



Objectivity in social inquiry: a discussion between pragmatism and logical empiricism

Objetividade nas investigações sociais: uma discussão entre pragmatismo e empiricismo lógico

Ivan Ferreira da Cunha*
ivan.fc@ufsc.br

Recebido em: 04/12/2021.

Aprovado em: 05/05/2022.

Publicado em: 04/10/2022.

Abstract: Otto Neurath and John Dewey share the understanding that science must have a prominent role in democratic social reform. This is a common aim that brought logical empiricism and pragmatism together in the first half of the 20th century, but there are differences between the two stances. On the one hand, Neurath sees a limitation of scientific knowledge, considering that it cannot determine decisions to be taken in the course of social reform. Such decisions, in the logical empiricist view, are a matter of politics. On the other hand, Dewey sees a continuity among all forms of inquiry and, therefore, the conclusions of valuational inquiry are analogous in their epistemic claims to the conclusions in factual (natural or social) inquiry. This article discusses this divergence and concludes that pragmatist continuity of inquiry is set in a psychological context that disregards a difference in objectivity between factual and valuational inquiry.

Keywords: Dewey. Fact and Value. Neurath. Social Science. Social Technology. Utopia.

Resumo: Otto Neurath e John Dewey compartilham do entendimento de que a ciência deve ter papel destacado na reforma democrática da sociedade. Esse é um objetivo comum que aproximou o empiricismo lógico e o pragmatismo na primeira metade do século XX, mas há diferenças entre as duas posições. Por um lado, Neurath vê uma limitação do conhecimento científico, considerando que este não pode determinar decisões a serem tomadas no curso da reforma social. Tais decisões, na visão do empiricismo lógico, são assunto da política. Por outro lado, Dewey vê uma continuidade entre todas as formas de investigação e, portanto, as conclusões da investigação valorativa são análogas em suas pretensões epistêmicas às conclusões da investigação factual (natural ou social). Este artigo discute essa divergência e conclui que a continuidade pragmatista da investigação é posta em um contexto psicológico que desconsidera uma diferença na objetividade entre investigações factuais e valorativas.

Palavras-chave: Ciência Social. Dewey. Fato e Valor. Neurath. Tecnologia Social. Utopia.

1 Introduction

In the first half of the 20th century it became apparent for the first time in philosophy that society would be irreversibly changed through scientific efforts. Among the many philosophical movements that bloomed in that period, this paper focuses on two that had in common the belief that social science could be the most important tool to help us shape society towards a better future: logical empiricism and pragmatism, in particular the versions advanced by Otto Neurath and John Dewey, respectively.

With his scientific utopianism, Neurath proposes that social scientists should develop a wide variety of alternative social arrangements and plans



Artigo está licenciado sob forma de uma licença Creative Commons Atribuição 4.0 Internacional.

* Department of Philosophy,
Federal University of
Santa Catarina – UFSC, Brazil.

in order to promote debate on how forms of life could be. Dewey, with his theory of inquiry, maintains the continuity of theory and practice in the common ground of all pursuit of knowledge. In spite of their common aims, such as democracy and the contribution of science to social progress, and of a collaboration in the *International Encyclopedia of Unified Science*, Neurath and Dewey disagree on one crucial aspect. Neurath considers that decisions as to which plan should be adopted in a given situation cannot be determined by any epistemic process, including scientific inquiry. Dewey, on the other hand, by assuming the pragmatist perspective of the continuity of inquiry, considers that conclusions reached in valuational inquiry are analogous to those reached in factual inquiry—hence if the latter constitute knowledge, so do the former.

This article assesses the divergence. The aim is not to reconstruct a debate between Neurath and Dewey, but to consider the merits and limits of their points of view. It argues that Neurath and Dewey are not discussing the matter in the same scope: while Neurath is right that one cannot obtain knowledge about valuations, the Deweyan continuity between factual and valuation inquiry makes sense in a more restricted point of view. To do that, section 2 briefly presents Neurath's scientific utopianism; section 3 presents the pragmatist continuity between factual and valuational inquiry following Dewey's works; sections 4 and 5 develop the argument of this paper and the conclusion is laid out in section 6.

2 Neurath's Social Sciences

In *Foundations of the Social Sciences* ([1944] 1970), Otto Neurath draws a picture of the social sciences as dealing with complex clusters or aggregates – *Ballungen* is his term in German – of many overlapping intertwined aspects. *Ballungen* can in principle be analyzed into their constituent parts which are the subject matter of particular disciplines such as sociology, economics, anthropology, political science, history, psychology, and even physics, chemistry, and biology. However, such an analysis might divest the object of its interest in the social sciences. Hence, even though sometimes the only way to approach a certain *Ballung* is by analyzing it, the social sciences cannot lose this wider focus. That is, social scientists must realize that their object is of great complexity and that their particular discipline or approach is often taking into account only a part of that object.

To keep track of the complexity of *Ballungen*, Neurath proposes that social scientists deal with *utopias*, understood as “any kind of invented [social] order, pleasant or unpleasant, plausible or implausible, for maker and reader. ‘Scientific utopianism’”, Neurath continues, “seems to be a fair scientific enterprise, and we may deal with its procedures seriously” (NEURATH, [1944] 1970, p. 31). That is, Neurath proposes that social scientists should not restrict their analysis to existing or historically given social orders, but they should also seek to learn from imagined social orders.

