

# The Critique of Social Reason in the Popper-Adorno Debate

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## Abstract

This paper examines the differences and affinities between Karl Popper’s critical rationalism and Theodor Adorno’s critical theory through renewed attention to the original documents of their 1961 debate. While commentaries often describe the Popper-Adorno encounter as a theoretical disappointment, I reveal a confrontation between conceptually opposed programs of social research. Though both theorists are committed to critique as a political and epistemological struggle for human freedom, their conceptions of this struggle are starkly different. In the original seminar papers, we find a conflict between critique as a practice of social rationality (Popper) and a critique of social rationality itself (Adorno). The versions of critical rationalism and critical theory meeting in this debate thus emphasize opposite dimensions of a reflexive practice of immanent critique. In closing, I suggest dissolving this conceptual tension by recovering the educational orientation of critique.

KEYWORDS: Critical Theory, Social Critique, Karl R. Popper, Theodor W. Adorno, Education

## Manuscript

This paper examines the differences and affinities between Karl Popper’s critical rationalism and Theodor Adorno’s critical theory through renewed attention to the original documents of their 1961 debate.\* While commentaries treating Popper and Adorno’s exchange often view it as a theoretical disappointment, the conflict in these seminar papers yields resources for contemporary conversations in critical social philosophy concerning (but not limited to) ideology and its relationship to scientific knowledge, the importance of theory in social research methodology, and the role of social inquiry in social change. The Popper-Adorno discussion remains an interesting historical encounter, moreover, since certain iterations of the methodological perspectives meeting in this working session would develop an increasing sympathy in the years following the debate.<sup>1</sup>

Not only was there a real confrontation between opposed programs of social research in this exchange, but attention to this disagreement yields valuable methodological and historical insights today.

Here we will see that Popper and Adorno's seminar papers present a conflict between conceptually distinct approaches to critical social research. For each thinker, the theoretical understanding of society is grasped through a form of *critique*, a project with irreducible and mutually supporting epistemological and political aspects. In this connection, both thinkers lay claim to the Kantian tradition, and we can partially understand their debate as a disagreement about the way in which this tradition might extend its insights to social philosophy. We can thus conceptualize their disagreement in the terms of Immanuel Kant's critical project, for which reason is both the object of critique and the subject carrying it out. The double involvement of reason in its own critique is often expressed in the critical philosophy of society as a commitment to reflexive and immanent criticism, according to which the philosophical investigation of unjust social conditions must account for both the systematic nature of these conditions and the recognition that the starting point of criticism is embedded within them.<sup>2</sup> The critique of social reason is simultaneously a critique *of* society and a critique issuing *from* society. As we will see, Popper's and Adorno's respective approaches to critique emphasize opposite dimensions of this project, with Popper's critical rationalism viewing critique as the task of a specific part of society, and Adorno's critical theory offering a critique of social rationality itself.<sup>3</sup> In this way, this debate indexes a division between the interests guiding critical social research, suggesting that a further elaboration of the original seminar papers might prove philosophically useful to contemporary philosophers of society.

After dispelling some of the misconceptions about the debate, the first section shows that both Popper and Adorno view social research as a project to increase human freedom, distinctly relating this commitment to the critical tradition. Though they identify philosophical critique as a political and epistemological struggle, their conceptions of this struggle are clearly different, as shown in the following section. While Popper's critical method focuses on the functioning of social institutions committed to scientific objectivity, Adorno pursues the dialectical critique of all society, including these institutions. This debate thus offers a striking divergence between critique as a practice of social rationality (critical rationalism) and a critique of social rationality itself (critical theory).<sup>4</sup> While these opposed dimensions might seem mutually exclusive from an examination of the 1961 debate alone, the third section closes by suggesting that the source of their apparent impasse lies in each theoretical program's implicit reliance on contemporary educational institutions. By recovering the educational orientation of critique, we can view the Popper-Adorno confrontation as a conflict between forms of social criticism that similarly obscure the cultivation of their own perspective as a social practice, and thus as a social problem.

### **More than a Missed Encounter**

In 1961, members of the German Sociological Association (*Deutsche Gesellschaft für Soziologie* – DGS) met for their Sixteenth Annual conference in Tübingen. In a widely discussed working session, Karl Popper gave a short presentation, 'The Logic of the Social Sciences' (Popper, 1976b [1961]), to which Theodor Adorno presented a response, 'On the Logic of the Social Sciences' (Adorno, 1976b [1961]). These proceedings took place against the backdrop of long-running discussions among German sociologists about the methods of the social sciences and their role in society. The consensus among commentators, however, holds that the Popper-Adorno meeting

was a missed encounter.<sup>5</sup> Ralf Dahrendorf, who organized the DGS working session, noted in his ‘Remarks on the Discussion’ that the exchange was a disappointment to those in attendance since it ‘generally lacked the intensity that would have been appropriate to the actual differences in views’ (Dahrendorf, 1976 [1961]: 123). This confusion was compounded by the way the DGS conference proceedings and ensuing discussions were disseminated and received: some of the additional contributions to the volume containing the main documents of the dispute,<sup>6</sup> as well as the debate’s broader reception make it seem as though the core of the discussion concerned Popper’s philosophy of science, with some commentaries implying that the ‘positivism’ in the volume’s title refers to logical positivism. As is well known, however, neither critical rationalists nor critical theorists endorsed logical positivism, and each group had been criticizing the Vienna School’s project since the 1930s.<sup>7</sup> To the extent that the original papers presented at the symposium do offer differing critical visions, disentangling these positions requires historical and interpretive work.<sup>8</sup>

In a recent article, Marius Strubenhoff (2018) shows that the frustrated expectations of the working session’s attendees and the seeming absence of the ‘positivist’ in the debate are related. By studying discussions among DGS members in the years leading up to the 1961 conference, Strubenhoff clearly demonstrates that the working session was a continuation of debates within the German sociological community from the previous decade.<sup>9</sup> These longer discussions turned on a difference between more historically and theoretically-oriented approaches to sociology on the one hand, and empirically-oriented sociology concerned mostly with the problems of rational administration on the other. Underlying the divergence between these approaches was a difference in their respective orientations toward contingency and necessity in history. Through a detailed treatment of the empirical sociologists, Strubenhoff shows that the term ‘positivism’ applies to

their method because they understand certain facts to be given and unquestionable constraints on social theory. His reading of the dispute thus argues that the real target of Adorno's criticism of positivism (and later work by Habermas, for instance<sup>10</sup>) was this tradition and its conception of the social sciences.<sup>11</sup>

A better understanding of the historical origin of Popper and Adorno's working session helps explain the disappointment on the part of the other attendees. The lack of a confrontation between the prevailing moral and political attitudes of contemporary German sociologists was virtually guaranteed by the fact that Popper's position did not align neatly with the positions of those sociologists downplaying philosophical or theoretical work and emphasizing empirical research, whose leanings he was invited to represent. Unlike the sociologists who would stress the inevitability of certain 'natural' human qualities, and thus relegate the social sciences to the work of fine-tuning our understanding of these limitations in order to assist in the administration of society, the critical rationalist and critical theoretical programs each emphasize the role of human choices and the possibility of improvement in history.<sup>12</sup> Neither accept timeless limitations on human nature, and both hold that theoretical and empirical social research can and should substantially contribute to a broader struggle for human freedom.

