The downfall of certainty: the crisis of rationality and science in the writings of Henri Lefebvre, a first approach.

A queda da certeza: a crise da racionalidade e da ciência nos escritos de Henri Lefebvre, uma primeira abordagem.

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Abstract

This article provides an initial exploration of the writings of the French Marxist philosopher Henri Lefebvre concerning the problem of rationality and science. It begins by establishing the historical context in which these reflections emerged as well as the philosophical and social dilemmas they sought to address, notably the crisis of rationality as part of the broader crisis of European civilization in the interwar period. Lefebvre's critique of traditional philosophy, developed in the 1920s, is presented as a philosophical response to the problems of modern rationality, later superseded by a distinctly Marxist formulation rooted in the framework of dialectical materialism being developed within French Marxism. Lastly, the article explores the broader implications of Lefebvre's approach for understanding the need to critique and revitalize modern rationality through his investigations into Logic and Methodology.

Keywords

Henri Lefebvre, Dialectical Materialism, Rationality, Science Crisis, French Marxism.

JEL Codes: B31, B24, B51, P10, P16.

Resumo

Esse artigo se apresenta como uma primeira aproximação aos escritos do filósofo marxista francês Henri Lefebvre acerca do problema da racionalidade e da ciência. Busca-se, em um primeiro momento, estabelecer o contexto histórico no qual tais reflexões se inserem e os dilemas filosóficos e sociais que procuram responder, a saber a crise da racionalidade e sua relação com a crise geral da civilização europeia no período do entreguerras. Na sequência apresenta-se a crítica à filosofia tradicional desenvolvida por Lefebvre ao longo da década de 1920 como a forma filosófica da problemática da racionalidade moderna que é, logo em seguida, superada por uma formulação propriamente marxista a partir do arcabouço do desenvolvimento do materialismo dialético dentro do marxismo francês. Por fim, explora-se as repercussões gerais dessa démarche para a compreensão de Lefebvre da necessidade de crítica e revitalização da racionalidade moderna a partir das investigações sobre a Lógica e a Metodologia.

Palavras-chave

Henri Lefebvre, Materialismo Dialético, Racionalidade, Crise das Ciências, Marxismo Francês.

Códigos JEL: *B31*, *B24*, *B51*, *P10*, *P16*.

1 Introduction

The European society that emerged after the end of the First World War found itself entrenched in a profound civilizational crisis of a radical nature. This not only meant conflicts, ruptures, and challenges to be overcome but, above all, the perception that traditional answers were no longer sufficient or valid. Paul Valéry encapsulated this overarching civilizational crisis with the concept of the crisis of the Spirit ("la crise du Esprit"), denoting a comprehensive breakdown of the fundamental principles that had hitherto guided European civilization (Burkhard, 2000). Every aspect of Western life was called into question: economic, political, cultural, linguistic, and scientific foundations called for radical reformulation, leading to the emergence of numerous revolutionary projects, among which the Bolshevik revolution was just one possibility.

As mentioned, science was not immune to this trend, and, alongside philosophy, its foundations, purpose, and institutions faced scrutiny from a questioning younger generation. The notion that science and philosophy were intended to serve as guardians and catalysts of Truth and Good, forming the main pillars of a society grounded in Justice and Equality, was no longer widely accepted as it seemed to have been at the end of the 19th century (Winock, 1999; Ory; Sirinelli, 2002). The traditional answers, stemming from both conservative and liberal perspectives, no longer resonated with the aspirations and needs of the 1920s generation. They all came under distrust, demanding entirely new approaches.

It is important to note, however, that this did not necessarily entail an outright rejection and abandonment of the civilizing project. The critique that science and philosophy were no longer capable of pursuing Truth, Justice, and Good did not result in a renunciation of the very possibility of these universals. For part of the 1920s avant-garde, it was a matter of redefining and reorienting efforts, rather than abandoning them altogether. In short, the critique of science and philosophy did not manifest as an absolute negation of both.

Thus, the scenario of acute crises in interwar European society nurtured a cultural response emphasizing societal openness, embracing uncertainty and creativity over the old model of determinism and stability. Undoubtedly, it was an anxious context, but also one conducive to exploring new ideas, concepts, practices, and ways of being and thinking about the world and society. The foundations of society were no longer solid¹, and the possibility of the new was on the horizon.

¹ One could argue that the very experience of modernity is rooted in this lack of a solid foundation. Modernity, historically defined as the critique of the absolute values and principles of pre-bourgeois society (Berman, 2007), is characterized by constant change. In this context, crises and revolutionary projects should not come as a surprise to the modern individual.

This paper aims to explore this context from the perspective of the writings of Henri Lefebvre in the interwar period and immediately after the end of the Second World War focusing on his critique of traditional philosophy and science, as well as his call for a renewal of both from a Marxist perspective. It starts with an evaluation of the sources of the philosophical-scientific crises of the interwar period in France, focusing on the main contradictions fueling their rejection by the young avant-garde generation. It proceeds to explore the evolution of the critique of traditional French philosophy, culminating in a Marxist re-appropriation of Hegel by Henri Lefebvre and his colleagues in the *Philosophies* group. Finally, it delves into the implications of such a philosophical trajectory and background for the critique of the traditional scientific paradigm and its potential renewal through dialectics — an endeavor not limited to the thoughts of Henri Lefebvre but also resonating with the efforts of the French scientific group known as La Cercle de la Russie Neuve. In summary, the proposed aim of the paper is to understand how Lefebvre sought to address the critique of science in the interwar period thorough the mediation of the renewal of marxist-hegelian dialectics.

