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Article

Carl Hempel and the Analytical Tradition: An Epistemological Debate About the Scientificity of History Despite Historians

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Abstract:

This article brings into debate two contemporary traditions – one of French origin, dominant in the historiographical scenario of the mid-twentieth century, the Annales, and another of German-English tradition, represented above all by the works of the philosopher Carl Hempel. The dialogue between them and, eventually, the symptomatic lack of communication, gives rise to a discussion about the scientificity of history, an important theme to both positions and widely debated in the 1940s and 1950s. The hypothesis is that disciplinary contacts, academic hierarchies and the theoretical borders observed from this debate help to understand fundamental elements of the dynamics of academic consecration in that context, beyond the agreement or disagreement that can be observed at the level of the theory of history.

Keywords: Theory of History; Annales School; Carl Hempel; History of Science

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I have sometimes compared models to ships. What interests me,
once the boat is built, is to put it in the water and see if it floats,
and later to make it descend or climb, at my will, the current of
time. The shipwreck is always the most significant moment
F. Braudel

We are like sailors who on the open sea must reconstruct their ship
but are never able to start afresh from the bottom...
O. Neurath

The discussion about the scientificity of history was criticized at the beginning of the twentieth century in the name of a more methodological rather than theoretical position—most notably from the efforts of the dominant French school, the Annales. With the Annales, what became known as the “eclipse of the narrative” (Ricoeur 1991) took shape from the preference for broad social categories as the primary subjects of history. These were subjects inserted in a structural dynamic that was developed, among other innovations, through the

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increase of research techniques, such as the first computers and survey techniques – as suggested by Fernando Novais (2013). In this article I propose that what happened was not a simple forgetting or overcoming of theoretical reflections, but rather a displacement: the issues of question-beginning in history and scientific method moved over from the field of historians to that of philosophers and, to some extent, of literary critics. This abandonment was burdensome to the historian's practice because it took away a fundamental discussion about the craft itself, a problem that resurfaced in the 1980s on the occasion of Hayden White's questioning of traditional historiography. This paper intends to capture this movement of displacement from an exemplary case, namely the discussion that the analytic philosopher C. Hempel undertakes in *The Function of General Laws in History* (1942) and, tangentially, in *Explanation in Science and History* (1962). These articles, although they have been formulated and disseminated outside of the original circle of contemporary historians, allow us to identify in which way this displacement is conceptually projected, especially with regard to the composition of a demand for scientific rigor in the practice of the historian. Although this practice was restricted to philosophical debate in this context, it reverberates today in the most current discussions about the relationship that the historian establishes, or can establish, with his sources of research.

In order for the argument in this article to work, it is necessary to make its theoretical premise explicit. We start from the principle that an intellectual project (in this case Carl Hempel's one) of any nature is, at the same time, the bearer of a thesis (internal argument) and of a worldview in which said thesis is adequate. This relationship can be established from the contemporary debate on the concept of epistemic virtues (Paul 2011, 2014; Daston 2017) and the "non textual doings" that are at the basis of intellectual initiatives. Recently, philosophers of history such as Linda Zagzebsky (2009), Herman Paul (2014) and Lorraine Daston (2017) have drawn attention to an insufficiency of their own field: synthetically, the philosophy of history has not focused much on practices, or non-textual doings. In the analysis of Paul, "If postpositivist philosophy is right in assuming that human knowledge has an element of irreducible subjectivity, then knowledge can, at least to some extent, be seen as the product of a human practice" (2011, p. 16). In order to remedy this disciplinary gap, the result of a centuries-old division, a number of philosophers and historians have endeavored to redesign the idea of "virtue", emancipating it from its Aristotelian meaning and adapting it to function as a tool to classify the different constellations of attitudes that make up intellectual practice beyond the writing of texts. This means adding, to the understanding of the epistemological dynamics of theses, some elements such as academic performance, thesis defense rituals, and even the meaning of the political positions of academics and professors. On *Epistemic Virtues in the sciences and humanities* (2017) Dongen and Paul appoint the general outlines of the debate, assuming the premise that "scientific selfhood is never exclusively defined in epistemic terms" (2017, 1). From this observation, they develop the idea that epistemic virtues are everything that makes up the criteria that define what an academic is and what they should be, what skills and performances they should display, which personas they should mirror and how they relate appropriately to the cultural background in which they are inserted. Paul, in *Performing History: How Historical Scholarship is Shaped by Epistemic Virtues*, referring more specifically to the case of historians, draws attention to the fact that the debate on epistemic virtues does not take place only in epistemic terms but, paradoxically, in "scholarly selfies". In his terms, "questions of socialization and disciplinization lead us from virtue epistemology to the sociology of knowledge and the history of science" (Paul 2011, 10). Baehr, in *The Inquiring Mind* (2011) deepens the historical connotation of the debate by referring to Aristotle's founding discussion of the relationship between intellectual and moral virtues. In his census, to which I subscribe, it was only in the 1980s, however, that this debate gained ground in philosophy and theory of history, especially thanks to the publication *The Raft and the Pyramid*, by Ernst Sosa. In the 1990s, the debate was enriched by the aforementioned contribution by

Zagzebski (*Virtues of the Mind*, 1996). One more time with Paul, the epistemic virtues, after gaining a quorum in the historiographical debate on the historicity of the moral virtues, have been placed, since the 2000s, as tools to capture the non-textual-doings, “ideal-typical models of what it takes to be a scholar”, and begin to circulate among practitioners of a very specific area of the theory of history, identified as the philosophy of history. The concept of epistemic virtue, in short, helps to call into question a broader debate about the referential meaning of peer judgment and the endogenous functioning of the academic world, in which the concept of “excellence” is unequally distributed according to disciplinary cultures and the correlated academic virtues they engender (Lamont 2009).

The question of “what it means to be” a historian or a philosopher, when contextualized historically, is therefore the second-order debate that organizes the arguments of the quarrel we address in this article. If, on the one hand, it is true that the debate between Hempel and the *Annales* was not direct, on the other hand it is essential to realize that they are intertwined by a broader discussion about “what it means to be an academic” in that context. For Reisch, in this sense,

Knowing as we do now that logical empiricism was originally a philosophical project with cultural and social ambitions, the time is ripe to inquire how the discipline was transformed and how these cultural and social ambitions were lost. The answer defended here is that it was transformed during the 1950s at least partly, if not mainly, by political pressures that were common throughout civic as well as intellectual life during the Cold War following World War II. (Reisch 2005, 5)

It is, therefore, in this context of transformation not only of the repertoire of the debate, but of the very questioning of what it meant to be an intellectual, that we will position the intellectual project of the *Annales* and its debaters.