Neurath's scientific utopianism regards the social sciences in a continuum with the philosophical and literary utopian tradition, as well as with the utopian socialist tradition (see NEURATH, [1919] 1979; [1919] 1981). Moreover, Neurath ascribes a technological role to the social sciences: by creating and comparing new social orders, the social sciences can clearly contribute to dealing with social problems and to social reform, to a conscious shaping of society. As Elisabeth Nemeth puts it:

The experience of the constructability and conscious direction of economic processes stimulated the creation of pictures of different possible forms of organization. These pictures have two aspects: they are ‘constructed scientifically’, and they are ‘practical’, they can serve as goals for action which seeks to realize a new life order. (NEMETH, [1982] 1991, p. 285).

In this technological outlook, Neurath accounts for the fundamental role that the social sciences can play in the transformation of society. However, it must be made clear that Neurath is not endorsing a

technocratic point of view. He considers that the ultimate decision regarding the implementation of some proposed utopia must be made by the relevant community in a democratic process. Social scientists have the important function of offering, developing and comparing social plans; but they are not the ones who decide which plan to apply. In Nemeth's words, "it is the task of science to develop 'groups of utopias' and to make transparent the differences between these models in a 'comparative utopistics'. Which of these models is to be preferred is impossible to say on ground of theory alone: it is the politician who must select one of them" (NEMETH, [1982] 1991, p. 285-286).

Hence, scientists can help a community visualize how the *Ballung* of their life order would be if some transformations were implemented. Also, scientists can discuss grounds of comparison with the community. But the conclusion as to the adequacy or inadequacy of a certain utopia to resolve a problematic situation cannot be reached by scientific investigation. The aim of the scientists' work is to guarantee that the community makes an *informed* choice on the matter, avoiding the imposition of social plans.

However, this seems to reflect a separation between facts and values, i.e. science deals with factual matters and values are the subject-matter of politics. But it would be wrong to assume that this separation between matters of fact and matters of value entails a hard-and-fast separation of science and politics in Neurath's thought. Thomas Uebel tells us that "[as] scientist and theoretician Neurath had to remain value-neutral, as citizen he could be an activist promoting goals in the moral-political sphere. But [...] also as scientist he had a choice – which he did exercise – to pursue a value-relevant research agenda: socialization theory" (UEBEL, 2020, p. 50; also see UEBEL, 2008). Hence, Neurath does separate the scientist and the activist (even if they are the same person). But this does not mean that the scientist is impartial since theoretical choices also have a political import. These choices, like those made by the activist, cannot be determined by scientific investigation, they are a matter of politics.

This does not mean, however, that political choices (by the activist and by the scientist alike) are not rationally justifiable. According to the general stance shared by the logical empiricists of the Vienna Circle, such as Neurath, Rudolf Carnap and others, political choices and debates are justifiable. This general stance, as Thomas Uebel (2020) and Christian Damböck (2022) explain, considers that political views that influence decisions and choices can certainly be a matter of rational discussion and criticism, because the logical connections and practical consequences of assuming certain stances can be assessed as justifiable or not. In Uebel's terms, "[it] was an essential part of the [Vienna] Circle's modernist enlightenment ethos to demand the transparency of claims and the readiness to give arguments in support of them not only in the study or lecture hall, but also in the public and civic domain" (UEBEL, 2020, p. 54).

The possibility of rational justification lets scientists realize the political import of theoretical choices and to enhance the community's political debate with alternative plans, even if scientific knowledge cannot determine political decisions. Notwithstanding their rational justifiability, value judgments have no *verification conditions*, or any other criterion for determining their truth-value. To be sure, the logical relations established between value judgments and other statements can be cognitively meaningful. This means that we are able to *know* what is entailed by certain value judgments – and this forms the basis for the rational justification of assuming one or another political stance. In other words, this is what makes the debate on valuations rationally meaningful (see UEBEL, 2020; DAMBÖCK, 2022).

During the same period in which Neurath was presenting these proposals, John Dewey was advancing his pragmatism. Dewey shared with Neurath the view that science must play a prominent role in social reform (see DEWEY, [1938] 1955), but pragmatism seems to diverge from logical empiricism in considering that inquiry of values can reach conclusions that have an epistemic character. Social inquiry can seemingly attain truth and justification (as construed by pragmatism) similarly to (social or natural) scientific inquiry. Moreover, it is well-known that Dewey also avoids the technocratic pitfall,

as he is a champion of democratic theory (see DEWEY [1939] 2008). Hence, pragmatism seems *prima facie* to be a more adequate account of the technological endeavor of the social sciences, particularly from our contemporary, early 21st century, point of view that has reservations in regard to gaps between science and politics. However, I am going to argue that valuational inquiry in Dewey's pragmatism cannot reach the same kind of objectivity as factual inquiry and, therefore, the epistemic pretensions of the two types of inquiry cannot be equated.