The emphasis on Popper and Adorno's shared distance from some of the empirical social scientists of their day might give the impression that critical rationalism and critical theory are ultimately more similar than they are different.<sup>13</sup> In fact, their theoretical orientations are clearly opposed, as the next section will show. However, attention to the historical background of the conference where their positions met better allows us to distinguish the most important points of opposition between their respective projects. A misunderstanding of this background often incentivizes partisan readings, as those on either side interpret the debate as a 'dispute between

sense and nonsense' (Strubenhoff, 2018: 275). If we understand both groups to take issue with an involuntarist approach to history, choosing sides cannot be where we stop, much less where we begin. In this dispute we find two critically oriented approaches to sociology and social change sharing a commitment to increasing human freedom through social research but differing in the way to go about realizing this commitment. The most important distinction between the interlocutors at Tübingen is thus between the rival conceptions of critique within their respective social philosophies.<sup>14</sup>

### **Rival Conceptions of Critique**

Reconstructing Popper and Adorno's original contributions to the 1961 working session will begin to reveal the philosophical oppositions underlying their respective views of critical social research. As we will see, these presentations set Popper's conception of critique as the social refutation of theoretical statements at odds with Adorno's notion of critique as a dialectical resistance to the social whole.

#### *Critique as a Social Practice*

According to Popper, science begins from the recognition that 'something is not in order with our supposed knowledge' (Popper, 1976b [1961]: 88). When experience fails to conform to the expectations of existing knowledge, it generates problems demanding explanation. In this paper, Popper describes science as the enterprise aimed at resolving these gaps between our theoretical explanations of the world and observations that seem to contradict them. The search for scientific understanding is thus driven by the ineradicable tension between knowledge and ignorance.<sup>15</sup>

Because Popper defines problems as gaps between experience and existing theoretical knowledge, experience and theorization mutually implicate one another. A scientific theory that

does not relate to experience in any way would be impossible to test, and thus could not be scientific. At the same time, even our most basic experiences take place against a background of shared knowledge. Popper thus dismisses the empiricist *tabula rasa*: ‘Observation is always selective... It needs a chosen object, a definite task, an interest, a point of view, a problem’ (Popper, 2002a [1963]: 61). Even the most basic observational statements are theory-laden, in the sense that they take place within the context of accepted knowledge and are experienced as agreeing or disagreeing with this background. Against the dogma of logical empiricism, according to which researchers collect observational data unrelated to any theoretical concerns and fashion them into a theory by establishing mathematical or probabilistic regularities, Popper argues that scientific observation always bears the mark of contemporary problems (Popper, 1976b [1961]: 89). Observational data are conditioned by the contemporary research context, including by its institutions and its social dynamics.

Popper further distances himself from empiricists who regard the natural sciences as a model of inductive methodology and conclude that the social sciences should adopt natural-scientific methods.<sup>16</sup> This ‘misguided naturalism’ operates according to ‘the myth of the inductive character of the methods of the natural sciences’ (Popper, 1976b [1961]: 91). Echoing David Hume’s rejection of induction, Popper argues that no quantity or quality of observational experience can provide us with certain knowledge of natural laws.<sup>17</sup> Against the position that science can admit only those hypotheses that can be inductively verified by experience (verificationism), Popper thus advances his influential thesis that science should admit only those hypotheses which can be falsified by experience (falsificationism).<sup>18</sup> No number of observations of white swans can verify the universal claim that ‘all swans are white’, but the observation of a single black swan is enough to prove it false.<sup>19</sup> The aim of scientific research is accordingly not to

prove laws, but to disprove them through the critical test of experiment. Both the natural and social sciences thus proceed deductively, through the ‘conjecture and refutation’ of hypotheses and accepted theoretical statements.

Since the critical method of falsification relies on the logical analysis of theoretical and observational statements, it is crucial that every statement admitted in the form of a hypothesis is susceptible to refutation by experience. Scientists thus eliminate hypotheses that are unfalsifiable in principle, and employ deductive logic to determine whether proposed hypotheses imply contradictions.<sup>20</sup> The scientific community accordingly rejects experientially ineffable concepts like God, nature as a whole, and the immortal soul, since any hypotheses in which they might be used are unfalsifiable.<sup>21</sup> The community of scientists carries out ‘mutual rational criticism’ through an attempt to disprove each other’s theories, subjecting each theory to rigorous competition in what Anders Ramsey calls an ‘imitation’ of Darwinian evolution on a discursive – and thus nonviolent – register (Ramsay, 2018: 1189).<sup>22</sup> In this procedure, researchers undertake ‘a consciously critical development of the method of “trial and error”’ (Popper, 1976b [1961]: 90). There is no finality to this process, since a ‘corroborated’ theory is just one that has not yet been falsified.

While Popper insists on the objective character of social scientific knowledge, denouncing relativism in this seminar paper and elsewhere, he also claims that objectivity is dependent on the social character of science: ‘[T]he objectivity of science is not a matter of the individual scientists but rather the social result of their mutual criticism, of the friendly-hostile division of labour among scientists, of their co-operation and also of their competition’ (Popper, 1976b [1961]: 95). The objectivity achieved through scientific research is a ‘social result’ of cooperation and competition in a community which determines and debates the fittingness of observational statements to the



observations they describe, the criteria for the rejection of hypotheses, and therefore the general progression of scientific research on any given topic. Science requires a public, whose experience becomes the ‘impartial arbiter’ of scientific disputes (Popper, 2013 [1945]: 424). As David Frisby explains, science’s objectivity thus relies on a critical tradition whose efficacy ‘does not rest upon individuals but upon social processes’ (Frisby, 1972: 109). Though scientific method takes deductive logic as its ‘organon’ (Popper, 1976b [1961]: 98), then, it also requires traditions, standards and policies regulating the work of the communities carrying it out. These principles facilitate productive debates on theoretical statements within the community, but also therefore tend to regulate the kinds of experience accepted by the community. This latter feature becomes clearer on an examination of Popper’s treatment of the distinct problems faced by the social sciences.