The *Annales* were undoubtedly important as a renewer of methods and approaches to the craft of the historian, and even critical readers acknowledged this. Thus, my point is not to develop a negative judgment of them. The very lack of theoretical discussion in the writings of the *Annales*’ founders - Lucien Febvre and Marc Bloch - is questioned by important analysts such as Massimo Mastrogregori.² Instead, I aim to analyze, in terms of an intellectual history concerned with the circulation of debates, how the methodological approach of the *Annales* was in line with the proliferation of external discussions about the scientific nature of history, to the extent that ignoring the debate on theory is, for all intents and purposes, a theoretical position. After all, it is not necessary to insert in each work a chapter or two of prior theoretical discussion so that, in the very organization of an investigation, the set of theoretical premises that supports it may operate. Thus, to recall the emphasis of the methodological debate on epistemology is not to say that the *Annales* had no theoretical concerns, but rather, as I expect to show, that it is not of the same formal nature as that of the classical systematization of the natural sciences, which Carl Hempel proposes.

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² For Mastrogregori (In Novais and Forastieri da Silva 2013), if it is not possible to find theoretical treatises in the works of Bloch and Febvre, nor in the annals of the *Revue des Annales*, it is possible to identify a theory that not only underlies the applied works of authors, explicitly. This theory, according to him, is based on the assertion of problem-history, from which the three theoretical premises that the authors offer in their reading to the mastery of method can be deduced. They are the reflection on the limits of the empirical method, the analyses of the purpose of history, and the broad debates about causality in history.

The Scientific Conception of the World as a Worldview

“The causes are not postulated, are sought...” Marc Bloch (1954) represented, for the generation of historians who succeeded him, a symbol of the “historian who faces the wind,” (Hartog 2015) a man of his time, strongly anchored in the best tradition of intellectual responsibility in the face of violence and horror. Indeed, the Annales historians helped to rehabilitate a founding discussion of the discipline, one which places at the center of the observer’s methodological practices an even complex relationship between the experiences and demands of the present and those assumed with a rigorously efficient reading of the past. The discussion about history and scientific method does not date back to the second half of the twentieth century, although it does emerge at that moment as a latent tension. On the contrary, it can be assumed that it is one of the guiding questions of history itself as an institutionalized discourse.

The canonical discussion about the scientificity of history - and, at its base, of its criteria of objectivity - is present in the work of many philosophers, sociologists, and historians. From Dilthey to Max Weber to the debate of the first French positivists, the worldview of these debates would be a list that goes beyond the scope of this article. It is possible, however, to locate these attempts at definition within the framework of a broader discussion, i.e., the tensions that arose throughout the nineteenth century, notably in German and French universities, within the disciplines of History and Philosophy (Bem-David 1996, Ringer 1999, Heilbrunn e Gingras, 2015). In this context, confidence in the scientific reading of the world is expressed in the great symbolic capital that the hard sciences enjoyed institutionally. Although the humanities were not left untouched by this atmosphere, they developed strategies to incorporate and reject the methods of the natural sciences. In some of these readings, the methodological specificity of the discipline of history was placed as an urgent achievement for the autonomy of the humanities.

According to *La crisis de la Razón* (2001), it is during the rise of chemistry and physics that names like Saint Simon and then Comte anticipate, in the French context, a future hegemony of a unified worldview based on the natural sciences, especially in the chemical conception of the world as a closed cycle of energy exchange. The prestige of these approaches directly affected the humanities, inasmuch as physical phenomena were intended to explain even the facts of consciousness.

It is in this context, in short, that it is thought that science could be the basis of an ethic. This atmosphere, however, began to be questioned in the late nineteenth and early twentieth centuries and marks the resurgence of certain vitalist and irrationalist trends (Schnadelbach 1991). Such re-emergence, for example, was an initial concern of the founders of the Vienna Circle, who associated this criticism of science with the imposition of an irrationalism that, in addition to being theoretical, was also political and social. The scientific conception of the world justifies its *Lebensfragen* from the diagnosis of growth of a pernicious metaphysical tendency. If the natural sciences approach keeps its standards recognized and solidified, the possibility that its methods could be generalized to all fields of knowledge becomes a matter of investigation. In addition to this, at the end of the nineteenth century a series of thinkers confronted with the advance of the ‘mathematization’ of the world developed disciplinary strategies. From Dilthey through Husserl to the formulations of the Vienna Circle and the Annales School, different ways of equating the advance of scientific trust with a growing distrust of their emancipatory potential have set the tone for these debates which, as I suggest, pervade the discussion of the scientificity of history in the first decades of the twentieth century. As Reisch demonstrated, in this sense, the movement for the Unity of Science involved not only the transit of intellectuals between Vienna and the United States - “The logical empiricists were received in America both as representatives of a new social and cultural movement and as intellectuals, philosophers, and logicians” - as well as a series of concrete initiatives such as a

series of International Congresses for the Unity of Science (Prague, 1934; Paris, 1935; Copenhagen, 1936; Paris, 1937; Cambridge, England, 1938; Cambridge, Massachusetts, 1939; and Chicago, 1941), the publication of the Enciclopedia and even some of the project's public communication initiatives in vehicles (such as *Time* and the *New York Times*). Carl Hempel, in the argument of this article, is centrally positioned in this broad dynamic, which requires that an originally European debate (which initially circulates between Vienna and Paris) be analytically considered based on the internationalization of the scientific debate of the time, especially from the cold War.