3 Describing social inquiry

This argument begins with a toy example, an overly simplified model used solely to explain the functioning of pragmatist social inquiry.¹ The point of the example is to allow a comparison between the factual inquiry and the valuational inquiry in a pragmatist outlook. Imagine some factory workers who live with their families in row houses. Suppose a group of social scientists gets to study their social relations. According to Dewey, an inquiry begins with the formulation of a problem; but this first step must be distinguished from the indeterminate situation that is before the inquiry. In this case, the prior indeterminate situation is the concrete situation experienced by the workers and their families, in various relations that they have with work, urban space, marriage, family, friendship, leisure, etc., in a manifold of aspects that can be approached in a variety of ways. Depending on how the problem is formulated, specific data will be selected and certain hypotheses will be suggested (DEWEY, [1938] 2008, p. 111-112). In this example, the question is how to understand the division of domestic labor in the workers' families. In other words, the problem is how to understand the complex concrete situation within a framework of more abstract terms, so that the situation can be scientifically handled.

This process of characterizing the situation opens the way to the second step of the inquiry, that of suggesting hypotheses (DEWEY, [1938] 2008, p. 112-115). Scientists try to understand the social relations in that situation in accordance with their previous knowledge. If they are successful, the situation will be related to some paradigmatic case, which is a *model* for the concrete situation. Otherwise, a new model can be built to represent the situation by using, likewise, previous knowledge. In the next step, which Dewey calls *reasoning*, the hypothesis that the situation can be modeled in such and such a way needs to be justified. Scientists derive implications of the hypothesis and they also test and adjust it. If the hypothesis is correct, scientists will be able to derive from the paradigmatic case a description and explanation of the social relations identified in the formulation of the problem in terms of the observed features of the situation. Thereby scientists have an abstract scheme that allows them to handle the subject-matter in the terms of their theories and previous knowledge.²

In Dewey's terminology, inquiry results in an assertion that is warranted by the very process of inquiry (DEWEY, [1938] 2008, p. 122). In the example, scientists warranted their assertion of characterizing the social situation in accordance with the model. This result gives way to other contexts of inquiry: suppose that the resulting characterization obtained by the scientists indicates that members of the community present complaints regarding some aspects of their lives. The workers' wives have no alternative except to work as housewives, taking care of children and cooking meals, while they would like to earn their own living outside the house. Since they do this work unwillingly and without proper training, they do it badly, so children are not healthily fed. Also, children have nobody to look after them outdoors, so they

1 The following example is inspired by some proposals that appeared in different contexts during the 20th century. It appeared, for instance, in Bertrand Russell's social-philosophical essay *Architecture and Social Questions* (published in 1935), in Ursula K. Le Guin's science-fiction novel *The Dispossessed* (published in 1974), and even in real life: Neurath worked in a similar housing project in the 1920's, although he stopped endorsing this design after some time (see VOSSOUGHIAN, 2011, p. 16-44). I do not intend to discuss any of these cases in particular, I am just appropriating the example to my own ends.

2 The notions of 'model' and 'paradigmatic case' are not originally Dewey's, but their usage is rife in contemporary philosophy of science. We can use these notions to approach the matter here because Dewey's pragmatism understands knowledge (common and scientific, natural and social) within relations of abstract and concrete parts of experience in inquiry (see DEWEY, [1929] 1958).

are restricted to the house, which does not offer enough space or a safe environment to play. Finally, with all these unhealthy conditions, both workers and spouses have no suitable conditions for leisure. In this example, because of the model used to describe the situation, scientists are able to explain this unhappy behavior (partly) as a result of the social structure.

These inquiry conclusions have the status of knowledge, as pragmatists understand it, because of the step of reasoning. Without this step, Dewey ([1938] 2008, p. 115) reminds us, “the conclusion reached is not grounded, even if it happens to be correct”. In the process of reasoning, the hypothesis and its derived consequences are related to previously acquired knowledge and experience, as well as to further evidence obtained in the course of inquiry. Thus, adjustments to the description of the situation are made. If some scientists suspect a mistake in the description, they are urged to investigate further—experimenting or observing to solve or to determine the doubt. If, after enough investigation, the conclusion is that the situation can be described as such and such and that the studied community presents such and such behavior explainable by some features of the social arrangement, this is because the inquiry process warrants such assertions.

Moreover pragmatists can claim the successfully warranted assertions that result from inquiry to be true – in the pragmatist sense of truth, of course. Pragmatists hold that the truth of an assertion is its accordance with the *limit* towards which inquiry *ideally* tends. Dewey ([1938] 2008, p. 343, n. 6) quotes Charles Sanders Peirce in advancing that “the opinion that is fated to be ultimately agreed to by all who investigate is what we mean by the truth, and the object represented in this opinion is the real” (EP 1:139). More precisely, Peirce writes that “truth is that concordance of an abstract statement with the ideal limit towards which endless investigation would tend to bring scientific belief [...]” (PEIRCE, 1902, p. 718). Hence, truth is the ideal limit towards which an endless inquiry carried through by ideal inquirers would tend. This means that we cannot possibly know if we have ultimately found a true assertion – simply because we are unable to leave our existential contexts of inquiry and, therefore, we cannot refer to any evidence except that which appears in such contexts (see PUTNAM, 2010, p. 36-38). But, according to pragmatists, if all our evidence and inquiry efforts point towards that ideal limit, we are able to claim that the inquiry result is true. The meaning of such a claim is simply that inquiry moves consistently in one direction.³

The description warranted in a first moment of inquiry serves as the formulation of a problem in a subsequent moment. Following once again the inquiry steps proposed by Dewey, now scientists conceive hypotheses to solve or attenuate the problem-situation. In Neurath’s scientific utopianism, this is the step in which utopias are elaborated and that vocabulary will be used here to clarify the comparison. In the example, the utopia presented is that of a communal residence: an apartment building with a common nursery school and a common kitchen. The grounds of the solution are that the duties of caring for children and of cooking are assigned to people who actually wish and are trained for that work, instead of making it compulsory for the factory workers’ spouses.