2 Aspects of the scientific crisis in the French interwar period

Although the crisis of the Spirit refers to a feeling of total disbelief among the French and European youth in the 1920s, the crisis of rationality is not merely another dimension of this phenomenon, but rather a defining one. This makes the crisis of Science and Philosophy not just another aspect to be considered alongside politics and economy, but a revealing symptom of a much more structural change. It is for this reason that Edmund Husserl, in 1936, takes the crisis of the European sciences as a privileged point of departure to understand the misadventures of interwar European society as a whole.

Husserl (2012) argues that the crisis of European sciences is not merely an epistemological issue but an existential one. Reason – either in its philosophical, scientifical or technical form – is central to the very definition of European civilization; it is the foundation upon which Europe has built its specificity and universality as a civilizational project. On one hand, being rational and establishing rationality in the world gives meaning to the Western civilizational project rooted in Greek thought. Thus, rational and increasingly in-depth knowledge of the world is not merely a form of objective understanding but also a means of self-constitution for

the subject. The expansion of the sphere of rationality gives purpose to social effort beyond mere technical advancement. On the other hand, the assumption of the capacity for rational development ensures a universality capable of overcoming any cultural, geographical, or personal particularism. Rationality functions – whether ideologically or not – as a common ground from which it is possible to establish a shared civilizational project.

For the primal establishment of the new philosophy is, according to what was said earlier, the primal establishment of modern European humanity itself—humanity which seeks to renew itself radically, as against the foregoing medieval and ancient age, precisely and only through its new philosophy. Thus, the crisis of philosophy implies the crisis of all modern sciences as members of the philosophical universe: at first a latent, then a more and more prominent crisis of European humanity itself in respect to the total meaningfulness of its cultural life, its total 'Existenz'. (Husserl, 1970, p. 12).

Insisting that the expansion of rationality in the world must have a foundation and a purpose is not merely a willful imposition. It is essential to emphasize that the advancement of rationality in and about the world is also the privileged means of constituting the subject in relation to the world and to themselves. Being a subject within Western civilization involves the capacity for self-knowledge and self-reflection: rational consideration of the world should give rise to rational self-consciousness. When one of these poles ceases to nourish the other, regardless of how developed it becomes, it opens the possibility of an identity crisis, an existential crisis, not only for individualized subjects but for subjectivity as a whole, and thus, for the very meaning of the civilizational project itself. When the development of knowledge ceases to provide self-awareness and meaning, the possibility of crisis arises. It is for not paying attention to the importance of those broader meanings of rationality, that scientific knowledge and technical advancements could be at their peak in development and, at the same time, in crisis. In summary, for Husserl (2012) the foundation of the crisis of sciences is the loss of their significance for life, for the web of significances and intentionalities for the pre-scientific subject.2

From a less abstract perspective, the crisis of the sciences stemming from the contradiction between the development of scientific knowledge and the existential

² It is remarkable how convergent the diagnosis of Lefebvre and Husserl seem to be, but it is outside the scope of this paper to explore in depth the position of Husserl (specially his proposed solution) and/ or to make comparisons with that of Lefebvre. Even so, Husserl seems to clarify the problematic in a way that is a crucial and unavoidable point of departure.

significance of rationality for European society, can also be appreciated through the sociocultural consequences and traumas of the First World War. The outbreak of the Great War and the involvement of intellectuals and scientists in it tainted the position of neutrality, reasonableness, superiority and disinterest that should, allegedly, guide the scientific endeavor. As Rasmussen (2004) suggests for the French milieu, intellectuals' participation in the ideological mobilization for war was discursively driven by the imperative of a pretentious rational public engagement resulting in an image of the Great War epitomized as a struggle between truth and falsehood. The German scientific community was perceived as betraying the universal principle of rigorous scientific inquiry, instead favoring the defense of nationalist interests and wielding scientific authority in service of violence. The grand project of a European scientific community united for the betterment of civilization was shattered amidst a competition for national scientific supremacy. Despite the French belief that their involvement was motivated by a commitment to science itself rather than a patriotic impulse for national defense, the war undermined the integrity of scientific pursuit and revealed the dark side of intellectual engagement in wartime ideologies.

Even cloaked in the guise of neutrality, French intellectuals and scientists could not ignore the undeniable reality that their ideological interventions and technical innovations served one of the greatest bloodsheds experienced by European society. Efforts once perceived as serving the advancement of humanity were effectively utilized as fuel in the escalation of aggression and violence on the battlefields. Only through the most advanced technological advancements and tightly controlled ideological propaganda could such a scale of destruction persist for such an extended period (Gutheblen, 2014). There is no denying the unprecedented and significant role played by science and intellectuality in the horrors of the Great War, and no epistemologically sanctified image of neutrality could conceal it from the massacred generation or the subsequent one in the 1920s.

Paradoxically, a second more concrete instance of this progressive detachment between reason and its meanings for the concrete subjects comes from the very development of specialized science. Henri Lefebvre, for instance, contended that even the development of what he calls "liberal social sciences" at the outset of the 20th century was already challenging the ideological notion of the autonomous self-determination of the individual (Guterman; Lefebvre, 1933). In his view, both Sociology, with its concept of cultural inherence, and Psychoanalysis, emphasizing the role of the unconscious in individual behavior, were already highlighting the ontological, epistemological, and political inadequacies of the

"individual" as a concept. That fundamental notion, provided by reason itself in a first moment, was decomposing in face of the everyday concrete experience under capitalism – progressively dominated by the class point of view – but also by the development of social sciences, deepening the gap between scientific idealized forms and the lived experience, and leaving the bourgeoisie character without a rational framework to make sense of its own experience (Guterman; Lefebvre, 1933).