Still bearing in mind D'Agostini's division, "the expression 'science does not think' manifests the common point of view that spread in the continental thought of those years, aimed at defending the philosophy of what Ortega and Gasset call 'imperialism of Science'" (D'Agostini, 2003).³ From the 1930s on, the tensions, in addition to being theoretical, became geographical. The diaspora of German thinkers around the world and, relatedly, the departure of many intellectuals to the United States in the early years of World War II, redrew the map of intellectual debates. Here, it is interesting to note the argument that while American universities are home to much of the tradition previously linked to the Vienna Circle, German and French reference centers consolidate the predominance of antagonistic tendencies. In addition to that, the maturation of the social sciences since the 1940s, especially in these two countries, provides an important contribution to the problem of this debate: Faced with the need to deal with this new paradigm in the field of humanities studies, the two canonical disciplines, history and philosophy, adopt different strategies (Heilbron et Gingras 2015). Within these tensions, I propose the debates on the scientificity of history and on the unity of the empirical sciences, which inform the two contending hypotheses in this text: the scientific conception of the world, which is the basis of Hempel's reflection, and that of the unity of the social sciences, which organizes the arguments of the *Annales* school.

The Annales Against Positivism?

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It was this crisis discourse, which originated in Germany but was already widely spread in all European intellectual circles at the turn of the century, that informed the emergence of the *Annales* School. In contrast to the hegemony of the natural sciences applied to history - represented, then, by the predominance of positivist epistemology of Comtean inspiration - the first representatives of the French school proposed a broad revision of the meaning of the historian's office. The tension between scientific culture and the culture of the humanities is, in essence, the foundation stone of the debates between disciplines at the turn of the century. The hypothesis of this article is that these institutional relocations are the conditions for the discussion of these two academic enterprises. Whatever the case may be, historicist and positivist currents played a fundamental role in the institutional consolidation of the historical discipline (Barros 2010). Historicism brought historical research closer to hermeneutic discussions. Positivism, in turn, in the wake of the founder Leopold von Ranke, inserted the historians, especially in France, into the discussion of the scientificity of history. After Ranke, culture and society appeared as marginalized themes in historiography, which emphasizes sources and archives. At the turn of the century, political history was questioned in several ways, the strongest of them by Berr, in 1900, in *Revue de Synthèse*. All the disciplinary accommodation that occurs in the intellectual field of the first decades of the

³ ["A expressão 'a ciência não pensa' manifesta o ponto de vista comum que se difundiu no pensamento continental daqueles anos, visando defender a filosofia do que Ortega y Gasset chamou de 'imperialismo da ciência'"].

twentieth century cannot be reduced to the simple negation of positivism⁴. On the contrary, the influence of the Durkheimian school in the debates of the first generations of the *Annales* is perennial, just as the connection between the Comtean legacy of the unit of sciences and the proposals that marked the first generation of the School is significant (Karady 1976). The *Annales* are, in this sense, a possible observatory, but not the only one, for a rearrangement in the methods and objects of historiography in the first half of the twentieth century.⁵

Because of these connections and hybrid zones, it must be noted that the *Annales* did not subscribe to a tradition of hostility or denial of science but, in their own way, sought to counter the insufficiency of this paradigm for the practice of the historian. As Lucien Febvre (1952), one of the founders of the school, points out, it is an imperative of a practical rather than epistemological order and it is asked in simple terms how it would be possible not to reconstruct an order, or a theoretical tradition, which presents problems at all levels.

The year of 1929, apart from being precisely the moment of dissemination of the manifesto *The Scientific Conception of the World*, which will be discussed next, was the paradigmatic year of the economic and political crisis that marked the period between the wars. According to François Dosse, the economic changes of the period profoundly affected historians' self-image (Dosse 1985). Symptomatically, it is also the year in which Febvre and Bloch - inspired by their former common mentor, Henri Berr - launched the first issue of *Revue Annales d'histoire économique et sociale*, in Strasbourg (Burke 1990). Affirming the need for history to be thought out of problems (which means, ultimately, that the historian's action in time is constitutive of the past, and that it has no character of evidence in itself), the two historians strove to enshrine the movement both internally, within the field of history, but also from a broad disciplinary project.

According to Campbell (in Lamont, 1998), Febvre and Bloch were missionaries and did their best to spread the word of interdisciplinarity. From the theoretical assumptions of the *Annales*, they constructed a new structure of explanation: one contrary to the historicist tradition - which they criticized for its methodological conservatism - and also contrary to the positivist tradition - which they criticized for the insufficiency of thinking the world as a given, independent of the action of the historian.

It [the *Annale's* intellectual project] is organized around a central proposal: it is urgent to bring history out of its disciplinary isolation, it must be opened to questions and methods of other social sciences. This claim, which clearly affirms the unity of the social beyond the approaches of which it is the object, runs through the half-century of the *Annales*. (Revel 1976, 34)

The *Annales*, therefore, continued to discuss the scientificity of history which, in France, has its roots at the beginning of the century, notably in the discussion embraced by Durkheim and the positivist school. The scientificity of history, which will later be questioned by Hempel's reading, is subject to a displacement: instead of being rooted in laws or in the events themselves, it becomes part of the attitude of the historian, so that "to the art of narration, it substitutes the Science of Interpretation" (Burguière 1976, 1374). In his critical analysis of French history, Dosse (2003) recalls that this debate is still due to extra-theoretical questions, inasmuch as French positivists like Henri Langlois, Charles Seignobos, and Foustel de Coulanges were nationalists and militarists, which corroborates the question of the need for the historian to position himself critically in reality, and not just as a technical scientist who "let the facts speak." In Burguière's synthesis, "[This is where originates] their rejection of the positivism that conceives of historical reality as a juxtaposition of facts already

⁴ This debate was sparked by works such as Stuart (1999), Revel (1979, 1360-1376), Noiriél (1996) and Charle and Jeanpierre (2016).

⁵ This discussion can be found in (Mastrogregori 1989).

constituted, and of all the systematization, be it dogmatic Marxism, or of such a theory of German State.” (1976, 1352).

That said, I begin with a diagnosis of Febvre when he points out that, at the end of the nineteenth century, history as an institutional discipline is consolidated – although in his terms “somewhat drowsily” – tied to the dogma that “history is done with texts,” reinforced by positivist epistemology. The questioning needed of the positivist paradigm emerges, according to Febvre, with the maturation of economic history, which, due to the nature of its research options, imposes more far-reaching methodologies. Then, his appeal for renewal would be justified by the fact that the historian has the peculiarity of creating his own objects and not, as in a contemplative posture, simply wander through the past like an antiques dealer in search of museum pieces. If there is no question, then there is nothing. In this way, Febvre operates a fundamental methodological reallocation: the historian’s office and the practice sphere begin to guide the attempts of renewal.