Popper begins his brief outline of the ‘logic of the social sciences’ or ‘situational analysis’ in the twenty-fifth thesis of his seminar presentation.<sup>23</sup> Any science aiming to relate observational statements to theoretical frameworks makes use of models, or simplified constructions of the objects studied.<sup>24</sup> As an extension of a theory, the model could then be either falsified or elaborated upon, depending on the observations of those using it. The models of the social sciences are more complex than those used in the natural sciences. They must explain not only bodies and forces with a limited number of laws of motion, but the way large numbers of individuals interact in complex social situations mediated by the physical environment, the structure of social relationships, and economic conditions, for example. Although the matters studied by social sciences involve subjective factors, and thus seem less amenable to rational modeling, Popper aims to establish the objectivity of these sciences and the models they use. Taking inspiration from economic models based on assumptions of human rationality, Popper writes:

A social science orientated towards objective understanding or situational logic can be developed independently of all subjective or psychological ideas. Its method consists in analysing the social *situation* of acting men sufficiently to explain the action with the help of the situation, without any further help from psychology... In other words, the situation is analysed far enough for the elements which initially appeared to be psychological (such as wishes, motives, memories, and associations) to be transformed into elements of the situation. (Popper, 1976b [1961]: 102)

Since the elements of any model used in scientific research must be falsifiable, Popper has excluded the possibility that these could include psychological states or other subjective phenomena. The presence or absence of desire in a single individual, for example, is not possible to falsify in a community of researchers, since these researchers have no reliable way to measure it. The logic of the social sciences thus requires that wherever psychological states would typically be used in a natural language description, the scientists instead offload them onto the ‘situation’, defined as all those elements composing the model. In this way, social scientists simplify complex situations by pushing the burden of explanation onto the social environment.

When Popper’s method of rational criticism considers human society, it begins by modeling the situation of individuals. Because social scientists cannot make use of the psychological motivations of the actors in the model, researchers assume what Popper calls the ‘rationality principle’ – that these actors will act in a way appropriate to the situation. This principle allows researchers to approximate the motivations of individuals, since it serves as an ‘animating principle’, without assuming too much about their specific needs and desires.<sup>25</sup> Though he does not discuss the rationality principle in detail in this paper, elsewhere Popper makes it clear that it is not intended to be interpreted as an *a priori* truth, nor as something that could be empirically tested (and thus falsified), but rather as a good methodological policy for researchers to adopt.<sup>26</sup> The benefit of this principle is that it allows researchers to focus their attention on the elements in the model, rather than the idiosyncrasies of complex individuals. According to Popper, this

principle provides a secure foundation for objective social research, even if the models it animates are ‘oversimplified and overschematized and consequently in general *false*’ (Popper, 1976b [1961]: 103; original emphasis). With these kinds of models, social researchers produce rationally falsifiable tools whose power does not lie in their perfect accordance with the social world, but rather in the ability of social scientists to approximate the truth through their use.

Through its emphasis on the functioning of scientific communities, Popper’s conception of criticism as public refutation limits the scope of the social sciences. A scientific hypothesis or element in a ‘situation’ must be clearly expressible in propositional language, so that its explanatory power can be easily and publicly tested. In this way, since criticism determines what counts as theoretical knowledge, it also determines what counts for experience. Statements concerning psychological ideas – including wishes, memories, and fears – are necessarily left out of the work of objective social science, since their presence or absence are impossible to publicly test. This philosophy of the social sciences similarly prohibits any notion of the ‘whole’ of society or broad historical trends such as the division of academic labor under capitalism. Like psychological states, these kinds of concepts are bound to produce unfalsifiable hypotheses, since they do not refer to discrete and publicly verifiable experiences, but to whole complexes of experience (*e.g.*, subjectivity, affectivity, structural oppression). In the case of capitalism, for example, we are presented with a concept that tends to resist definite representation, since it would seem to deeply affect not just the desires and fears of any individual, but also to shape any possible institution that might work its way into the model. This is not a simple institution that can become one part of a situational analysis among others but would have to be a kind of principle animating the model itself, conditioning even the process of its formation—something working on the same level as the unfalsifiable ‘rationality principle’. When we try to translate them into logical

language, such complexes of experience—*e.g.*, ‘capitalism’ or ‘society’—produce statements whose truth values cannot be unambiguously determined through experience, and which cannot therefore be subjected to the test of falsification. According to Popper, social research dealing with concepts of this kind is pseudoscience.<sup>27</sup>

Following this ‘logic of the social sciences’, social research takes on the character of what Popper calls ‘piecemeal social engineering’ (*e.g.*: Popper, 2013 [1945]: 340-1). Criticism as a social practice of logical refutation keeps scientific communities focused on limited, technical problems. Since they cannot be concerned with unfalsifiable or speculative concepts, social scientists disavow questions pertaining to the whole of society, or the systematic modification of subjective states, instead concerning themselves with easily measurable public policy matters such as interest rates and insurance premiums.<sup>28</sup> The goal of social science is accordingly modest – to make small improvements in everyday life, through a constant refinement of techniques and hypotheses. Critique assumes a regulative function, in the sense that it prevents researchers from taking on unscientific problems whose scope is dangerously broad, but nevertheless provides the conditions allowing them to work in a productive community.

#### *The Critique of Social Practices*

Adorno’s critique of Popper’s position begins by noting that he and Popper differ in their respective conceptions of logic. Whereas logic in Popper is limited to deductive reasoning, Adorno’s logic is dialectical.<sup>29</sup> This means that contradiction, which for Popper can only be attributed to groups of propositions, is found within society itself. While Popper understands scientific problems as gaps between theoretical propositions that we take to be true and experiences that invalidate them, Adorno understands the social relations and material conditions of society as themselves the source of such gaps. To a theorist working with this expanded notion of

contradiction, society itself is a problem: ‘For the object of sociology itself, society, which keeps itself and its members alive but simultaneously threatens them with ruin, is a problem in an emphatic sense’ (Adorno, 1976b [1961]: 108). The conflicts structuring society actively form social actors and acclimate them to circumstances in which every action threatens their own destruction. While the critical rationalist program might say that society contains various problems, however, it cannot understand this state of affairs itself as the ‘problem’ of sociology, owing to its methodological limitations of the scope of experience and theory.

Restricting critique to a social practice of logical refutation takes for granted that the order of the society in which critique takes place – even the organizations through which scientific understanding is developed – is un-problematic.<sup>30</sup> The possibility, which is necessary in principle for Popper, that a researcher such as an economist could work in a sufficiently un-problematic environment that the presence of problems becomes conspicuous, is itself predicated on a delusional understanding of society, according to Adorno.<sup>31</sup> Since critical rationalism limits the scope of critique to the refutation of hypotheses and models, it must fail to comprehend a society that bears real conflict and contradictions within itself. Adorno thus writes: ‘the cognitive ideal of the consistent, preferably simple, mathematically elegant explanation falls down where reality itself, society, is neither consistent, nor simple, nor neutrally left to the discretion of categorial formulation’ (Adorno, 1976b [1961]: 106).