Beyond the humanities, significant changes that questioned the foundational frameworks upon which scientific practices were built were occurring within the natural sciences. The Heisenberg Uncertainty Principle of 1927 and Gödel's Incompleteness Theorem of 1931 represent two breakthroughs in the hard sciences that seemed to challenge the assumptions of the epistemological and ontological structures governing the world around us. Specifically, they could undermine the notion that the world can be reduced to a closed system of well-defined mathematical determinations governing all relationships between its elements. As argued by Dotterer (1938), that opens the possibility of different forms of indeterminism that, in some degrees, would make any form of natural science or moral philosophy impossible, while in others, it would suggest the loosening of some of the strictest conditions of determinism, opening science up to unpredictable or random events. This transition could be interpreted as a shift from a static and formal worldview to the necessity of a more dynamic and fluid framework for knowledge production. Embracing the new scientific developments and advancing our understanding of the world requires a reimagining of the scientific endeavor and a reformulation of its foundational principles

In summary, the scenario that unfolds is one in which science and its underlying rationality progressively lose their role as legitimizers of the Western civilization project and, consequently, their ability to constitute subjects in relation to themselves and to the world. From a more concrete, social, and historical perspective, two foundational pillars of scientific and philosophical certainty in a traditional sense are being challenged: : (a) the belief in ahistorical and epistemological neutrality for scientific and philosophical inquiry in face of concrete practices of scientists and philosophers and their corresponding political consequences; (b) the emerging possibility of the incompleteness of the rational paradigm that has governed the scientific framework, stressed by the very scientific practice and developments. The next section seeks to explore how the early writings of Henri Lefebvre in the interwar and immediate post war period could be better

understood through the lens of this intellectual and civilization crisis and how they could be interpreted as an attempt, from a Marxist framework, to address the philosophical and scientific dilemmas arising from the erosion of the established rationality certainty.

3 Dialectics and the renewal of rationality

Henri Lefebvre was a French philosopher (1901-1991) who is mostly known for his seminal work on urban studies, especially through the concepts of the Right to the City, Urban Revolution and the Production of Space from his writings in the late 1960s and early 1970s. The association of Lefebvre with critical thinking in urban political economy, geography and architecture is mostly a product of his reception and appropriation by the Anglo-Saxon intellectual milieu (Revol, 2011; 2012)³ and it could be argued that it has eclipsed other equally rich dimensions of his work.

Henri Lefebvre's intellectual production ranges from the critique of philosophy to the critique of everyday life (which is his second best known intellectual contribution), the development and dissemination of an unorthodox French Marxism (which included the translation of several unpublished materials from Marx, Engels, and Lenin in France); theoretical developments on the rise of fascism; sociological urban and rural studies; amongst others, spread out over his intense political commitment⁴ with his time throughout almost all of the 20th century.

Even with such an extensive and rich trajectory, studies that attempt a more comprehensive approach to his intellectual production⁵, especially from the perspective of Intellectual History⁶, are lacking. This leads to a paradoxical situation in which Lefebvre could be considered an illustrious unknown and important dimensions of his work remain barely touched upon (with some of

³ This does not mean that the centrality given to the urban theoretical framework developed by Lefebvre is merely circumstantial or misleading. In fact, the urban side of Lefebvre's work is one of its most interesting and novel contributions to critical thinking. The argument here is that a better comprehension of his thought, including his urban contributions, depends on a proper assessment of his intellectual trajectory as a whole.

⁴ Represented by his political activity at first as part of the intellectual avant-garde of the 1920s along with the Surrealism movement; as a member of the PCF, then as part of the French Resistance, later as a former member of the PCF and critic of the Party's political orthodoxy, and finally as one of the inspirations of the young generation of 1968 and its revolutionary attempts.

⁵ Aronowitz (2015) argues, for instance, that the fragmentation in the interpretation of Lefebvre's work is one of the main causes of misrecognition of his thought and the general objective of his intellectual endeavor.

⁶ For a formal definition of Intellectual History, see Cowan (2006) and Whatmore (2016).

his books not even receiving translations or newer editions). This is particularly true for the set of contributions highlighted in this article: some of them have received little to no attention in the assessment of Lefebvre's intellectual production or, regarding the better-known ones, efforts to reconnect them to a broader intellectual context in which they were produced, and to which they respond, are sparse.

It is important to acknowledge some of the efforts to present an overview of Lefebvre's intellectual production such as those of Hess (1988), which is the closest effort at biographical presentation of Lefebvre that exists, or Shields (1999), Elden (2004) and Merrifield (2006) who summarize key elements of the theoretical developments of Lefebvre. From a more historically oriented perspective, the contributions of Stanek (2014) can be highlighted; he aims to approach Lefebvre's theoretical contributions on space in the context of his intellectual production of the 1950s and 1960s, as well as from his Marxist and Hegelian heritage. But, more importantly, the efforts of Bud Burkhard and Michel Trebitsch stand out as the main sources of research on the life and work of Lefebvre in the interwar period. Burkhard (2000) presents a comprehensive narrative of the attempt at philosophical renewal made by Lefebvre and his Sorbonne colleagues in the mid-1920s, while Trebistch (1987; 1992; 1994; 1995; 1997) is more concerned with placing Lefebvre's contributions in the context of the broader intellectual community in the interwar period. By relying more on the group dynamics (in the case of Burkhard) or remaining fragmented and incomplete (regarding Trebistch), neither of these important efforts focus on the details of the collection of Lefebvre's writings under analysis in this paper, or highlight their connection with an attempt to address the societal crises through a renewal of philosophical and scientific rationality.⁷ In that sense, the contributions of Lefebvre to the critique of philosophy and to the development of dialectics remain, although recognized, underexplored and, more importantly, without a proper understanding of their relations to the broader social and intellectual context - Marxist or not - from which they emerge and which they sought to transform.8

⁷ Although it is important to recognize that Burkhard (2000) is aware of that connection and addresses it at least for a portion of Lefebvre's philosophical production in the mid-1920s.