In short, the hypothesis of the *Annales* is based on the fact that the discipline of history is, above all, a science of men, in no way a ‘science of things,’ according to Febvre (1952). In this sense, history is about texts, and about all texts, but not only about texts. In addition, a commitment to interdisciplinarity—to positioning the same object under various lights—necessarily engenders a hypothesis on the methodological specificity of the multiple areas of knowledge.⁶ Then, the research appears no longer as a ‘self-manifestation,’ but as teamwork. This position operates in Bloch and Febvre, in conjunction with the claim of the scientificity of history, a methodologically regulated discipline, according to the authors. In addition, the division of labor proposed by them is consonant with the new standards of scientific production that are established in that context. The appeal to the scientificity of history, however, finds a theoretical limit in the postulation that history, precisely because it is a science, is a human activity and, therefore, is not reducible to the laws of any species.

In 1941, in a lecture at *École Normale Supérieure*, Febvre pointed out that this methodological earthquake that transformed history also fell upon other sciences such as mechanics and microbiology, in such a way that everything happened as if the concrete cracked the abstract possibilities of thought, forcing it into enlargement. The scientist himself, for Febvre, already considers his task an act of creation and understanding. Science, Febvre reiterates, is an object of historians in time, not an object of pure intellects. In this sense, any scientific fact is invented, it is not a given that presents itself in the world in the rough.

In the famous preface to Marc Bloch’s *Apology of History*, Jacques le Goff draws this line by outlining the *Annales*’ relationship with his predecessors, positivists like Seignobos:

Marc Bloch does not ask history to define false laws, for the incessant intrusion of chance makes it impossible. But he does not conceive of it (history) but penetrates reason and intelligibility, which places its scientificity not on the side of nature, of its object, but of the *démarche* and the method of the historian. (Le Goff 2011, 20)

In this regard, it is a partial refusal: the *Annales* did not reject in positivism their search for scientific criteria for history, but rather they reject the tendency to seek the pattern of these criteria in the repertoire of the natural sciences. In the tradition of the natural sciences, repeatedly associated with the positivist tradition by the founders of the *Annales*, the historian would only have the role of making certain evidences visible, “the claimed empiricism of historians is in fact based on choices that are never made explicit.” It is the very function of the historian that is at stake, for, at the moment the *Annales* reallocate

⁶ This is a development in the history of the *Annales* that has been much debated in recent Brazilian historiography. Consult: Cordeiro (In Cury et al. 2010, 69-92) and Vainfas (In Cardoso and Vainfas 1997).

scientificity in attitude, not in object. Instead of relying on the regularity of laws, the *Annales* claim that events can only be understood in a comparative way.

Thus, in a synthetical way, it is possible to outline the contours that limit the relation of the *Annales* to the discussion of the scientificity of history. While Bloch and Febvre consider it a science, they are not willing to grant their methodological territory to the predominance of the natural sciences, specifically as regards the applicability of laws.⁷ The hypothesis that theoretically reinforces this renewal is that the facts captured by the historian must be stripped of their epistemological tyranny: these facts say nothing without the historian's asking. Thus, the relativization of the role of the event is a way to think about the clash of the *Annales* theses with Hempel's deductive nomological proposal, which appears in 1942. After all, in the nomological-deductive hypothesis, the event is the manifestation of a fundamental universal law. It is the event that empirically attests to the existence of the law, which, therefore, makes it non-negotiable theoretically and methodologically. François Hartog (2005) looking at the assertions of Bloch and Febvre, points out that the rejection of the narrative by the *Annales* focuses precisely on this point: to break with narrative history is to break with the tributary history of events, with the methodical school. They criticized this old idea based on the supposition that the approximation with social sciences could help to think about the repetitive and the series, to the detriment of events in their superficiality. The event, therefore, ceases to shine its own light. A new, sturdier historical time, the time of conjunctures and crises, not of events, is brought to light.

According to Gerard Noiriel's analysis, the context of the war and the years immediately following it alter not only the internal themes of the historical discipline, but also the need for public justification of its practices. "En esta coyuntura, los historiadores se ven en la necesidad de recuperar el prestigio de una disciplina que durante mucho tiempo ha contribuido a respaldar los nacionalismos en cuyo nombre Europa se ha hundido en un delirio de muerte" (1997, 95). It would be in this process of reconstructing a "self-image" or, to use Herman Paul's terms, a public set of epistemic virtues, that we could locate, for example, the effort of names like Braudel to resume the debate on the unity of the sciences, especially the human sciences, because they would deal with the same object, albeit with different methodologies. In this dynamic, history would have the consular role of centralizing the other disciplines. Indeed, at this point, the debate shifts from the possibility of the unity of the human sciences to the disciplinary physiognomy that such a project should assume. Based on Stefan Collini's (2017) statement that the disciplines are not institutional accidents, but that they are part of a specific tradition to which they owe not only their repertoire but also the performance associated with it, we can measure the impact of a confrontation that goes beyond the theoretical debate and focuses on "what should be a practitioner of human sciences" (Paul, 2011). In the same sense, Jean-Louis Fabiani (2006) highlights the pedagogical dimension of disciplinary adhesions, and draws attention to the fact that the principles of stability of the disciplinary community are guaranteed, in turn, by a differentiation in relation to common sense, strengthened, above all, by the rituals of professionalization. In view of the complexity of the *Annales*' proposal and the way in which it was received in the broader debate of the human sciences, we will now position the debate on the unity of the sciences from the point of view of the then hegemonic philosophy of science.

⁷ Fernand Braudel, who continues the work of the founders, claims methodological primacy, for example in "Positions of History in 1950", which reads that "In the past it was considered that there would be science only if it could predict: it had to be prophetic or not. Today, we would be inclined to think that no social science, including history, is prophetic; therefore, according to the ancient rules of the game, none of them would be entitled to the fine title of science" (Braudel 1990 55).