The proposed solution has the utopian feature of dealing with many interrelated problems of the situation. In this instance, the reasoning step is the process of investigating if the proposed arrangement actually solves the community’s problems. Suppose that the scientists provide many possibilities for the community to compare and choose. In this reasoning process, further adjustments are made to the utopian models. Unanticipated problems come up, such as how the building is to be financed, how the apartment ownership is to be established, who is going to work in the nursery school and in the kitchen,

3 The pragmatist theory of truth is certainly controversial. It has faced criticism by Carnap (1949) and by Russell ([1952] 1985), among others. Discussing its details and developments is a matter for another paper. For our aims here, it suffices to acknowledge that the pragmatist notion of truth offers an account of how truth affects inquirers in their own perspective, without considering any metaphysically stronger sense of the concept. See Capps (2021) for a comparison and discussion of Dewey’s and Neurath’s conceptions of truth – Capps argues that both authors “were attempting to offer principled alternatives to the correspondence and semantic theories that now dominate” the discussion on truth (CAPPS, 2021, p. 186).

where the building is to be located, etc. Dealing with these problems requires that more social agents, such as the factory owners, banks, and the government, engage in the debate.

Such a debate might help to obtain guidelines for implementing the proposed solutions. The complications that come up lead to adjustments in the utopian models, so that further debate with the whole community is needed. Eventually, the inquiry process comes to an end: either one variation of the utopias is chosen as a solution or the group of utopias under discussion is considered unsuitable to deal with the situation.

The feature of the implementation debate that is interesting here is that in the process of reasoning about the hypothetical solution the community comes to an evaluation of the proposed arrangements, by considering if each is adequate to their aims. This evaluation offers grounds for the decision as to whether or not to implement the arrangements. It is seemingly at this juncture that logical empiricists and pragmatists diverge: the latter consider that the evaluation has an epistemic status and the former disagree. The example illustrates how this works.

Suppose that in the course of the debate most of the families agree to living in the new apartment building with a communal kitchen and a nursery school. They notice that their living conditions would be more pleasant in the new arrangement—or, at least, they deem it worth a try. Now suppose that a few families consider that owning an apartment in those conditions is not a good idea: the maintenance costs of the communal facilities are too high, making the apartment quite difficult to sell when the children grow up. Planners propose then that the factory keep ownership of some apartments and lease them to these families. Let us say that some of the families agree with that, but that some still consider that it would just be too expensive. While planners think of another solution for these families, suppose that the others, who had agreed to own an apartment in the building, come to disapprove of this capitalistic behavior by their colleagues: they prize the proposed form of life so much that they prefer not to share their dwellings with those of different mentality. These people saw a utopia when the social engineers came up with the plan; but as they realize that their petty neighbors are also in the plan, they conclude that this proposal is actually a dystopia.

4 Between logical empiricism and pragmatism

Notwithstanding their different historical and philosophical backgrounds, Dewey and Neurath shared their aims in intellectual work, advancing science to improve society, as well as a commitment with democracy, as mentioned above. They were brought together by such common aims to collaborate in the *International Encyclopedia of Unified Science*, a project originally proposed by Neurath, who had as co-editors Rudolf Carnap and the American pragmatist Charles Morris. The project aimed at strengthening the scientific world-conception, creating a network to advance the study of science (see REISCH, 2005a; 2005b). In spite of their collaboration, however, Neurath and Dewey did not reference each other to a great extent in their texts and Neurath's untimely death in 1945 cut short the possibility of a continued debate. Nevertheless, many efforts are being made by recent scholarship to identify points of convergence and divergence amid the vastness of their works, as well as between logical empiricism and pragmatism (see, for example, Capps (2021); Pihlström et al. (2017); Di Berardino (2016); Uebel (2015); da Cunha (2014) and (2012); Misak (2013, chapter 9); Limbeck-Lilienau (2012); Richardson (2008) and (2002)).

This line of commentary makes it possible to state that Neurath and Dewey had in common the perspective that human beings live in an uncertain environment, in which we can never assume that the rationalist ideals of clarity and distinctness will guide us to certainty. Both authors agree that *certainty* cannot be considered an absolute concept. The starting point of every action, analysis, or inquiry—scientific or otherwise—is an indeterminate situation (Dewey), a *Ballung* of overlapping and intertwined

aspects (Neurath). One should not entertain the illusion that it will be possible to completely overcome such an indeterminacy or complexity. The result of our knowing efforts is, as Dewey puts it, just the starting point for another inquiry, in an endless continuum. As Neurath expresses, we will never be able to leave our conditions of being like sailors who must rebuild their ship on the open sea without ever being able to dock it and repair it with the best materials one can conceive.⁴ The best that can be done is to experiment, to try to reorganize lived experience so as to improve the conditions of life in the environment. Hence, science should be regarded as a model of conduct (Dewey) or as a way to conceive the world (Neurath), as an attitude of dealing with the environment openly and transparently, with the best efforts and materials one can find, knowingly that those are not ideal. Thus, science should be preeminent in education, so as to prepare citizens to deal with an uncertain environment, and to do that openly and transparently, with their best efforts, so as to secure democracy. It is this common ground between their philosophies that allows the preceding presentation of Neurath's utopias within Dewey's matrix of inquiry.