⁸ The most common association between the writings of Lefebvre more closely related to the critique of science and the philosophy of science (like those under analysis in this paper) is with the context of Lysenkoism, as highlighted by Lewis (2021) and by Lefebvre himself (1969) in a late preface. Although they can certainly be appropriated as a critique of Lysenkoism, it seems unlike that they were written with this problematic in mind, as the practices put forward by Trofim Lysenko only gain strength after 1948 (Gordin, 2022). This, however, remains as a future research agenda.

Since his early philosophical writings, Henri Lefebvre and his colleagues in the *Philosophies*⁹ group were confronted with what they identified as the crisis of traditional philosophy. They observed that philosophical thought had become excessively abstract, detached from the concrete societal issues, and immersed in purely metaphysical formulations centered on a rigid dichotomy between the Subject (rationality, consciousness, Self) and the Object (materiality, concreteness, Other). More than that, beyond merely an irreconcilable distinction between Subject and Object, traditional philosophy was characterized by the dominance of the former over the latter (Lefebvre, 1924; 1925; 1926).

In response, Lefebvre and his peers advocated for a renewal of philosophy based on the inherent relationship between Subject and Object, without one dominating the other. They emphasized the importance of embracing the call for Adventure and Action, stemming from an existing world outside of the self-sufficient thinking Self, which would allow for the exploration of new possibilities and the creation of something different. This philosophical trajectory led them away from formal rationality and resonated with the works of German idealism in the post-Kantian tradition, particularly Schelling and Hegel (Lefebvre, 1926b).

Here, we find a diagnosis of traditional philosophy and its underlying rationality, in a Lefebvrian form, which closely parallels, as we have seen, the critique Husserl would later develop. Notably, it involves the abstract idealization of the concrete world to the extent that reality itself is ostensibly replaced by its philosophical counterpart. Consequently, philosophy either attempts to solve insoluble questions within the very framework it has created or dwells on issues that have little relevance to the dilemmas faced by concrete historical subjects. The solution proposed by them, however, is not to abandon the philosophical endeavor but to renew it by reconnecting it with concreteness. Even so, their commitment to engaging with the world and effecting transformation demanded a more tangible interrelationship with the concrete than mere philosophical manifestos (Lefebvre, 1932). This realization prompted the group to dissolve itself into the French

⁹ The *Philosophies* was a group of friends and young philosophers from Sorbonne composed by Pierre Morhange, Georges Politzer, Georges Friedmann, Norbert Guterman, Henri Lefebvre and Paul Nizan. The group formally started its activities in 1924 with the publication of the revue *Philosophies* (which featured publications by its main members, but also by other young collaborators) that lasted until 1925. The revue *Philosophie* was followed by another publication, *L'Esprit*, that appeared in 1926 and 1927. The aim of both editorial efforts was the revolutionary renewal of philosophy and represented one of the many young avant-garde attempts to address the civilizational crisis in the French and European society of the 1920s (alongside, for instance, with the Surrealists and the young communists around the revue *Clarté*). The group officially self-diluted into the French Communist Party in 1929. For more details of the *Philosophies* endeavor, see Trebitsch (1987), Burkhard (2000) and Melo (2023).

Communist Party and to seek a solution for its theoretical dilemmas within the framework of Marxism.

Lefebvre's appropriation and interpretation of dialectics were thus influenced by both his philosophical developments and his political alignment with communism.

In their first proper Marxist publishing endeavor, *La Revue Marxiste*, Lefebvre and his friends found themselves at the forefront of theoretical developments in French Marxism after being acquainted with debates about the proper interpretation of Hegel's dialectics in Marxism, which were taking place in the USSR (Leckey, 1995). The chief editor and mentor of the publication, Charles Rappoport, had strong connections with David Riazanov, the leader of the Marx-Engels Institute in Moscow who was instrumental in providing access to previously unpublished and untranslated works from the early writings of Marx, such as the Economic-Philosophical Manuscripts of 1844 and the German Ideology. Additionally, materials like Lenin's notebooks on Hegel's dialectics were made available. Having access to such materials enabled Lefebvre to develop a Marxism that placed dialectics at its core, well before the distortions introduced by Stalinist versions of dialectical materialism in the late 1930s. ¹⁰

It is beyond the scope of this paper to delve into the intricacies of Henri Lefebvre's transition from his philosophical approach to a full-fledged Marxist one, or the implications of this transition on the critique of mystified consciousness and fascism (for what his 1930s´ intellectual production is better known). Rather, the focus here is to comprehend why Lefebvre advocated for a dialectical and materialist Marxist approach as a means to address the dilemmas surrounding science and rationality that permeated knowledge production during the interwar period.

For Lefebvre, the significance of dialectics for knowledge lies in the premise that knowledge must always stem from engagement with the concreteness of the world. This approach circumvents any form of metaphysical entrapment that predicates knowledge and rationality on the self-determined faculties of inner consciousness. Knowledge emerges from the mind's endeavor to grapple with the determinations emanating from the real world, rather than being an abstract exercise of an autonomous, self-propelling entity.

¹⁰ It is not possible in the scope of this article to present a detailed history of the endeavor of the *Revue Marxiste* or to proper demonstrate how the access of such a little know and unpublished material allowed Lefebvre to develop an innovative and particular form of Marxism at the same time that putted him and his friends at the head of a heterodox vanguard in the French and European Marxism. For a more detailed discussion, see Burkhard (1993; 1994; 2000), Cerqueira (2010) and Melo (2023).