Adorno’s conception of critique aligns this practice with the dialectical critique of political economy begun by Marx.<sup>32</sup> According to the latter tradition, capitalist objectification imposes itself so fundamentally on the social order that it also conditions the possibility of subjective experience. Not only are social relations reduced to objects in the eye of the social scientist, but individuals and groups begin to organize their inner lives – their hopes, desires, and modes of

perception – in an increasingly ‘objectified’ manner as well.<sup>33</sup> Following the work of György Lukács, capitalist social relations are understood to unconsciously shape both the concepts through which the social world is scientifically understood, and also immediate forms of objectivity through which members of society understand themselves. If Popper’s claim of the theory-ladenness of observations was itself a criticism of the empiricist dogma of experience unconditioned by knowledge, Adorno thus repeats the gesture, this time with Popper as its dogmatic target. Statements about observations are thus not merely ‘theory-laden’ in the sense that they occur within a context of existing knowledge, but the organizations and institutions through which these observations are recorded (*e.g.*, the university, the research team) are fundamentally structured by the prevailing social relations. The systematic and unconscious dimensions of this structuring process render Popper’s theory of objectivity untenable. Social reality resists being reduced to a series of facts, and the kind of organization aiming at this reduction is yet another part of the problematic social whole.<sup>34</sup>

Unlike Popper, whose conception of critique prohibited psychological hypotheses and theories concerning society as a whole, Adorno is thus centrally concerned with this speculative aspect of social reality. In each moment of social reality, Adorno’s social theory locates traces of an overarching logic, conditioning and preforming even our ability to perceive or judge its problematic character. To see society as a totality means that there is a necessary connection between the conscious and unconscious dimensions of social experience, and the latter’s broader organization. Adorno thus writes: ‘System and individual entity are reciprocal and can only be apprehended in their reciprocity’ (Adorno, 1976b [1961]: 107). Since society itself is contradictory, however, this logic is uncovered through moments of negativity, and the social

totality described by Adorno is a negative totality or an ‘antagonistic entirety’ (Adorno, 1995 [1966]: 10-11).<sup>35</sup>

The dependence of society’s individual moments on the whole cannot be demonstrated through a model or a decisive experiment, because these moments and the totality conditioning them determine the constitution of the scientific community itself.<sup>36</sup> This broader conception of dialectical logic leads Adorno to reject Popper’s falsifiability criterion. The problem with a logic of the social sciences based on the falsifiability of theoretical statements, according to Adorno, is that it excludes speculative concepts that convey truths about society, despite being unfalsifiable. Though Adorno agrees with Popper’s limited defense of principles not submitted to the test of logical deduction (*e.g.*, the rationality principle), he simultaneously argues that the content of speculative concepts is far more important for social theory than Popper recognizes.<sup>37</sup> For a critical social theory, accepting the determination of the parts by the whole as a speculative concept provides insight into social reality even if this form of determination evades empirical tests.

Critique for Adorno attempts to ‘extend rationality’ to social contradictions through a combination of empirical observation and speculative reflection (Adorno, 1976b [1961]: 109).<sup>38</sup> Through this process, social theory grasps the overarching contradictions determining social experience, and begins to understand the necessity of these forms of negativity with respect to the whole. As a model of the kind of contradiction illuminated by the critical theory of society, Adorno discusses the liberal democratic principle of equal rights for all within societies that fall far short of realizing this ideal. Adorno does not view this shortcoming as a logical problem to be addressed through the use of better-defined theoretical categories, but as an essential guide to understanding the structure and organization of these societies themselves.<sup>39</sup> That a fundamentally unjust social order can *appear* organized to maximize the freedom of all—that the appearance of this freedom

can so skew social consciousness that exceptions to formal equality are perceived as limited problems calling for minor adjustments—is the problematic starting point for dialectical sociology. In this way, the problems driving reflection concern the social constitution of experience itself—the appearances of society in the models of social scientists, and the realities they cover over. Adorno’s social theory attempts to break free from an objective contradiction of this kind by encapsulating it in reflective comprehension. The critical theorist understands the appearance of freedom and the real presence of unfreedom as necessary for a certain stage of historical development, and submits this non-identity to critique – asking *why*, on a higher level, such a discrepancy is necessary. Whereas critique for Popper had been the work of one part of society, for Adorno it is a critique *of* all society, through reflection on the contradiction between social appearance and social reality.

Though Popper had conceived critique as reason’s self-limitation within the bounds of possible experience, Adorno suggests that his project of critical theory is a better heir to this Kantian project.<sup>40</sup> He points out that the *Critique of Pure Reason’s* (1998 [1781/1787]) ‘Transcendental Dialectic’ – in which Kant rejects the possibility of knowledge concerning ideas outstripping the bounds of experience – was meant to counter tendencies in thought that kept humans beholden to the ‘facts’ and trapped in forms of social organization that promoted their immaturity. ‘Critical philosophy was militant enlightenment,’ he writes, joining with this tradition:

The critical impulse, however, which halts before reality and is satisfied with work in itself, would, in comparison, hardly be an advanced form of enlightenment. By curtailing the motives of enlightenment, it would itself also be retarded, as is so convincingly demonstrated by the comparison of administrative research with critical theories of societies. (Adorno, 1976b [1961]: 114)

The critical tradition, according to Adorno, represents a more fundamental stance toward experience and knowledge than simply the injunction to clarify all one’s cognitions and discard



inaccurate or unfalsifiable ones. It also implies a resistance to the forms of thought and social organization blocking humans from developing their independent capacities for thinking and acting. In addition to the self-criticism of the knowing subject, this tradition—inaugurated by Kant, and carried on through Hegel and Marx—involves a criticism of society itself, insofar as it conditions this subject. In this expanded sense, critique is a tool for human emancipation: it allows theorists to understand the conditions working on them, and the way in which they are implicated in society's contradictions.

The risk of operating with the critical rationalist's narrowed conception of contradiction is that social researchers develop elegant models of society containing no trace whatsoever of the critique demanded by its antagonisms. The appearance of a logically consistent group of theoretical statements—even if we grant its provisional character—threatens to conceal the fact that the society in which it was collected is itself fundamentally contradictory. In this way, the goal of a body of scientific knowledge free of contradiction is at odds with the reality of society, a 'fatal' mismatch between theory and its object, since it resigns humanity to a state of powerlessness before society (Adorno, 1976b [1961]: 106). Social research that expels speculative concepts sacrifices a view of the negative social totality for the sake of a partial perspective made possible by its fragmentation. Through emphasis on deductive logic and the effective functioning of scientific communities, critical rationalism leaves the antagonistic structure of society intact by rendering it unthinkable.<sup>41</sup>

### **The Critique of Social Reason**

Despite their working session's customary treatment as a missed encounter, we found a significant theoretical conflict between the papers delivered by Popper and Adorno in 1961, particularly

concerning their respective conceptions of critique. In Popper's critical rationalism, critique is a social practice aiming to clarify theoretical cognitions through experimental falsification. In Adorno critique begins with contradictions existing within society itself – not only those found among theoretical statements – and seeks to free humanity by reflecting on these contradictions. From this conceptual opposition, we can trace distinct approaches not only to the epistemological grounding of the social sciences, but to the social and political hopes of critical philosophy.