In this common ground, logical empiricists agree with pragmatists that there can be knowledge about the fact that a given community evaluates a given arrangement in a given way.⁵ Both agree that an important part of elaborating alternative social arrangements is learning about how the involved community evaluates such arrangements. That is, in the formulation of a utopia, of a hypothesis to deal with a problematic social situation, scientists are looking not only for a different arrangement, but also for one that satisfies the involved people in their needs and wishes. It can be agreed too that no ready-made plan is possible: the process requires comparisons with other arrangements, actual and imaginary, in a debate in which adjustments to the plans are made and, hopefully, one of the proposals is chosen.

In the logical empiricist stance, as seen above, this debate is rational and the different conclusions reached are justifiable in relation to the aims and political positions of each group within the community. Pragmatists agree, of course, but they take a step further and consider that the community, or its members, can also claim an epistemic status to the evaluation, that is, the inquiry process should enable inquirers to *know* that a certain arrangement is adequate or inadequate. In the example, the community would *know* that the proposed arrangement is inadequate—they seem to be justified or warranted in claiming that the utopian hypothesis has been falsified. As they inquiry further by debating the plan, more and more problems and controversies appear: inquiry seems to tend towards the assertion that the plan is inadequate for that community and that its implementation would be a disaster.

To account for this epistemic claim, pragmatists consider that value judgments are the result of inquiry processes that begin with experienced value qualities: when the community debates social proposals, its members experience phenomena of valuation, as they think about the impact such proposals would have in their lives. That is, in the example, the conclusion that the proposed plan is inadequate results from the process of elaborating hypotheses and reasoning about them. From this point of view, such a conclusion is analogous to those that can be obtained in factual inquiries. Hence, pragmatists advance, the assertion is warranted by the inquiry process and the ongoing inquiry seems to point to it as an ideal limit.

It must be made clear that the epistemic status is not assigned to the first impression that the arrangement was pleasant to some members of the community, but to the result of a complex process of debating the social arrangement, ideally with all the best inquiring instruments one could have—

4 Neurath's boat metaphor is quite well-known. It has been presented in many texts (see, for example, Neurath ([1944] 1970, p. 47) and also Neurath ([1932] 1983, p. 92)). A profound analysis of the metaphor and its different uses in Neurath's work can be found in Cartwright et al. (1996, Part 2).

5 Dewey establishes the basis for the empirical study of valuation in his *Theory of Valuation* (DEWEY, [1939] 1970), a work originally published in the *International Encyclopedia of Unified Science*, the project in which the mentioned collaboration between pragmatists and logical empiricists took place. Both Carnap (1963, p. 1009) and Neurath ([1944] 1970, p. 16, p. 48, n. 23) declare agreement with the contents of that book. In Carnap's case, however, that agreement can arguably be regarded as an overstatement, as might be indicated by a comparison with neo-pragmatist authors, such as Hilary Putnam (see LINSBICHLER, 2022+). The reason for a supposed overstatement is to emphasize the common aims of pragmatists and logical empiricists manifested in their collaboration in the *Encyclopedia* (also see CUNHA, 2012).

including the comparison with other available plans. This calls for a distinction between experienced value-qualities and valuations that result of inquiry—a distinction that also has an analogue in factual inquiry. According to Dewey, as Ruth Anna Putnam explains,

[...] that a thing is red does not suffice to identify it as a tulip; just because a thing is attractive does not suffice to identify it as good. But in both cases the experienced quality may prompt an inquiry that leads to the conclusion that the red thing is (or is not) a tulip and the attractive thing is (or is not) good. (PUTNAM, 2010, p. 49).

Hence, from the fact that community members perceive a social plan as pleasant or attractive, it does not follow that it is adequate or that it should be implemented. But such a perception sparks or enters a context of inquiry in which the community seeks to warrant the assertion as to the adequacy of the proposed plan—in such an inquiry, as in our example, the community might come to conclude the contrary, that the plan is inadequate in spite of its perceived pleasantness or attractiveness.

It must be understood as well that the end of inquiry is not simply a coincidence of opinions within the community in regard to the adequacy of the plan or to the goodness of a thing. According to Dewey, an agreement must be reached, but “[the] ‘agreement’ in question is agreement in activities, not intellectual acceptance of the same set of propositions [...]. A proposition does not gain validity because of the number of persons who accept it” (DEWEY, [1938] 2008, p. 484, n. 4). By “agreement in activities”, Dewey means the establishment of a social situation in which the conflicts that presented the need for inquiry do not occur anymore, a situation in which the members of the community are able to share a harmonious coexistence. This is a consequence of understanding inquiry as “the transformation of a problematic situation (which involves confusion and conflict) into a unified one” (DEWEY, [1938] 2008, p. 484). Of course, this *ideal limit* of absence of conflict can only be contemplated in the continuity of inquiry towards an indeterminate future. In this pragmatist view, if a community investigates to the effect of *knowing* that a certain arrangement is adequate, this means that the investigation has ascertained that the amount (or the seriousness) of conflicts is decreasing with the adoption of the arrangement. Analogously to other kinds of inquiry, we do not hope to finally reach the ideal conflict-less utopia, but to warrant that we are moving towards it. In the case of our example, the proposed scheme of a communal residence clearly does not take the community towards such an ideal, but in the opposite direction.

