnesses are truly objects in movement, arguing that Hacking makes an incorrect generalization by concluding the inherent instability of kinds in the human sciences. Tsou suggests that, for the feedback effect to necessarily lead to a change or revision of the diagnostic category, the application of this classification would have to modify the behavior and experience of a large number of people uniformly and significantly. As long as the modifications in the behaviors of those suffering from mental illness are heterogeneous and do not involve a large number of people, it would not seem to make sense to revise and modify the class itself. Although in particular cases, such as multiple personality disorder, it is possible to recognize the presence of the looping effect and its consequences, according to Tsou, the prevalence of this effect is less frequent than Hacking suggests.

Finally, I would like to mention the recent translation into French of some representative texts by Hacking, compiled in *Anthropologie philosophique et raison scientifique* (2023). The selection made aims to show that the different aspects of Hacking's philosophical work resonate with each other and, together, form a complex and eloquent portrait of scientific reason, and that his original approach, at the crossroads between conceptual analysis, the philosophy of ordinary language, Foucauldian archaeology and the history of science, helped to open new avenues of reflection, making Hacking one of the most dynamic and influential figures, not only in the field of philosophical epistemology, but also in sociology, anthropology and history.

What has been outlined in these pages does not, of course, constitute an exhaustive analysis of the extensive bibliography that Hacking's rich and diverse work has stimulated and generated. It merely highlights some lines of inquiry that are currently developing and which show the potential and consolidation of a mature and rapidly expanding field dedicated to the use and critical analysis of Hacking's work.

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