In the critical tradition begun by Kant with which both theorists express an affinity, the critique of reason is both carried out by reason and directed toward reason. Reason is doubly involved in its own critique: both 'subject' and 'object', the critic and that which is criticized. In their appropriations of Kantian critique for social philosophy, we can see that Popper and Adorno each emphasize one aspect of this project, at the apparent expense of the other. Since Popper emphasizes Kant's proscription on venturing beyond the bounds of possible experience, he limits critique to designating principles and policies for a research community. This epistemological reading of Kant is countered by Adorno, who views critique as a broader project of freeing humanity from the self-made conditions enslaving it (see, *e.g.*, Adorno, 1976b [1961]: 114). While Popper's critique takes social processes of reasoning as its agent, then, Adorno takes these processes themselves as critique's object; Popper understands critique *as* a practice of social rationality, while Adorno's work outlines a critique *of* social rationality itself. In the conflict between a logic of the social sciences meant to facilitate social processes of scientific research, and a dialectical logic oriented toward freeing humanity through reflection on a negative social totality, we can thus locate a division within critical social reason itself, between its origin within one part of society and its need to examine each of society's moments.

The division between critique as a practice of social rationality and the critique of all social rationality poses a serious issue in the Popper-Adorno debate, since it is precisely the emphasis on one dimension that causes the other to recede from view. For Popper, the demands placed on the scientific community by the need for communicability, rational argumentation, competition, and cooperation, limit the problems this community can take up; it is just because rational criticism is a social practice that it cannot become a critique of society – including the institutions through which scientific research is developed. The social production of knowledge itself is therefore necessarily shielded from scientific examination.<sup>42</sup> On the other hand, it is exactly because Adorno's emphasis on a negative totality proscribes the affirmation of, or positive reliance on, any element of the social whole, that his critical theory stops short of describing ways in which the critique of social reason could become the concerted task of a community. This means, however, that Adorno's critique of society bears a strained relationship to the social conditions of its own possibility, since dialectical reflection itself is learned through the institutions and moments of the negative social totality. This is the complex sense in which the difference of critical visions meeting in this debate represents a conceptual opposition. From within each of these programs, the approach of the other seems foreclosed. Their antagonism speaks to a profound conceptual issue facing any project of reflexive social critique. How can social philosophy committed to a critique of society interrogate its own development without giving up on its critical aspirations? How can a social process of conjecture and refutation broaden its conception of 'problematicity' to include even the assumptions, policies, and unconscious motives guiding the critical collective, without devolving into relativism?

To begin reflecting on the possibility of moving beyond the opposition between critical rationalism and critical theory's respective conceptions of critique, it is perhaps helpful to return

to the affinities shared by these projects. Though it cannot be guaranteed, examining similarities between otherwise clearly divergent research programs might offer something in the way of a negative outline of a third approach. In this sense, it could be the case that a consideration of Popper and Adorno's unspoken alignments will point the way to a critical project capable of holding their apparently exclusive dimensions of critical social research together.<sup>43</sup> To outline this possibility, albeit all too briefly, we will begin with a consideration of Popper and Adorno's shared attitude towards intellectual work and scientific research, where we find an implicit agreement on the relationship between critics and society, despite their differences when it comes to the meaning of critique.

An affinity between Popper and Adorno during their discussion was already noted above, summarized in Ralf Dahrendorf's remark that their session did not have the intensity of a real disagreement (Dahrendorf, 1976 [1961]: 123). Despite their theoretical oppositions, Popper and Adorno's discussion was collegial and even friendly.<sup>44</sup> Commenting on this dimension of the debate, Ágnes Heller speculates that the atmosphere of the initial discussion can be traced to a shared set of commitments concerning the intellectual and their role in society: 'it is plausible that the mutual politeness, which did not reflect the essential conceptual differences, was based in a common attitude: as Adorno places the philosopher-sociologist above the society, so Popper places the scientist above the same society' (Heller, 1978: 52). In this comment Heller suggests that clearly distinguishable conceptions of critique might share a deeper commitment to the superiority of critics. The separation and elevation of the social critic above society allows this figure to maintain a distance from the object of study, even if they recognize (as Adorno does) that this separation is ultimately illusory.<sup>45</sup> Beyond a merely biographical aside, this insight bears real results for the way we read the confrontation between these two positions. If each working session

participant elevates Heller's 'philosopher-sociologist' or 'scientist' above society, we might say that each vision of critique offered in this session is implicitly – perhaps unconsciously – predicated on a dependence on contemporary academic institutions and their ways of functioning.<sup>46</sup>

The separation between the intellectual and society noticed by Heller is further reflected in Popper and Adorno's respective conceptions of the development of criticism. While the critical agent for Popper is a collective one, we have seen how his methodological individualism forecloses the possibility of understanding scientific researchers themselves in terms of their formation by the social world they study. Scientists must go through a rigorous process of honing the technical and critical skills necessary for the falsification of hypotheses and must become familiar with work in other sciences and in philosophy,<sup>47</sup> but their critical insight cannot extend as far as a criticism of this formation process itself. The purity of the 'purely scientific interest in truth' that Popper understands to condition scientific practice is thus not itself subject to critique (Popper, 1976b [1961]: 96), and the separation of this interest from nonscientific or personal motivations is possible, at least in principle. While Popper makes recommendations concerning the education of scientists, then, he cannot recognize the institutions and attitudes through which education is realized – or the *scientific values* embodied by these institutions – as reflective of a systematic social problem, owing to his methodological prohibition on speculation. On the other hand, while Adorno clearly recognizes the entrenchment of educational institutions in the contradictory social whole throughout his career, including in the Introduction to the *Positivist Dispute* volume,<sup>48</sup> he is more taciturn when it comes to considering the development of critical consciousness as a task specific to critical theory. He recognizes in his seminar paper that the scientific values described by Popper – including the interest in truth, fruitfulness, explanatory power, simplicity and

precision (Popper, 1976b [1961]: 97) – are often ‘terroristically misused’ to produce a kind of conformism (Adorno, 1976b [1961]: 110).<sup>49</sup> But the development of the non-conformist attitude sensitive to the nonidentity of capitalist society with itself is not theoretically elaborated in detail. In some places it seems that the development of this attitude is a matter of contingency and luck, or the auspicious insight of a single individual.<sup>50</sup> The way in which a critical perspective can develop from within a contradictory social order seems as resistant to social-theoretical understanding as the unconscious effects of capitalism on experience had seemed to Popper.

From an implicit conception of the superiority of the critical intellectual over society, we have seen that Popper and Adorno’s differing conceptions of critique lead to different ways of concealing the formation of the intellectual critic. In neither case can this formation itself be an object of social research. For Popper, the development of criticism depends on an ethos of science that strives for purity, but critique necessarily refrains from examining the formation of this ethos itself.<sup>51</sup> For Adorno, the values of this scientific ethos are a mode of functioning of the negative social totality, but how exactly the attitude capable of seeing this is able to develop is not a question of urgent theoretical interest.<sup>52</sup> When it is refracted through their different conceptions of critique, the superiority noted by Heller produces two slightly different ways of concealing the educational development of the social critic.