However, there is an important difference between the results of the valuational and of the factual inquiries. The inquiry that concludes that a thing is a tulip is carried through against the background of a linguistic community whose behavior is controlled by a paradigmatic or standard understanding of what a tulip is. The same can be said of the first inquiry in the example which modeled the domestic situation of the factory workers and their families: scientists used consolidated theoretical knowledge to characterize the situation as they did—either by setting it in accordance with a known model or by creating a new model. In both cases, if members of the linguistic or scientific community suspect a mistake in the characterization of the object, they can point that out by referring to other cases in which the characterization has succeeded or to documented debates on the difficulties of carrying out the description or classification or even to the established understanding of the standard tulip or of the sociological model.

The valuational inquiry, on the other hand, is enacted in a context that has no such rigor. If other members of the community disagree with the characterization of the proposed model as good or adequate, they can only resort to their own perceptions, worries, and conclusions. They can argue and try to make their peers see things from their point of view, they can make reference to previous experiences and to their wisdom as experienced inquirers on that subject. But there is no paradigmatic or standard definition or understanding as to what a good or adequate social arrangement is, even for that particular community.

Suppose, expanding the example, that the group reaches an agreement (in activities, as Dewey requires) in regard to another plan, one that proposes not just one, but many communal residences, reflecting the fragmentation of the original community. For a while they live with significantly less conflict, so that a pragmatist advances that those people *know* that their community has taken a step further in the direction of the ideal limit of the adequate social arrangement. However, suppose that a few months afterwards most of the community adopts a new moral system with the commandment that “spouses shall not complain” and now they are seeking a suburban “Stepford wives” kind of life. If a member of the community wishes to argue that the previous plan (multiple communal residences) is more adequate than the new (suburban) plan, the previous inquiry results will not be useful in the argument, as justified as they can be by their inquiry procedures or ideal limits. It is reasonable to expect, in cases of knowledge, that previous results have (at least some) influence upon future inquiries. But the results of valuational inquiries do not necessarily constitute that which this paper calls a standard understanding and, hence, they have no such influence, at least not necessarily.

5 The limits of pragmatism

Dewey ([1938] 2008, chapter 24) puts forward that the difference between valuational and factual inquiries is only a matter of degree. Indeed, as he argues, factual and valuational inquiry mingle together, especially in the social realm. The core of Dewey’s argument for the continuity between factual and valuational inquiry is that value judgments have the character of hypotheses in valuational inquiry. In the step of reasoning, the factual consequences of value hypotheses are investigated in relation to the value qualities that are experienced in the process. Hence, value hypotheses can be confirmed or not in a process that is similar to, although perhaps more fallible than, factual inquiry. There is a stock of consolidated knowledge in both cases, but in valuational inquiries it remains significantly smaller. Both aim at warranting assertions and resolving indeterminate situations, but, in Dewey’s own words, it is “much more difficult to accomplish this end in social inquiry than in [...] physical [i.e., natural] inquiry” (DEWEY, [1938] 2008, p. 485; also see DEWEY, [1922] 2002; DEWEY, [1929] 2008, chapter 10).

Dewey is right in considering that the difference is just a matter of degree, but only in a certain sense. The pragmatist approach works very well to describe the psychological processes of the inquiring community members when their immediate context is considered. They experience valuational qualities when they have contact with the proposed arrangements, they devise hypotheses and discuss the matter with their colleagues and family members. In that discussion, which is the reasoning part of the inquiry process, they deal with factual consequences of their values and they may benefit from data provided by social scientists as well as from the experience of other similarly-modeled communities who discussed or even implemented some of the proposed arrangements. They reach conclusions, justified by the thoroughness of their inquiry process, in regard to the increase or decrease of conflict in each plan. And *in the perspective of the community*, these conclusions might have the same status of knowledge as any of their factual inquiries. However, if the community members take into account a wider perspective, as when they consider their conclusions in regard to past or future inquiries, or to inquiries carried through by other communities, they might become aware of a problem regarding the *objectivity* of the conclusions reached.

Even if we recognize the pertinence of the pragmatist approach from the inquirer’s point of view, as philosophers or scientists who are observing this process, we cannot neglect this awareness of a larger context in which objectivity becomes problematic in regard to valuational inquiries. The problem is that the objectivity of evaluations is simply a matter of intersubjectivity, a mere agreement among the members of a community—an agreement of activities but a mere agreement, nevertheless. The conclusions of factual inquiries present this same kind of objectivity that allows intersubjective

communication, but they also attain another kind of objectivity, which is the accord with a standard or paradigmatic understanding of the matter. Such a standard has, of course, been established by means of an intersubjective agreement within the community in a previous inquiry, but it has a status beyond that of mere agreement, becoming an institutional reference or resort to guide future inquiries and to settle complicated disputes.⁶

At this juncture, democracy can be presented as an example. The democratic form of life and social order, with its laws, regulations, procedures, devices, etc., has become an institution in our society and we, as well as our politicians and judges, refer to it to deal with complicated issues. In our inquiries, assertions are warranted that go in the direction of the democratic ideal limit. But we all know how fragile democracy is: its goodness is often disputed by other communities and even by rogue members of our own group. When we visualize this wider perspective, we realize that democracy is a good preserved by compromise that requires constant effort. Effort and compromise seem not to be necessary when we consider factual matters – natural or social – such as if that red thing is a tulip or, if all ravens are black, or if a certain sociological model accurately describes or explains what happens to some dysfunctional family. We must work and make adjustments to keep such models functional, but we do not need to enforce them. Hence, the difference is not just a matter of degree, as Dewey sustains, but there is a qualitative difference.