Vienna Takes Over History

Before we properly enter the proposal that Hempel contributes to the debate on the scientific nature of history, it is worth considering that the link between him and the well-known “Vienna Circle” cannot be made immediately or frivolously. Galison (1990) for example, emphasizes the role of the city of Vienna in the interwar period, and the frequent interactions between the canonical names of the movement and those linked to other manifestations of Viennese culture in this context (Schorske, 1991) Neurath and Carnap,⁸ for instance, were in constant dialogue with both the Austrian tradition that preceded them, especially Brentano, but also with the most heated debates on socialism and republicanism. This is important in that, as has been emphasized repeatedly, what is conventionally called the “Vienna Circle” is not just a cluster of theses all in agreement - in fact, divisions and disagreements among its members are the very mark of the movement - but, above all, an attitude towards the world, especially in the case of Neurath.

For Stadler, in accordance with the hypothesis of this article, it is necessary to take into account that the movement developed “in the middle of the permanent crisis of philosophy between reform and revolution in society and Science.” (2010, 13) Moreover, according to Stadler, another extra-theoretical aspect is fundamental to the understanding of his theses, namely, the wide range of international contacts that Hempel maintained for more than twenty years. This network made it possible for Hempel, from Berlin, to join his Viennese colleagues in a network of wide circulation that mainly connected England, Scandinavia and the United States to Germany. In this way, “the Vienna Circle did not represent the static, homogeneous school of philosophy, with one dominant figure, one main work and basic dogmas,” (2010, 17) but was effectively a program.

Ricoeur’s reference to the tradition of the Vienna Circle is an important source for the argument of this article. Although the physicist Carl Hempel is bound to - or inspired by - the tradition of logical positivists, it is not possible to frame him tightly within the trenches of philosophers such as Carnap or Neurath, both for their theoretical positions and for the even more elementary fact that the so-called Vienna Circle and Berlin Circle was not a rigid organization. The Circle, as stated in the manifesto *The Scientific Conception of the World*, “is composed of people who united the same fundamental scientific attitude,” (Soulez 1985) one that placed itself not only alien to metaphysics but against it. Another caveat is that the articles that are the subject of this article are not, in consonance with Hempel’s own theoretical hypothesis, dogmatic treatises, but rather a set of hypotheses to be verified. In this sense, they appear here more as illustrations of a “scientific conception of the world” than as a watertight theoretical hypothesis. I will be focusing on two contributions made by Hempel to the discussion of the scientific nature of history. As Nelson Boeira (Malerba 2010) points out, the publication of these texts began a long discussion in the field of analytic philosophy. As such, it should be noted that even if Hempel’s warning was not heard by historians, it was still fundamental to inaugurate a wave of reflections on the history that soon involved names like Ernst Nagel, (1979), William Dray (1957) and Artur Danto. The two Hempel texts that will be analyzed in what follows are the “Explanation in Science and

⁸ Galison, Peter. 1990. *Logical positivism and Architectural modernism*. Critical inquiry, 16, 1990, 710. Peter Galison, for example, goes through a kind of elective affinity between the ‘visible forms’ of Bauhaus architecture and the ‘visible forms’ of logical positivism. On that occasion he starts from a speech of Carnap’s in 1929, in an event on the Bauhaus movement, titled Science and Life. For Galison the two movements had in common a hostility to the religious right, nationalism and anthroposophy. Thus, by the systematicity of form, both platforms intended to “guarantee the exclusion of the decorative, mystical or metaphysical” (1990, 710).

History” published in 1962 and “The Function of General Laws in History”, published in the *Journal of Philosophy* in 1942.

The central problem of these discussions, the unity of the sciences, is described by Holton as “the most ancient dream of natural philosophy” (Holton 2010, 27) Nevertheless, just as Hempel’s connection with the Vienna Circle is not unilateral, the very definition of what would become the unity of the sciences among the group was not consensual. In the discussion of the Circle - especially between Schlick, Neurath, and Carnap - there were two versions of the debate on the unity of the sciences: methodologically, in what Holton calls a ‘weak thesis,’ there is consensus. The weak thesis says that “explanation contests in the subsumption of a given phenomenon under general law, whereas understanding is accomplished through a process often called empathy.” (Uebel 2007, 10) All a priori synthetic knowledge and all factual knowledge that is not empirical is rejected. On the other hand, the strong thesis of unity, defended by Carnap, despite Neurath’s occasional protests, would have a linguistic character: “all objects of scientific knowledge could be comprehended by the same basic universal language.” (Uebel 2007, 10). In this sense, Hempel makes a movement to retake the strong sense of the theme of the unity of the sciences as Oppenheim and Putnam describe: “the laws of Science are not only reduced to the laws of some one discipline, but the laws of that discipline are in some intuitive sense unified or connected” (Oppenheimer e Putnam 1985, 11).

The proposal of this article is that, in defending the classification of the history in the role of the empirical sciences, Hempel stands fractally in the middle of a debate in the Vienna Circle. This debate, according to Friedman (2000) is foundational in the history of the group, and has several branches. First, the debate over the protocol sentences that had, on the one hand Schlick and on the other, Carnap and Neurath and, not least, the debate on the definition of science that opposes Carnap (science as a system of knowledge) and Neurath (science as attitude). If we look closely, we can find a similarity between Neurath’s definition of scientificity of history and that found in the *Annales* - that the scientificity was appropriated in the practice of the historian. To Neurath, after all, the unity of the sciences was not based on a linguistic apriorism: “Not Science on its own an abstract system of thought, but Science in the hands of the social technician, who can orchestrate the different systems of knowledge to build new social orders.” (Catwright 1996, 15). Moreover, the unity of science that sews its theses is not that of the empirical sciences, but that of the social sciences, unified by the object. Thus, before being an epistemological question, the unity that can be head *est celle de la vie*. In Revel’s synthesis, “let us remember that it must be done in the name of the concrete against the schematism, the temptation of abstraction” (Revel 1979, 1366). The *Annales* make an approximation with approaches such as geography and sociology: for the *Annales* the referent of unification is not a method, but an object—man (1979, 1372). The fact that Hempel has positioned himself on this issue alongside Carnap and contrary to the claims of the Viennese sociologist informs us of the subsequent tension between his theses and those of the *Annales*.