These all-too brief reflections are sufficient to suggest that the appearance of an intractable opposition between critique as a social practice and the critique of all society is conditioned by a neglect of critique’s educational orientation. This educational aim is evident first and foremost in the critical tradition claimed by both Popper and Adorno. Kant, as we have seen, regards critique as more than merely an epistemological undertaking that restrains reason from venturing beyond the bounds of experience, but also understands it as a form of limitation allowing for the

development and cultivation of reason, the plan of which is outlined in the *Critique of Pure Reason*'s (1998 [1781/1787]) 'Doctrine of Method'. Taking Kant's project in this broader sense, reason both assesses its contributions to knowledge and puts them to productive use through a self-conscious and historical process of development. The clarification of reason's theoretical cognitions is thus set within the larger project of reason's formation over time. As its form of 'self-enactment', critique transforms reason itself.<sup>53</sup>

As we saw from their seminar papers, Adorno and Popper lay claim to different emphases of the Kantian project. If there is a version of critical philosophy that brings these two emphases together, both regulating the investigation of theoretical claims, and preserving a general critique of the sociological object, it can perhaps be found by conceiving critique as an educational project of cultivation. In its continuation of this project, critical social philosophy would involve both an investigation of social conditions, and attention to the fact that these conditions also affect the research context itself. This 'critique of social reason' would necessarily originate in contemporary forms of social life but would also orient itself toward discovering their limitations and thereby transforming them from within. Self-reflection is inextricably combined with an assessment of the social order and its forms of injustice, and the critical project necessarily becomes the critique of a contradictory social whole through an apprehension of the incongruities and contradictions structuring subjective experience.<sup>54</sup> Ultimately, however, self-reflection is itself conditioned by contradictory social conditions: in learning to criticize our society, we depend at the same time on the organizations through which we have been formed. The way these social organizations facilitate such learning, however, does not eliminate the imperative to criticize them, nor to relate their deficiencies to those of the broader social whole. In education the dimensions of criticism that had seemed opposed in Popper and Adorno's debate – the self-criticism of social scientific

method, and the criticism of society itself – might become moments of the same process of development.

As we saw in the first section, Popper and Adorno each raise the urgent importance of a simultaneously epistemological and political project of critical sociology. Historical treatments of the dispute, particularly Strubenhoff's, indicate each thinker's distance from contemporaneous projects of social thought stressing the existence of inexorable sociological facts. At the same time, in their responses to the fatalism of their contemporaries, Popper and Adorno do not seek recourse through an appeal to radical spontaneity or a utopian ideal of total social transformation. We might say that for each, critique implies restraint from both the excesses of a resigned acceptance of the status quo, and its revolutionary overhaul. While they do not follow the 'positivists' of their time in their commitment to unalterable dimensions of human social existence, or in a depoliticized conception of sociology as a discipline allowing for the administration of the social world, they recognize that attempts to reform humanity itself through systems of rational control are likely to produce political and epistemological problems.

At the same time, however, Popper and Adorno's wariness toward the transformation of society through a transformation the humans composing it limits the range of concern of each of these thinkers, since it means that their respective conceptions of critique are tied to forms and methods of education unable to depart entirely from contemporary educational practices and institutions. In this way, their shared tendency to conceal social education seems to stem from their suspicion of programs attempting a total transformation the social world through wide-ranging political efforts.<sup>55</sup> While the first section's historical background has shown that it was common during the time of their debate to reject revolutionary or metaphysical projects of social philosophy as the reformation of humanity, the apparent deadlock resulting from Popper and Adorno's



confrontation alerts us to the likelihood that there is yet something unthought concerning the prospects of critical social philosophy aiming at the formation or transformation of social critics. The question from within the Popper-Adorno discussion might then become whether there are versions of a critical-educational project less dependent on centralized political control.

We have suggested that education as a social practice is the thematic through which Popper and Adorno's differences might be dissolved. Seen from this angle, the complex conceptual antagonism between their respective conceptions of critique raises a substantial issue faced by critical social philosophy: the latter's tendency to obscure the specific forms of education conditioning the possibility of critique. We might therefore say that the whole debate is plagued not by the division of labor between academic fields (a charge Adorno levels against Popper<sup>56</sup>), but by the division between the educated intellectual and the social whole. In each of these programs, the work of criticism is shouldered by a researcher or group of researchers whose mode of intellectual work and education are not thoroughly investigated *as social problems*. Without an explicit emphasis on the education of the critic, the historical development of criticism threatens to become critique's irreconcilable 'other'— the condition for its possibility which nevertheless falls outside its domain. Cultivating both dimensions of the critique of social reason – its account of a negative social totality, and its possibility for a social group – requires a recovery of critique's character as education.

## Notes

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<sup>1</sup> For example, Geoffrey Stokes points out the ‘parallels and convergences’ between various dimensions of Jürgen Habermas’ and Popper’s respective projects (Stokes 2016, 318). See also Shearmur (1996: 167).

<sup>2</sup> See, e.g., Karen Ng’s characterization of immanent critique as a form of self-critique arising from contradictions and inconsistencies experienced within social life (2015: 394–95). In Ng’s formulation, immanent critique understands these contradictions to structure both subject and object in the production of social reality. This dimension of immanent critique will be helpful to remember when we consider the nature of critical social philosophy as education in the third section. For overviews of the historical development of immanent critique in Frankfurt School critical theory, see Axel Honneth (1993 [1985]), Rahel Jaeggi (2009), and Robin Celikates (2018 [2014]).

<sup>3</sup> This characterization of Adorno’s project is necessarily partial, as his sociological writings emphasize the ‘dual character’ of society as both subject and object (e.g., Adorno, 1976a [1969]: 33). Taking this dual character seriously means that the critique of social rationality is incomplete without a simultaneous understanding of the way objective social conditions delude subjects from discerning capitalist society’s structure through its power over their inner lives. Since we are mainly treating Adorno’s debate with Popper here, we will focus more on the concept of the negative social totality, but the writings on education and subjective formation briefly mentioned at the end of this paper would necessarily play an important role in a more comprehensive study. For an excellent introduction to Adorno’s complex sociological project, see Matthias Benzer (2011).

<sup>4</sup> This is inspired by Robin Celikates’ (2006, 2018 [2009]) distinction between a critical social theory and a social theory of critique.

<sup>5</sup> For example, Shearmur (1996) speaks of Popper’s ‘non-encounters’ with Adorno and the Frankfurt School thinkers (164), and Rolf Wiggershaus (1994 [1986]) notes that the symposiasts ‘courteously talked past one another’ (568).

<sup>6</sup> Adorno et al., *The Positivist Dispute in German Sociology* (1976 [1969]).

<sup>7</sup> See, e.g., Popper’s *Logic of Scientific Discovery* (2002b [1935]), and Horkheimer’s essay ‘The Latest Attack on Metaphysics’ (1992a [1937]). Anders Ramsay (2018) offers a helpful discussion of the critical theorists’ use of ‘positivism’.

<sup>8</sup> This is further complicated by commentaries on the debate, many of which take a partisan stance, siding with Popper (e.g., Herbert Keuth [2015]; Robert D’Amico [1990]) or Adorno (e.g., Alan How [1980]).

<sup>9</sup> See also, David Frisby’s, ‘Introduction to the English Edition’ in Adorno et al. (1976 [1969]), and Frisby (1972).