To be sure, the logical-empiricist perspective considers that scientific research can (and should) play a part in political decisions. The point is that such decisions cannot be *determined* by factual inquiry. In the toy example presented above, the community has to decide which residence plan is preferred (or that neither is to be chosen). Science can certainly contribute to that decision by offering as many alternative plans and as many developments as possible for each alternative, so that the community can be as aware as possible of the consequences and implications of choosing one or another plan. Thereby such decisions can be *informed* by objective scientific knowledge. But making a decision, as informed as it may be, is a procedure that does not reach the same kind of objectivity reached by factual inquiry. Hence, deciding is not the same as knowing—and, therefore, decisions cannot be determined by scientific inquiry.

Separating factual and valuational inquiry does not necessarily imply an absolute separation between knowledge and politics, between matters of fact and matters of decision. This separation *does* imply, however, that the political domain related to scientific knowledge (in regard to its application and uses, for example) cannot be occupied by science itself. In other words, the logical-empiricist perspective presented here does not claim that scientific knowledge is neutral. On the contrary, by acknowledging the distinction between the factual and the valuational domains, this perspective makes it clear that political debate is necessary—that is, that decisions are necessary, even when objective scientific information is available (and perhaps even more when scientific information overflows), since it is not possible to epistemically determine political matters.⁷

6 The conception of objectivity adopted here employs post-Kuhnian and post-Quinean notions and vocabulary that became commonplace in contemporary philosophy of science, but that were not available for logical empiricists and pragmatists in the first half of the 20th century. This may sound anachronistic, but so do many features of the concern with values in social science and technology that constitutes the background of the discussion in this paper – as stated in the introduction, this paper does not aim at a faithful historical reconstruction, but at a philosophical assessment of the divergence between logical empiricism and pragmatism. A thorough discussion of the concept of objectivity is also beyond the possibilities of the present article, or even of a mere article. Just to make a few clarifications: I am avoiding the common notion that objectivity is simply “fidelity to an external object” because of its proximity to metaphysical realist stances that are rejected by both pragmatists and logical empiricists. But I also consider the fidelity ideal to be among many epistemic virtues incorporated in the conception of objectivity: when establishing their standards, inquiry communities seek fidelity to the objects under investigation, as well as precision, explanatory and predictive power, etc. For more information on contemporary debates and conceptions on objectivity, see Cunningham ([1973] 2017); Daston & Galison (2007); and also Cupani (2018).

7 It is also a matter of decision which alternatives are going to be pursued in scientific research, as well as any choices that come up in the development of factual inquiry. As a matter of decision, of course, one cannot expect that some objective knowledge determines what is to be done. This is yet another reason to be conscious of the need of political debate to properly handle factual (and particularly scientific) information and efforts. See Lacey (1998) and (2010) for a thorough discussion on this topic.

6 Concluding remarks

The pragmatist approach is crucial to analyze social inquiry in a psychological, or social psychological context. As Dewey shows in his *Human Nature and Conduct*, there are many relevant tools that can be devised for such kind of analysis (see DEWEY, [1922] 2002). The very criterion of the increase or decrease of conflict can be a tool in the empirical investigation to diagnose social dysfunction. Moreover, by emphasizing the psychological aspects in which valuational inquiry and factual inquiry are similar, pragmatists remind us that factual knowledge is hypothetical, that it is always developed as an answer to a problematic situation, which is related to a community with specifiable aims. We are not able to describe the perfect ideal society in which everybody is happy all the time, but then we are likewise not able to literally and ultimately describe reality.

The presentation of Neurath's scientific utopianism above, albeit brief, must have made it clear that logical empiricists agree that factual knowledge is hypothetical and that it develops in a historical context. Also, as stated above, they agree that science should have a central role in social reform. With Neurath, however, we must recognize that, even though valuational inquiries can be regarded as continuous with factual inquiries when their psychological contexts and processes are considered, when the objectivity of such inquiries is taken into account, we cannot establish that continuity. The difference between the two approaches is that logical empiricists hold that value judgments cannot have an objective status, while pragmatists restrict themselves to an analysis of the psychological aspects of inquiry. Perhaps stating the matter in terms of a difference of scope—an analysis of objectivity *versus* a psychological investigation—might help us understand the limits of each approach. This understanding seems to be fundamental to understand the contributions of pragmatism and logical empiricism to the philosophy of social science and social technology.