So, it is possible to suggest that, although knowledge represents the concrete encapsulated in an abstract formalized form, the act of abstraction itself is not problematic: the issue arises when thought breaks its ties with the concrete world, becoming an insular and self-sustaining pursuit. Knowledge should continuously strive to apprehend the determinations and movements of concrete reality. This characteristic marks a materialistic approach to knowledge production. At this point, we find ourselves not too distant from traditional scientific assertions critiquing, for instance, the pure abstractions of philosophical reasoning. Science, at its core, emerged as a materialistic approach to reality.

However, materialistic scientific knowledge often relies on old mechanical materialism and is frequently grounded in three premises: (a) the assumption of stability in determinations and relations, establishing a systematic and atemporal view of reality; (b) the belief in the feasibility of independent and analytically well-defined fields of reality; (c) the reduction of rationality to formal logic, which entails the denial of the possibility of contradiction. Lefebvre would contend that this approach to knowledge production leaves it ill-equipped to grapple with both the totality of reality and the contradictory movement inherent in the concrete.

Contradiction, viewed as the primary impetus behind the necessity to seek new determinations of reality, underscores the importance of dialectics in understanding the world. Dialectics serves as the appropriate tool to recreate, within the realm of reasoning, the dynamic nature of reality, enabling a deeper comprehension beyond mere snapshots of each moment. It facilitates an understanding of the internal dynamics of change and provides insight into the existence and resolution of contradictions. Thus, the central issue becomes determining if and why contradiction is an inherent aspect of reality.

The crises and dilemmas experienced by scientific knowledge during the interwar period can be reframed in terms of contradictions: the contradiction between scientific values such as reason, truth, universality, neutrality, and the realities of scientific practice during the Great War; the contradiction between new scientific discoveries and traditional concepts, or even the entire conceptual framework of reality; the contradiction emerging between concepts and determinations within different fields of scientific knowledge that are becoming increasingly intertwined. In light of these contradictions, an approach grounded in dialectical materialism could offer new insights to navigate and ultimately overcome these complex situations.

Henri Lefebvre, alongside Norbert Guterman¹¹, articulates the potential of Hegelian dialectics within the Marxist materialist framework in their introduction to the translation of Lenin's notebooks on Hegel's Logic. This work sheds light on why dialectical materialism should be viewed as an enhanced form of modern rationality. Firstly, they emphasize the notion that dialectics encapsulates a proper theory of contradiction and the rational unity of contradiction. Rather than relegating contradiction to the realm of irrationality or absolute error, dialectics embraces contradiction as one of the determining moments of an object. Importantly, dialectical materialist contradiction cannot be the result of pure metaphysical conjecture but must emanate from concrete and historical reality (Guterman; Lefebvre, 1967). Derived from the restoration of contradiction within the theory of knowledge, there is also a reconsideration of the conception of falsehood and appearance, particularly in the dichotomies of true-false and essence-appearance.

According to them, falsehood and the unknown are viewed as moments of Truth, phases in the process of knowledge production. From the standpoint of knowledge as an ongoing pursuit of new concrete determinations, truth cannot be absolute but is always relative to a deeper comprehension of reality - which may also include, in a transformed form, what was once considered false. The notion of absolute Truth is thus conceptualized by Lefebvre as a limit toward which knowledge tends but never fully reaches. The criterion for veracity is not a fixed point but rather adherence to the endeavor of grappling with new determinations arising from the concrete.

Similarly, appearance is not diametrically opposed to essence, where the former is associated with error and the latter with substance. In the framework of dialectical materialism, essence encompasses the totality of determinations and manifestations of a given object of knowledge, while appearance is just one of those manifestations (Guterman; Lefebvre, 1967). Even if appearance may deviate ideologically from the totality of determinations, as Marx demonstrated with political economy categories, it maintains a connection with the concrete and may have an objective impact on social reality. Therefore, it cannot be simply dismissed as an error.

This brings us to the next set of advantages of dialectical reasoning: the totality perspective and the theory of dialectical overcoming. The notion of totality contrasts

¹¹ Norbert Guterman (1900-1984) was philosopher, prolific translator and close friend of Lefebvre. Part of the *Philosophies* group, Guterman had to exchange France for the United States after the political scandal of the end of the *Revue Marxiste*. That did not prevent both from establishing an intellectual contribution that resulted in several joint publications throughout the 1930s. Although better known for his translation works, it is likely that Guterman had a considerable impact on Lefebvre's intellectual trajectory, especially as especially as a mediator of the Lefebvrian appropriation of German critical thought of the time.

with the analytical perspective not in the sense that reality cannot be studied through specialized fields, but rather by emphasizing that each piece of reality cannot be fully understood outside of its relation to larger and larger totalities. Every aspect of reality presupposes the existence of other aspects within the same reality, and a deeper comprehension of each aspect can only be achieved by understanding its relations and determinations within the whole (Guterman; Lefebvre, 1967). Consequently, the identity of objects of knowledge cannot be attained through a logically reduced definition that isolates the object from all others. Instead, the identity of such objects can only be further elucidated through an ever-expanding set of determinations and relations to the totality (Guterman; Lefebvre, 1967).¹²

As stated by the authors, dialectical overcoming highlights the potential for the creation of dialectical reasoning. The productivity of knowledge lies not in the contradiction itself, but in its transcendence. Contradiction serves as the impetus for critique and negation, an intolerable state demanding resolution. The significance of contradiction and negation lies in the potential positivity they can engender. However, contradiction, negation, and overcoming are not abstract rules of reasoning or mere formal methodologies to be mechanically applied. They must embody the concrete practice of knowledge production, emerging from specific historical contexts and yielding tangible outcomes. Therefore, within dialectical materialism, there cannot be a universal form of contradiction or negation that abstractly leads to a complete denial of the world or the conclusion of total irrationality. Instead, there are specific manifestations of contradiction and concrete imperatives for negation. Simultaneously, dialectical overcoming and totality should not be conceived as a simple aggregation of isolated determinations external to one another. Rather, they represent an internal restructuring of our understanding of an object of knowledge, accompanied by a deeper and renewed integration of all preceding phases.