<sup>10</sup> See Habermas’ treatment of positivism in *Knowledge and Human Interests* (1971 [1968]).

<sup>11</sup> Rolf Wiggershaus’ comprehensive treatment of the Frankfurt School similarly begins its discussion of this episode by outlining a debate between Horkheimer and König in 1959, drawing the same distinction used by Strubenhoff, between advocates of specialized empirical sociology, and those seeking to overturn the status quo (Wiggershaus, 1994 [1986]: 566–568).

<sup>12</sup> ‘Popper’s own political theory emphasized the possibility of conscious human choice and change, and in this aspect was closer to the Frankfurt School than his methodological followers’ (Strubenhoff, 2018: 263).

<sup>13</sup> See Fuller (2003, 2004 [2003]), Stokes (2016), and Shearmur (1996) for various versions of this kind of claim.

<sup>14</sup> Differences between these modes of critique are also explored by Ramsay (2018: 1189–90) and Giddens (1974: 18ff.).

<sup>15</sup> ‘No knowledge without problems; but also, no problems without knowledge’ (Popper, 1976b [1961]: 88).

<sup>16</sup> ‘This misguided naturalism establishes such demands as: begin with observations and measurements; this means, for instance, begin by collecting statistical data; proceed, next, by induction to generalizations and to the formation of theories. It is suggested that in this way you will approach the ideal of scientific objectivity, so far as this is at all possible in the social sciences.’ (Popper, 1976b [1961]: 90–91).

<sup>17</sup> See Hume’s *Enquiry Concerning Human Understanding* (1777 [1748]), secs. 4 and 5.

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<sup>18</sup> The emphasis on falsity as opposed to verity is why Popper labels himself a ‘negativist’. See, for example, his lecture ‘Truth, Rationality, and the Growth of Knowledge’ (Popper, 2002a [1963]: 312).

<sup>19</sup> See Popper’s early discussion of falsification and related rejection of induction, see the *Logic of Scientific Discovery* (2002b [1935]: ch. 1).

<sup>20</sup> ‘In this way deductive logic becomes the theory of rational criticism. For all rational criticism takes the form of an attempt to show that unacceptable conclusions can be derived from the assertion we are trying to criticize. If we are successful in deriving, logically, unacceptable conclusions from an assertion, then the assertion may be taken to be refuted’ (Popper, 1976b [1961]: 98).

<sup>21</sup> Popper thus articulates a continuity between his logic of the social sciences and Kant’s critical project that Adorno will contest below.

<sup>22</sup> For the comparison of rational criticism with evolution, see Popper (1976a [1970]: 291-2).

<sup>23</sup> Limited space prevents a fuller accounting of the historical background of Popper’s ‘situational analysis’, including its relation to economics. For more detailed examinations of this dimension of Popper’s work, see William Gorton’s *Karl Popper and the Social Sciences* (2006), and Ian Jarvie’s more recent article (2016).

<sup>24</sup> Popper’s essay ‘Models, Instruments, and Truth’ (1994 [1963]: 162–66) contains a more detailed discussion of models in the natural and social sciences.

<sup>25</sup> ‘Now if situational analysis presents us with a model, the question arises: what corresponds here to Newton’s universal laws of motion which, as we have said, animate the model of the solar system? ... [T]here is only one animating law involved – the principle of acting appropriately to the situation, which is clearly an *almost empty* principle.’ (Popper, 1994 [1963]: 168–69).

<sup>26</sup> For a more detailed discussion of this principle, see Popper’s essay, ‘Models, Instruments, and Truth’ (1994 [1963]: 162–66).

<sup>27</sup> Popper levels sustained criticism of these kinds of social theory, which he calls ‘historicist’, in *The Poverty of Historicism* (1961 [1957]).

<sup>28</sup> ‘Examples of piecemeal experiments on a somewhat larger scale would be the decision of a monopolist to change the price of his product; the introduction, whether by a private or a public insurance company, of a new type of health or employment insurance; or the introduction of a new sales tax, or of a policy to combat trade cycles’ (Popper, 1961 [1957]: 86).

<sup>29</sup> ‘... I interpret the concept of logic more broadly than Popper does. I understand this concept as the concrete mode of procedure of sociology rather than general rules of thought, of deduction’ (Adorno, 1976b [1961]: 105).

<sup>30</sup> ‘Thus criticism does not merely mean the reformulation of contradictory statements for the sake of consistency in the scientific realm. Such logicity, by shifting the real substance, can become false. I should like to add that this change in approach likewise affects the conceptual means of sociological knowledge. A critical theory of society guides the permanent self-criticism of sociological knowledge into another dimension. I would simply recall what I implied about the naïve trust in organized social science as a guarantor of truth’ (Adorno, 1976b [1961]: 115).

<sup>31</sup> ‘This means, however, that the problems of sociology do not constantly arise through the discovery “that something is not in order with our supposed knowledge;...from the discovery of an apparent contradiction between our supposed knowledge and the facts”’ (Adorno, 1976b [1961]: 106).

<sup>32</sup> See, for example, Marx’s discussion of the commodity fetish in *Capital* (Marx, 1990 [1867]: ch. 1, sec. 4). Recent work on Adorno’s social theory has demonstrated its connection with the Marxist critique of political economy. O’Kane (2018) provides a helpful discussion.

<sup>33</sup> ‘Just as the capitalist system continuously produces and reproduces itself economically on higher and higher levels, the structure of reification sinks more deeply, more fatefully and more definitively into the consciousness of man’ (Lukács, 1971 [1923]: 93). See Horkheimer’s surprisingly phenomenological interpretation of this process in his ‘Traditional and Critical Theory’ essay, cited by Adorno in his conference paper (Horkheimer, 1992b [1937]: 201).

<sup>34</sup> ‘[R]eality opposes the clean, systematic unity of assembled statements’ (Adorno, 1976b [1961]: 106).

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<sup>35</sup> ‘Positivism is the conceptless appearance of negative society in the social sciences. In the debate, dialectics induces positivism to become conscious of such negativity, of its own negativity’ (Adorno, 1976a [1969], 64).

<sup>36</sup> ‘Probably no experiment could convincingly demonstrate the dependence of each social phenomenon on the totality, for the whole which preforms the tangible phenomena can never itself be reduced to particular experimental arrangements. Nevertheless, the dependence of that which can be socially observed upon the total structure is, in reality, more valid than any findings which can be irrefutably verified in the particular and this dependence is anything but a mere figment of the imagination’ (Adorno, 1976b [1961]: 113).

<sup>37</sup> While Popper claims that the rationality principle is ‘almost empty’, in the sense that it does not contain any empirically relevant information about what the actors in the model want (Popper, 1994 [1963]: 169), Adorno would argue that such a principle necessarily contains salient content, since it prevents social researchers from moving beyond their observations in order to study the ways in which the capitalist social order concretely intervenes to shape the motivations of members of society.