Carl Hempel was born in Germany in 1905. He studied mathematics with Hilbert and logic with Behmann in Gottingen. In 1924 he met with Reichenbach and Neuman, who were responsible - especially the former - for his contact with the Vienna empiricists. In 1929, he moved to the Austrian capital, where he started working with Carnap and Neurath. He dedicated himself to the development of the deductive nomological system and the study of probabilities. In 1937, with the help of Reichenbach, he moved to the United States where their collaboration would continue until the end of Carnap’s life. In this sense, according to Friedman, Hempel is neither more nor less an outsider than the other members of the group, precisely because of the fluid character of the association. Accordingly, we ought to remember that the group functioned as a meeting of debates, especially in its early stages, in the early 1920s (Malherbe, 1974).

Leaving aside these extra-theoretical conditions, I will now make a brief presentation of Hempel's thesis on the scientificity of history. In "The Function of General Laws in History", Hempel maintains that, in general, one tends to think that history – unlike the natural sciences – works only with particular events and not with the search for general laws that govern these facts. In his terms:

the following considerations are an attempt to substantiate this point by showing in some detail that general laws have quite analogous functions in history and in the natural sciences, that they form an indispensable instrument of historical research, and that they even constitute the common basis of various procedures which are often considered as characteristic of the social in contradistinction to the natural sciences. (Hempel 1942, 39)

Hempel describes this common denominator, the General Law, as a universal convention capable of empirical confirmation. In the natural sciences, he goes on to say, the function of general laws is to connect events into patterns – and that is generally understood as explanation and prediction. The explanation of a phenomenon E (effect) at a certain point in time and space is usually expressed in relation to the determinant causal facts (C) of E. In formal terms, the procedure would be: a. One observes the occurrence of certain events in a certain time-space: C₁, C₂, C ... b. A set of universal assumptions suggests that, c. The incidence of events can be reasonably confirmed empirically and then d. The predictive sentence of the occurrence of the event (E) can be deduced.

In the activity of physicists, which is informed by a rigid division of research work, Hempel points out a first group is responsible for describing the boundary conditions of the occurrence of C, the "determining conditions" for the event to be explained. A second group is dedicated to the application of the general laws on which the explanation is based. Considering this division of labor, and the limitations it imposes, Hempel argues that the full explanation of an individual event would require knowledge of all the properties involved, which is an impossible task. Yet, in his words "there is no difference, in this respect, between history and the natural sciences: both can give an account of their subject-matter only in terms of general concepts, and history can grasp the unique individuality of its objects of study no more and no less than can physics or chemistry." (1942, 37). Therefore, the specificities of the historical object do not justify skepticism about the applicability of the natural sciences method to it.

For Hempel, what distinguishes science from pseudoscience is the use of universal explanatory hypotheses as explanatory principles and not, as suggested above, the possible degrees of generalization. Concerning the predictive dimension of science, Hempel states that the derivation of a future event from the combination of A and B is nothing other than the explanation itself, since it also involves the reference to a universal empirical hypothesis. The difference between prediction and explanation would then be only pragmatic. In the case of explanation the final event is known, and its determinant conditions are investigated; in the case of prediction, the initial conditions are given, and the effect is investigated. Therefore, the explanation can only be good if it can be converted into a prediction. In his terms,

Historical explanation also aims at showing that the event in question was not a 'matter of chance', but was to be expected in view of certain antecedents or simultaneous conditions. The expectation referred to is not prophecy or divination, but rational scientific anticipation which rests on the assumptions of general laws (Hempel 1942, 39).

In Hempel's reading, the explanations by motivation in history, which he diagnoses as one of the most common, assume a kind of tacit behavior, taken for obvious to any person:

the presupposition of general laws. An example would be to say that the Hindus migrated to California in search of better living conditions: in this case, it is necessary to suppose a priori the general law that people move in search of better conditions and, therefore,

all of [these explanations] rest on the assumption of universal hypotheses, which connect certain characteristic of individual or group life with others, but in many cases, the content of hypotheses which are tacitly assumed in a given explanation can be reconstructed only quite approximately. (Hempel 1942, 40)

This point of Hempel's argument will be best developed in the 1962 article, where he exposes the classical modes of historical explanation. Hempel concludes his explanation by stating that even the probabilistic analyses that inform the historical method are, as in the case of the natural sciences, based on the Universal Laws. In short, it is a matter of inserting an evolutionary perspective into the sciences, one which is not very different from that perspective which sees the "humanities" as a kind of pre-paradigmatic childhood.

Hempel dedicates the end of his article to this theme of pseudo-explanations. He stands head-on against an "empathic method," quite in line with the already-mentioned "scientific conception of the world" of his fellow scholars in Vienna. He argues that the method for understanding must be separate from scientific understanding itself. Because history is an empirical science, the explanation it offers cannot be one of understanding, but must be instead deduced from general laws. For Hempel, when one is faced with the impossibility of a total reconstitution of an event, what is designated as relevant to the explanation is not a matter of the historian's value, but is an objective question linked to the causal needs of the explanation. "The elaboration of such laws with as much precision as possible seems clearly to be the direction in which progress in scientific explanation and understanding has been sought" (Hempel 1942, 47). In conclusion, Hempel assumes that analogies with the natural sciences are present in every procedure of historical explanation, and thus the search for historical laws will not set it apart it from other sciences, but will link it to them methodologically.

12

In *Explanation in Science and History*, 1962, Hempel presents two typical methods of the natural sciences, the nomological-deductive and the probabilistic-inductive methods. Hempel states that the deductive-nomological explanation operates within the following reasoning: an event has the possibility of being explained when it sees explanatory facts—an analysis of the event circumscribed by the uniformity of general laws, such as 'it rained and wet my hand.' In this case, for example, the uniformity of the law would be that rain is wet, a prior condition without which the event itself of it wetting my hand would not be possible. Hempel's warning, however, is directed at the fact that most generalizations of history are loose and therefore fit into elliptic or partial explanations, thus supporting the basic assertion that history would be in an evolutionary stage prior to the hard sciences. An example of such looseness would be the acceptance that under certain conditions men act in a particular kind of way: for Hempel such inferences are nomological, although not explicit, for they are based on principles.