Lefebvre is not the sole figure addressing these issues from a Marxist and dialectical perspective. The Cercle de la Russie Neuve (CRN), for instance, was an initiative in the 1930s that brought together communist and non-communist intellectuals from various fields of knowledge who were interested in the study and dissemination of dialectical materialism in France (Gouarné, 2013; Carlino, 2015). Comprising members such as Henri Wallon, Auguste Cornu, Georges Friedmann, Jean Langevin, René Maublanc, among others, the group organized a series of

¹² It is crucial to emphasize that, unlike Hegelian closed totality, which tends towards a closed system of relations, the totality in dialectical materialism remains open. This openness stems from the fact that dialectical overcoming is never solely defined through logic but is instead the product of concrete social praxis.

conferences that culminated in the publication of two volumes of contributions from its members titled \grave{A} *la lumière du marxisme*. Similar to Lefebvre, the CRN explored the possibility of rejuvenating mechanical materialism through the appropriation of Hegelian dialectics and saw dialectical materialism as a means to explore new conceptual horizons and engage in theoretical experimentation (Carlino, 2015).

The efforts of the CRN encountered a critical juncture concerning the interpretation of the relationship between Hegelian dialectics and the nature of reality on one side, and between determinism in nature and determinism in the humanities on the other (Carlino, 2015). The evolution of this debate was influenced by the emergence of an orthodox doctrine propagated by the French Communist Party, particularly regarding the necessity of determinism in the social sciences for ideological purposes. At stake was the inevitability of revolution. Scientific advancements introduced the notion of indeterminacy, suggesting an openness of reality even within traditionally mechanical and deterministic fields of knowledge such as physics and chemistry. In response, dialectics emerged as a suitable tool to navigate this new framework of reality. However, simultaneously, the communist revolution needed to be portrayed as inevitable, seen as the rational outcome of the historical science of dialectical materialism in its orthodox form. This created an initial tension between determinism and indeterminism within dialectical materialism. To maintain political propaganda in favor of the revolution, a division between the philosophy of nature and the philosophy of history was proposed, aiming to reconcile the growing indeterminacy in scientific knowledge with the inevitability of revolution.

However, this division also exacerbated another tension regarding the interpretation of Hegelian dialectics in Marxism, namely the epistemological versus the ontological value of dialectics. The CRN, in its early writings, developed the possibility that dialectical progress and the contradictory nature of the world should be confined solely to the philosophy of history, with the natural world lying outside the realm of dialectics (Carlino, 2015). Although this perspective appears to diverge from the conceptual developments being explored by Marxists in the 1930s in response to advancements in science itself, the debate over whether dialectics can be applied to nature reflects the broader dispute surrounding the ideological uses of restructuring science solely from a class perspective. The notion of a proletarian science supposedly grounded solely in dialectics underpinned the delays in the development of genetics and scientific farming in the Soviet Union and underscored the shortcomings of a less rigorous attempt to infuse science with dialectical principles, a problem that also had a direct impact on Lefebvre's intellectual developments (Lefebvre, 1969).

The CNR experience and the debates surrounding the accurate interpretation of the relationship between dialectics and scientific inquiry provide a valuable framework for understanding the challenges and nuances of Henri Lefebvre's endeavor to reconcile formal logic and scientific practice with dialectics without resorting to absolute submission of one to the other.

4 Logic, dialectics and science in the lefebvrian thought

As we have observed, for Lefebvre, Hegelian dialectics serves as a foundational element of dialectical materialism, representing a progression of modern rationality towards not only deeper and broader determinations of objects of knowledge but also towards the conceptual and theoretical representation of the process of reality's dynamics. In this context, dialectics can be viewed as an evolution of rationality beyond its formal and logical constraints. However, as demonstrated by the CNR case, even if one acknowledges the superior potential of dialectics over analytical thinking, questions regarding the mediation between them persist.

Could dialectics be universally applied to every object of knowledge? Do dialectics and analytical thinking operate at different levels of abstraction or in different realms of reality? Can dialectics simply replace analytical thinking, or should they coexist in a complementary manner? How should dialectics impact categories of scientific practices such as objectivity and neutrality? These questions highlight the complexities and challenges inherent in integrating dialectics into scientific practice and underscore the need for further exploration and nuanced understanding of the relationship between dialectics and analytical thinking.

In addition to supplementing rational understanding of reality, Lefebvre also explores the potential of dialectics to comprehend the historical evolution of science itself. Dialectical materialism emphasizes the historical concreteness of praxis to prevent any social practice from being appreciated from a purely abstract or metaphysical standpoint. This perspective asserts that science and the production of knowledge, before being systematized in any formal manner, are the outcomes of historical development embedded in social determinations that cannot be disregarded (Lefebvre, 1969; 2002).

Thus, dialectics serves as a tool not only to understand the movement of the investigated object but also the movement of the investigating subject and its determinations. Science and knowledge emerge as concrete historical praxis, reflecting the efforts of humanity to comprehend the world. By considering the historicity of

science, one can critically assess the relationship between scientific practice, the philosophy of science (especially positivism), and bourgeois society.