<sup>38</sup> Adorno’s method of social research is thus not opposed to empirical studies, but always aims to situate them with regard to the prevailing social antagonisms. In *Negative Dialectics*, he argues that this procedure adheres to its object much better than positivist programs of social research working without speculative concepts (Adorno, 1995 [1966]: 141). See also Adorno’s essay ‘Sociology and Empirical Research’ (1976c [1957]) published in the volume containing the documents of the present debate.

<sup>39</sup> ‘If social science... on the one hand, takes the concept of a liberal society as implying freedom and equality and, on the other hand, disputes, in principle, the truth-content of these categories under liberalism... then these are not logical contradictions which could be eliminated by means of more sophisticated definitions, nor are they subsequently emergent empirical restrictions or differentiations of a provisional definition, but rather, they are the structural constitution of society itself’ (Adorno, 1976b [1961]: 115). See a similar treatment in *Negative Dialectics* (Adorno, 1995 [1966]: 151ff.).

<sup>40</sup> For Popper’s expression of a debt to Kant, see: (Popper, 1976b [1961]: 90). Elsewhere, Popper contends that the critical theorists eschew the influence of Kant, opting instead for the less critical Hegel: ‘... I accuse modern revolutionary Marxists of boasting and trying to impress us with few ideas and many words. Nothing is more alien to them than intellectual humility. They are not pupils of Socrates or even Kant, but of Hegel’ (Marcuse and Popper, 1976 [1972]: 95).

<sup>41</sup> Popper would write in his review of the *Positivist Dispute* volume: ‘Thus no reader would suspect, and no reviewer did suspect, what I suspect as being the truth of the matter. It is that my opponents literally did not know how to criticize rationally my twenty-seven theses’ (Popper, 1976a [1970]: 291). This interpretation of the debate is reproduced by commentators such as Robert D’Amico (1990: 33-4), who claim that Adorno and his colleagues were ignorant of Popper’s philosophy of science and political thought. Adorno’s direct engagement with Popper’s position throughout his paper throws this reading into doubt. Indeed, in a careful reading of the dispute and the interlocutors’ broader bodies of work Ramsay points out the stark imbalance between Popper and Adorno when it comes to their familiarity with each other’s work (Ramsay, 2018: 1185). While it is clear that Adorno was conversant with Popper’s critical rationalism, at least in its early formulation in the *Logic of Scientific Discovery*, it seems likely that Popper had little familiarity with the project of critical theory, evidenced by his simplistic association of the latter project with the philosophies of Hegel and Marx (see last note).

<sup>42</sup> Popper’s polemical rejection of an anthropologist who claims to study scientific practice as a kind of behavior and his related criticism of the sociology of knowledge are important in this regard (Popper, 1976b [1961], 93-5). These criticisms can also be applied to later studies of science, including works in the Sociology of Scientific Knowledge (SSK) and Science and Technology Studies (STS), as these approaches take the production of scientific knowledge as their object.

<sup>43</sup> In the spirit of this observation, I relate Popper and Adorno’s shared criticism of Karl Mannheim’s sociology of knowledge in their debate to the themes developed in the rest of this section in Reynolds (2021c).

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<sup>44</sup> More evidence for Heller's claim is found in a letter written by Adorno to Popper in October of 1961, in which Adorno pits both himself and Popper against those who make a lack of understanding their 'scientific ethos' (Dahms, 2019: 708).

<sup>45</sup> See Adorno's reflection on intellectuals' contradictory status in capitalist society in *Minima Moralia's* aphorism entitled 'Little Hans' (Adorno, 1974 [1951]: 132-133).

<sup>46</sup> It is perhaps this similarity that would allow some of the representatives of each of these tendencies to converge in the years following the 1961 encounter between Popper and Adorno. See n. 1 above.

<sup>47</sup> See, for instance, Popper's notes on scientific education in 'Reason or Revolution', appended to the 1976 English translation of the *Positivist Dispute* volume (Popper, 1976a [1970]: 292).

<sup>48</sup> See Adorno (1976a [1969]: 43), for example. Adorno's theory of education is also developed—aside from his later lecture courses—in his 'Theory of Pseudo-Culture [*Theorie der Halbbildung*]' (1993 [1959]), 'Education After Auschwitz' (2005 [1966]), and his radio interview with Hellmut Becker, entitled 'Education for Maturity and Responsibility [*Erziehung zur Mündigkeit*]' (1999 [1969]).

<sup>49</sup> 'Even in the sciences, honesty is frequently attributed to the person who thinks what everyone thinks, devoid of the supposed vanity of desiring to perceive something special and, for this reason, prepared to bleat sheeplike with the others. Similarly, directness and simplicity are not unquestionable ideals when the matter is complex' (Adorno, 1976b [1961]: 110). See also: 'The gesture of scientific honesty, which refuses to work with concepts that are not clear and unambiguous, becomes the excuse for superimposing the self-satisfied research enterprise over what is investigated' (Adorno, 1976c [1957]: 73).

<sup>50</sup> See, Adorno (1995 [1966]: 41), as well as remarks from his interview with Becker (1999 [1969]: 22-23).

<sup>51</sup> 'The purity of pure science is an ideal which is presumably unattainable; but it is an ideal for which we constantly fight-and should fight-by means of criticism' (Popper, 1976b [1961]: 97).

<sup>52</sup> To be sure, we find indirect evidence of this developmental process in certain of Adorno's works, especially *Minima Moralia* (1974 [1951]), aesthetic explorations such as 'The Essay as Form' (1991 [1957]), and his lecture courses (see, e.g., Adorno, 2019 [1964], 109). The important point here, however, is that in Adorno's social theory this development process is not an explicit focus of theoretical research itself. The latter always seems to occur *post festum*, after the development of the critic.

<sup>53</sup> This brief characterization is indebted to Farshid Baghai. As Baghai notes, taking the importance of reason's 'self-enactment' (2019: 12-13) seriously within the overall project of the first *Critique* implies a departure from the typical reception of Kant as an epistemologist, since this reading reveals the 'critical-methodological' sense of reason (16).

<sup>54</sup> This implies studying the objective conditions of society and their modifications on our subjective consciousness, without reducing one to the other. Karen Ng writes: 'Critique is immanent not only because consciousness continually finds itself in its object... but further, because the incongruencies and conflicts that arise immanently in the course of experience are transformative of both subject and object, producing new forms of consciousness, new norms, and new social realities' (Ng, 2015: 394).

<sup>55</sup> In the Marxist tradition, the relationship between social critique and political education is treated, for example, in Marx (1972 [1845], Thesis 3) and the final essay of Lukács (1971 [1923]), as well as among countless theorists in the Soviet, Latin American, Asian and African contexts. An early and clear example of the kind of a centralized 'reformation of humanity' resisted by Adorno and Popper alike can be found in Lenin's 'The State and Revolution' (1987 [1917]). I have further explored the relationship between critique and education in Reynolds (2021a, Section 3; 2021b).

<sup>56</sup> 'Insight into society as a totality also implies that all the moments which are active in this totality, and in no way perfectly reducible to one another, must be incorporated in knowledge; it cannot permit itself to be terrorized by the academic division of labor' (Adorno, 1976b [1961]: 119-20).

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