The genetic explanation presented above would be typical of history, which is recognized by historians as their territory, namely the sequential ordering of stages of events (Hempel, 1962). Nevertheless, they assume very extensive causal derivations, such as the tracing of the concept of indulgence since the ninth century. In this perspective, Hempel maintains, each stage can be shown in its connection with the others "and thus be linked to its successor by virtue of some general principle which makes the occurrence of the latter at least reasonably probable, given the former." (Hempel 1962, 23). That is to say, "the nature of understanding, in the sense in which explanation is meant to give an understanding of empirical phenomena, is basically the same in all areas of scientific inquiry;" (Hempel 1962, 41) the methodological unit of the empirical sciences is established in a prospective way.

Why it is not About Establishing Winners

First, it is noted that Hempel does not endorse the idea that the subjectivity of the historian is positively involved in the construction of the object, an idea which structures the *Annales*. According to Bloch, while the historian is involved in the construction of his object (regressive method), for Hempel, whether or not a scientist deliberately introduces mechanisms to combat the value component in his object, he is not doing science, not even very bad science, but only pseudo-science. Nevertheless, Hempel's basic premise, that of the existence of laws identifiable in history, is frankly hostile to the revision of positivism operated by French historians. Still according to Bloch, that causal laws are a 'constant of the human spirit' does not mean that we must immediately accept them as an explanatory criterion. Another point of tension between the two authors concerns the genetic method. If, in Hempel, it appears as the standard procedure of historical inquiry, for Bloch, it reflects a damaging "obsession with origins" which confuses, at the very least, affiliation with explanation.

Disagreement would not be a significant finding in itself if both hypotheses were analyzed only in their internal, uniquely cognitive aspect. And that is because the coexistence of two theoretical traditions is not necessarily proof beyond reasonable doubt in the intellectual field. Moreover, it is not possible to suppose that two disciplines so traditionally careful with their methods, History and Philosophy, should agree on anything - especially in the case of the *Annales* and the analytic tradition, since, strictly speaking, the former was born in conflict with the Comtean positivist tradition which in some ways informed the corollary of the scientific conception of the world. However, it is about more than a debate between theses since, for the *Annales*, it is a question of elaborating a program for the office of the historian, bearing in mind all specificities which sets it apart from the other disciplines of the humanities. Following Hempel's tradition we have an ambition of another order, much broader and totalizing, namely to define and reiterate, with the example of history, the methodological unity of the empirical sciences (Holton 208). Thus, the very existence of the *Annales* depends on overcoming this unity in the name of disciplinary specificities. Such a pretension for the unity of the empirical sciences could be compared, in the field of history, with that of orthodox Marxism, a point of view which is not by chance also challenged by the *Annales*, for the *Annales* worked to establish the frontiers of history against the other sciences in terms of method of work, and not of holistic bets on social life. Thus, the *Annales* theses stand in opposition not only to Hempel's theses, but to a broad project, which, according to their own signatories, is more than a set of theses, but concern an attitude towards life: "thus the efforts made to reorganize economic and social relations, to unify humanity, to renew school and to education, are closely linked to the scientific conception of the world" (Soulez 2085).

According to Malherbe (1974) some of the main points of the worldwide scientific conception are the discussions about the tautological character of mathematical propositions, the reducibility of science to elementary statements of physics, the lack of meaning of metaphysical propositions, and philosophy as a synthesis of language, based on Hempel's theses on the unity of empirical sciences. In his terms, "The will to demonstrate which propositions of all sciences are translatable into a threshold and even universal language (...) is a constant concern of the Vienna Circle." (1974, 565) In any case, "Hempel does not intend to prejudice history by doing so. On the contrary, by attributing such a high ideal, one recognizes its ambition to be recognized as a science and not as an art" (Ricoeur 1991, 189) Two meanings of objectivity are disputed in such a way that, as Tournier (1988) says, history must depart from this search for scientificity in order to be scientific. Hence, in the policy of all-encompassing alliances that lay in the post-war period, with the emergent and powerful social sciences, history found itself in an ambiguous situation, at least in its French historiographical formulation: on the one hand, the analytical tradition offered the possibility of it being considered effectively scientific, and able to take advantage of the

symbolic prosecution that such status provided. In turn, by denying to think of history as an exclusively empirical science and approaching the social sciences – a move effectively undertaken by the *Annales* – French university history helps to develop a separation that still has its origin in the first decades of the nineteenth century, as I have insisted. We thus see the division between a worldwide humanistic conception – full of social and political content – and a scientific conception which geographically moves from England and Vienna towards the United States, where it could find very fertile ground.

The fact that Hempel's analysis of the historical method is linked to a tradition that proposes a worldview beyond theoretical discussions – the historical condition of the debatable – is linked to the fact that the philosopher who talks about history safeguards the treasury of philosophical universality in terms of disciplinary legitimacy. In view of this change in the intellectual attitude that characterizes the 1940s and 1950s, I propose that the thesis present in Hempel's discussion was not rejected in the context of a specific theoretical struggle, but was rejected in the basic theoretical premises that the *Annales* were already using in the critique of the Comtean epistemology that informed their intellectual attitude. In this regard, it is not the logical considerations of Hempel's text that confront the French school's project, but rather the much broader initiative, in the field of analytical philosophy, to frame the methodological unity of the empirical sciences. Jacques Le Goff, in Bloch's Preface to *Apology of History*, even says that, for Bloch, the problem of history is also intellectual, scientific civic and moral (Le Goff 2011). Although Hempel's text is not the only one to confront the *Annales*, it is exemplary in how it touches on the latent point of the group's hypothesis, i.e., the specificity of the historian's work and the boundaries of the historical discipline, unwilling to yield an inch of the territory of his practice or his theory for the universalizing pretensions of analytic philosophy.

This debate points to a phenomenon also described by Pierre Bourdieu: the fact that disciplinary disputes are also disputes over certain orders of excellence. Referring to Philosophy and Mathematics, for example, he points out that “The major differences between the two types have to do with indices of the modality of their relationship to what it means to be educated” (Bourdieu 1996, 11), Hempel's activity as a representative of a specific intellectual tradition, which comprises a theoretical corollary but also an *ethos* and a *hexis*, and not only its theoretical premises, thus reveals, when understood in relation to his *Annales* contemporaries, a conflict between two sets of academic virtues, or, in Bourdieu's terms, two ways of being educated.