In this context, dialectical materialism emerges as a response to the dilemmas faced by the production of knowledge in the interwar period, providing a framework to navigate the complexities of scientific practice within its historical and social contexts.

Lefebvre's engagement with these challenges is evident in what would have been a series of publications titled À la lumière du matérialisme dialectique. The initial project was envisioned to comprise eight volumes (Lefebvre, 1969; Hess, 2002), but only the first one was published by Lefebvre in 1946, titled *Logique formelle*, *logique dialectique*. The second volume was posthumously published in 2002 under the title *Méthodologie des sciences*. The arguments presented in these books offer insights into how Lefebvre navigates the various possibilities of appropriating Hegelian dialectics and how he conceives the mediation between dialectics, formal logic, and science in the interwar period.

In *Logique formelle, logique dialectique*, Lefebvre's (Lefebvre, 1969) endeavor is to demonstrate how dialectical reasoning is inherently present in formal categories of logic, such as identity, and how, as we transition from their purely abstract form to concrete and particular instances, dialectical tensions become increasingly prominent. The relationship between dialectics and logic, therefore, is not one of substitution, but rather a procedural transformation from one to the other as we move away from the static analytical determinations of formal logic towards the concrete needs of determining reality. In this way, formal logic is only flawed if it assumes its position as an absolute criterion of truth; however, if it maintains its connection to reality, the existence of contradictions and the necessity for dialectics naturally arise.

Méthodologie des sciences (Lefebvre, 2002) follows a similar trajectory in evaluating the categories of scientific practice and the role of dialectics in the conceptual and theoretical development of different fields of knowledge and science in general. Once again, the objective is not to replace scientific knowledge with some version of dialectical scientific knowledge, but rather to demonstrate that the history of scientific development presupposes dialectical reasoning without scientists necessarily being aware of it. In both cases, Lefebvre aims to mediate between analytical and formal thinking with dialectical reasoning through the lens of dialectical materialism itself, using a materialistic dialectical approach to understand how dialectics can be seen as an advancement beyond analytical thinking.

Without delving into the specifics of each work, which would exceed the scope of this paper, it is important to observe how certain elements of Lefebvre's critique of traditional philosophy, developed in the 1920s, are rearticulated and mediated through the perspective of dialectical materialism to form a critique of rationalism and science. This theoretical effort begins with a critical analysis of the 'problem of knowledge,' which is only rendered problematic by the metaphysical separation of the relationship between subject and object of knowledge. This creates a dichotomy that pits subjective idealism against mechanistic materialism, making a practical, concrete, and everyday relationship appear mysterious (Lefebvre, 1969).

From the perspective of subjective idealism, the 'problem of knowledge' is whether there is anything to be known beyond what the subjects of knowledge construct in their rationalist exercise. From the side of mechanistic materialism, and often as a reaction to idealism, the 'problem of knowledge' becomes the impossibility of accessing a truth that is presumed to belong exclusively to the object (Lefebvre, 1969). These two positions elevate the two poles of a practical tension to absolutes while obfuscating the dynamic between subject and object.

The solution lies in abandoning the metaphysical absolutization and recognizing knowledge as a socio-historical fact that must be understood in its movement. It is not about siding with one position or the other, but about understanding the living movement between the two and the development of knowledge from this tension. This is the basic framework that Lefebvre (1969, 2002) employs both in his study of Logic—understood as the set of forms, methods, and general instruments of thought—and in his investigation of Methodology, encompassing both its general principles that inform and characterize scientific investigation and its specific expressions within each field of science.

In his study of Logic, Lefebvre (1969) emphasizes its importance in ensuring the cohesion of thought:

It will always be true that thought must be coherent. This is a universal, necessary, and objective law, imposed upon all reflective human beings. Any contradiction *unconsciously* admitted into thought, without being explicitly noted and reflected upon, introduces an *inconsistency*, an incoherence that risks destroying this thought as thought, reducing it to the category of a set of observations, a dream, or a delusion. (Lefebvre, 1969, p. 50)

From Lefebvre's perspective, logic functions in the same way that grammar relates to language. Grammar is concerned with maintaining the coherence and cohesion of language, preventing it from self-destructing or degrading into something

incomprehensible. However, the evolution of language, as a living social practice, only develops beyond any monolithic standardization. In fact, grammar itself derives its real meaning from the social practice of language use; outside of this relationship, it holds no intrinsic meaning and could only aspire to an autonomous existence in a barren metaphysics. Similarly, for Lefebvre, formal logic cannot impose itself or become autonomous from the concrete practice to which it refers – at the risk of becoming nothing more than formalism. Moreover, the movement of language occurs in conflict, in contradiction with the established norms that govern its correctness. Formal precision creates a monotony that impedes the evolution of language, which enriches itself by deteriorating and profaning established rules. This creation, however, is not the result of any form of voluntarism but responds to a concrete necessity:

The previous observations do not aim to prove that being incorrect is sufficient to enrich the language; most expressions, words, and inflections created voluntarily are eliminated by a kind of natural selection. For them to come into use, they must correspond to a social and practical need. Only naturally, and not artificially, created expressions can meet this need. These observations merely demonstrate that grammar has no more than a relative scope and limited application. (Lefebvre, 1969, p. 51)

Formal logic, like grammar, also has a relative scope and limited application. It cannot be detached from content, but it only makes sense as long as our thinking can expressly disregard its content. This movement is a moment of thought, called abstraction. Formal logic, which is the logic of form, is therefore the logic of abstraction. When thought returns to content to recover it, formal logic becomes insufficient:

It needs to be replaced by a concrete logic, a logic of content, in which formal logic is no more than an element, a valuable sketch on the formal level, but approximate and incomplete. The content is made of the interaction between opposing elements - such as subject and object - and the examination of such interactions is called, by definition, dialectics, and concrete logic or logic of content will be dialectical logic (Lefebvre, 1969, p. 52).

There is always a relationship of mutual determination between form and content, but taking one of the parts as independent and sovereign is a mistake: 'It is not formal logic, taken as such, that should be severely judged, but logical formalism, which is entirely different' (Lefebvre, 1969, p. 52).¹³

¹³ Further expanding on this framework, Lefebvre (1969) in the rest of his work analyzes specific dichotomies produced by metaphysics in the theory of knowledge, such as Truth and Error; Absolute and Relative; Unknown and Known; Understanding and Reason; Immediate and Mediated; Abstract and Concrete; Analysis and Synthesis; Induction and Deduction. He then delves into the dynamics specific to Logic, moving from absolute and formalistic notions (as in the principle of identity) to confrontation and transformation through dialectics, thus constituting Dialectical Logic.

Logic, defined as the study of the conditions of true thought, can only be sustained if we understand this study not as a formal determination (subjective and individual, referring only to thought), but as a historical analysis of the various true forms of thought that correspond to an objective content. The correspondence of thought with its represented object would be the general necessary condition for true thought. (Lefebvre, 1969)

Similarly, Lefebvre (2002) proposes investigating the methodology of science in general, as well as the historical transformation of various forms of scientific investigation. To illustrate how this process applies to scientific rationality, let's focus on Lefebvre's (2002) discussion of the principle of objectivity as a guiding principle of scientific inquiry. As with his discussion of Logic, Lefebvre does not deny the importance of objectivity as a criterion of truth for properly scientific rationality. Indeed, true knowledge of the concrete demands a dispassionate analysis from the scientist, who must engage with his object of investigation as impartially as possible, ensuring that preconceptions and biases do not influence his conclusions or methods. Nonetheless, the idea of absolute objectivity, where the subject can entirely detach from themselves and engage with the object as something completely external, is merely a metaphysical replication of the 'problem of knowledge'. It is impossible to separate the pursuit of objectivity from the very subjective intention that directs such a pursuit.

Scientific objectivity, therefore, is not something presupposed as given, nor can it be relegated to collective or individual voluntarism. It is something that is constructed step by step: 'Objectivity is defined only *relatively* and through *levels*, a development, a progress—tending towards absolute objectivity. In other words, we will redefine *objectivity by objective truth*' (Lefebvre, 2002, p. 21). Objectivity is an increasing agreement between the subject and the object as this relationship is explored beyond the social and technical constraints of each historical moment.¹⁴

¹⁴ Similarly to what we observed in the work "Logique formelle, logique dialectique," here too it is impossible to follow every argumentative arc of "Méthodologie des Sciences." However, we can indicate that Lefebvre (2002) continues to demystify the metaphysics involved in the principles of the general methodology of sciences (beyond objectivity, also free inquiry, critical spirit, disinterest, the relationship between theory and practice, and the abstract nature of scientific formulation). He proposes a classification of sciences not by their specific object or methods, but by their specific development within the historical process of scientific knowledge production. He then proceeds to analyze particular scientific fields such as mathematics, physics, chemistry, human sciences, history, psychology, among others.

5 Concluding remarks

This initial attempt to appropriate Lefebvre's ideas on the critique of rationalism and science aims to demonstrate how this movement responds to a broader social and historical context of crisis in Western and European civilization, epitomized by the Crisis of the Spirit. The formulations presented in *Logique formelle*, *Logique Dialectique*, and *Méthodologie des Sciences*, although produced in the post-World War II era, have their argumentative roots in the interwar period. Thus, a deeper understanding of both works requires an analysis of the trajectory of criticism developed years earlier, which informs the theoretical positions of later years.

The philosophical critique of the metaphysical distinction between Subject and Object, developed in the 1920s, is now recognized in the criticism of a similar metaphysical stance in the constitution of modern rationality. Similarly, the philosophical renewal project of reconnecting philosophy with the concrete finds echoes in the imperative to reconnect subject and object of knowledge within the practical and historical movement of knowledge constitution. However, this is not merely a parallel or a new application of the same formula. Between these moments lies the mediation of the development of a distinctly Marxist approach based on Lefebvre's interpretation of dialectical materialism. The concrete and its movement are not presupposed abstractly or approached merely philosophically, but rather understood from the concrete social praxis of historical subjects and their immanent dialectics.

At stake is the revitalization of thought through a reencounter with the real, with the concrete. This reencounter presupposes setting in motion what metaphysical absolutization sought to immobilize as the final Truth. This renders the lifeless shells of frozen structure inadequate for daily needs and practices, causing alienation and loss of meaning. For Lefebvrian thought already imbued with Marxism, the principles of an approach rooted in dialectical materialism can rescue this dynamic between form and content and overcome the impasse of modern rationality. However, unlike an eminently philosophical approach, this return to the concrete pertains to the needs of historical and social practice, fraught with contradictions inherent to the capitalist mode of production, obscured by the bourgeois ideology.

Thus, rather than a meticulous exploration of the arguments *in Logique formelle, Logique Dialectique*, or *Méthodologie des Sciences*, this work aims to demonstrate the broader theoretical and historical framework, including the development of the author's thought, which lends a far-reaching significance to these two works. It serves as an initial step towards a more rigorous understanding of Lefebvre's critical position on the issues of modern rationality.

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