The hypothesis, then, is that, especially in the case of this debate of the 40s and 50s, the internal tensions between movements, the specificities of the theoretical positions and, above all, the quarrels about the demarcation of science can be captured from a transversal view. This view considers, in addition to the question-begging issues, the disciplinary and institutional *aggiornamentos* that condition the strategies of the thinkers. The scientific attitude – or, in Paul's (2011) terms, this set of epistemic virtues – connects the demand of the *Annales* with that of Neurath, and at the same time distances it from the Carnapian tendency of the movement, which, from the time of its arrival in the United States in the 1950s, is frankly hegemonic. Yet, it is worth remembering that the humanities are always faced with peremptory methodological exclusions, “in other words, these epistemologists propose (and propose to us) to fix the use of the word ‘science’ by terminological stipulations” (Tournier 1988, 87). Analyzing critically logical positivism's attempt of speaking to historians, Tournier touches on a sensitive point of Hempel's analysis: “Hempel associates the logical structure of a speech with the truth of its content, that is to say with the authenticity of the information that it conveys, and we now have to determine the logical status of this association” (Tournier 1988, 91-92). Thus, the absence of the possible conditions of interlocution between the *Annales* and Hempel's theses also responds to the fact that “historians question the usefulness of empirical limitation of the word ‘Science’

which prevents them from organizing to discourse more appropriate to their purpose” (Tournier 1998, 97)

In this sense, the intellectual project of the *Annales* is incompatible with the project of the ‘scientific conception of the world,’ although this non-communication is not an obvious fact. Instead, it is precisely a matter that can be analyzed by an intellectual history attentive to the continental circulation of this debate. In short, the two perspectives do not agree on the subject of disagreement, and do not have the historical condition for the discussion. In this sense, I argue that the absence of this condition means that it is not simply a debate of theses, traceable in terms of exclusively internal analysis of the arguments; it is also a confrontation of intellectual projects. In this respect, the disagreement about the scientific nature of history in the context of the 1940s and 1950s is enriched when considered at three levels: (1) the necessary combination of the theses, (2) the analysis of the institutional mechanisms that operate the debate, and (3) the reflection on the intellectual attitudes in question, which touch on the most sensitive point of the debate, namely the redefinition of the role of the scientist and the intellectual at stake in this context. These dimensions are not in a causal hierarchy, they are also heuristic assumptions.

In terms of a strict argument, the theses clash with respect to the existence of laws and to the role of the historian in the subjective construction of the object, although they are in tune with the scientific character of history. Institutionally, those theses are opposed to one another with regard to their methodological generalization of the humanities. The project of this particular logical positivism advocates the universality of the method of the empirical sciences, while the *Annales*, in defending disciplinary collaboration, attests to the prior necessity of the specificity of procedures. The *Annales* defense is a defense of the boundaries of history, the opposite of its dissolution in the plasma of the “empirical sciences,” as Hempel proposed. However, in the definition of the scientist, the distinction is even more evident. On the one hand, the tradition inspired by the positivists of Vienna supports a project of scientific universality where the historian appears as a neutral scientist to the same extent as a physicist or a chemist. On the other, in the hypothesis of the *Annales* the work of the scientist is defined by practice—by the strict revision of past forms of organization—a position that ignores precisely the value neutrality that defines the enterprise pattern of analytical philosophy.

In this sense, one may consider that when William Dray published *Laws and Explanation in History*, in 1957, from an intellectual standpoint closer to the tradition of analytic philosophy than to the *Annales* (although theoretically opposed to the positivist tradition), Hempel’s discussions are taken up and overturned within the context of cognitive elaboration, and not in the clash between distinct intellectual projects. Thus, in Dray’s case, there is agreement in the disagreement that allows the theses to be strictly considered, since it is the same “intellectual project” in which Hempel invested – namely, the idea that history is an empirical science, and in this sense the internal debate of arguments has prominence over the conflict of worldviews.

Considering, therefore, the extra-theoretical dimensions that lead to the acceptance of one or the other analytical perspective, this article sought to discuss how intellectual clashes can be recovered in their multipurpose levels. Understanding the fact that theses such as Hempel’s were not considered by the field of history implies that a project of definition of the scope of science is not only implicit, but also operative, in the elaboration of theses. As I have tried to demonstrate it is not a question of ignoring the internal disagreements of the arguments, but, on the contrary, it is a matter of comparing them along with the historical conditions of possibility of the discussion itself, in its institutional and political aspects.

In the historiographical tradition, if it is an almost tautological statement that assumes the relationship between the context of production of a work, its circulation and the meaning it acquires from these instances, this dimension is often concealed from philosophical

reflection. This explains not only a certain lack of mutual understanding between disciplines, but also the fact that the debate which is able to connect the Annales tradition with the Vienna tradition - namely, the discussion on the unity of the sciences and the scientificity of history - has been systematically passed over in the name of an analysis focused only on correcting the theses themselves. The aim of this article was to insert this debate into a broader controversy, which is concerned with the disciplinary adaptations that the intellectual field of the 1950s goes through.

From this perspective, the two viewpoints of the scientificity of history that lead to the debate that I have proposed to draw become significant for thinking not only about the empirical character of history, but also about the disciplinary disputes between History and Philosophy and more broadly about the oscillations over the extra-theoretical demands that formed the role of the scientist throughout the 1940s and 1950s. This extra-theoretical dimension is concerned, above all, with the tensions between the disciplines and the accommodations that occur between their main schools in a context of change in the institutional universe of the humanities. This point of view, open to a conceptual analysis of conflicts, is based on the assertion – which has been so well explored by Karl Mannheim (1971) – that what is being defended is not only theses but also – always and at the same time – a world where theses are at home.

Conclusion

This article, in summary, began with the historicalization of some founding aspects of the discussion on the scientificity of history, which have made up the history of this disciplinary field since its institutional foundation. He then presented some protagonists of this debate in the first decades of the 20th century, the so-called Vienna School. It then put into dialogue the logical-empiricist tradition of Vienna with the debate on the scientificity of history carried out by the Annales School, dominant in the French field in the 1940s and 1950s. From the comparison of these two positions, we propose that the theoretical debate on the relations between history and science did not occur only at the level of the internal conflict of theses, but above all from disciplinary rearrangements that provide the framework for the institutional environment in which scientificity is defined, namely, the set of practical attributes about *what a scientist should be*.

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