References

- CAPPS, John. The Less Said The Better: Dewey, Neurath, and Mid-Century Theories of Truth. *Archiv für Geschichte der Philosophie*, [S. l.], v. 104, n. 1, p. 164-191, 2021. DOI: <https://doi.org/10.1515/agph-2019-0081>.
- CARNAP, Rudolf. Truth and confirmation. In: FEIGL, Herbert; SELLARS, Wilfrid (Ed.). *Readings in philosophical analysis*. New York: Appleton-Century-Crofts, 1949. p. 119-127.
- CARNAP, Rudolf. Kaplan on value judgments. In: SCHILPP, Paul A. (Ed.). *The philosophy of Rudolf Carnap*. La Salle: Open Court, 1963. p. 999-1013.
- CARTWRIGHT, Nancy; CAT, Jordi; FLECK, Lola; UEBEL, Thomas. *Otto Neurath: philosophy between science and politics*. Ideas in Context. Cambridge: Cambridge University Press, 1996.
- CUNNINGHAM, Frank. *Objectivity in social science*. Toronto: Toronto University Press, [1973] 2017.
- CUPANI, Alberto. *Sobre a ciência*. Florianópolis: Editora da UFSC, 2018.
- DA CUNHA, Ivan Ferreira. John Dewey and the logical empiricist unity of science. *Cognitio: Revista de Filosofia*, São Paulo. v. 13, n. 2, p. 219-230, Jul./Dec. 2012.
- DA CUNHA, Ivan Ferreira. Neurath's Social Sciences: between positivism and pragmatism. *Cognitio: Revista de Filosofia*, São Paulo, v. 15, n. 2, p. 315-332, 2014.
- DAMBÖCK, Christian. The politics of Carnap's Non-Cognitivism and the Scientific World-Conception of Left-Wing Logical Empiricism. *Perspectives on Science*, [S. l.], v. 30, n. 4, p. 493-524, 2022. DOI: https://doi.org/10.1162/posc_a_00372.
- DASTON, Lorraine; GALISON, Peter. *Objectivity*. New York: Zone Books, 2007.

- DEWEY, John. *Experience and nature*. New York: Dover, [1929] 1958.
- DEWEY, John. *Human nature and conduct*. New York: Prometheus, [1922] 2002.
- DEWEY, John. The quest for certainty. In: BOYDSTON, Jo Ann. (Ed.). *The later works of John Dewey*, v. 4. Carbondale: Southern Illinois University Press, [1929] 2008.
- DEWEY, John. Unity of science as a social problem. In: NEURATH, Otto; CARNAP, Rudolf; MORRIS, Charles (Ed.). *International encyclopedia of unified science*. v. 1. Chicago: Chicago University Press, [1938] 1955. p. 29-38.
- DEWEY, John. Logic: the theory of inquiry. In: BOYDSTON, Jo Ann. (Ed.). *The later works of John Dewey*, v. 12. Carbondale: Southern Illinois University Press, [1938] 2008.
- DEWEY, John. Theory of valuation. In: NEURATH, Otto; CARNAP, Rudolf; MORRIS, Charles. (Ed.). *Foundations of the unity of science: toward an international encyclopedia of unified science*. v. 2. Chicago: Chicago University Press, [1939] 1970. p. 379-447.
- DEWEY, John. Creative democracy: the task before us. In: BOYDSTON, Jo Ann. (Ed.). *The later works of John Dewey*. v. 14. Carbondale: Southern Illinois University Press, 1939/2008. p. 224-230.
- DI BERARDINO, M. A. Acuerdos enciclopédicos: Dewey y Neurath sobre ciencia y valores. *Cuadernos Filosóficos / Segunda Época*, [S. l.], n. 13, p. 17-33, 2018. DOI: 10.35305/cf2.vi13.20.
- LACEY, Hugh. *Valores e atividade científica*. São Paulo: Discurso, 1998.
- LACEY, Hugh. *Valores e atividade científica 2*. São Paulo: Editora 34, 2010.
- LIMBECK-LILIENAU, Christoph. Carnap's Encounter with Pragmatism. In: CREATH, Richard (Ed.). *Rudolf Carnap and the legacy of logical empiricism*. Vienna Circle Institute Yearbook. v. 16. Dordrecht: Springer, 2012. p. 89-110.
- LINSBICHLER, Alexander. The fact/value dichotomy as an alleged thought-stopper. In: DAMBÖCK, Christian; SCHIEMER, Georg (Ed.). *Handbuch Rudolf Carnap / Rudolf Carnap Handbuch*. Heidelberg: J. B. Metzler Verlag, 2022+.
- MISAK, Cheryl. *The American pragmatists*. Oxford: Oxford University Press, 2013.
- NEMETH, Elisabeth. Neurath's Utopias: the will to hope. In: UEBEL, Thomas (Ed.). *Rediscovering the forgotten Vienna Circle*. Dordrecht: Kluwer, [1982] 1991. p. 284-292.
- NEURATH, Otto. Die Utopie als gesellschaftstechnische Konstruktion. In: HEGSELMANN, Rainer (ed.). *Wissenschaftliche Weltauffassung, Sozialismus und logischer Empirismus*. Frankfurt am Main: Suhrkamp, [1919] 1979. p. 235-241.
- NEURATH, Otto. Utopien. In: HALLER, Rudolf; RUTTE, Heiner. (ed.). *Gesammelte philosophische und methodologische Schriften*, v. 1. Wien: Hölder-Pichler-Tempsky, [1919] 1981. p.137-138.
- NEURATH, Otto. Protocol Statements. In: COHEN, Robert; NEURATH, Marie (ed.). *Otto Neurath Philosophical Papers 1913-1946*. Dordrecht: D. Reidel, [1932] 1983. p. 91-99.
- NEURATH, Otto. Foundations of the social sciences. In: NEURATH, Otto; CARNAP, Rudolf; MORRIS, Charles. (ed.). *Foundations of the unity of science: toward an international encyclopedia of unified science*, v. 2. Chicago: Chicago University Press, [1944] 1970. p. 1-47.
- PEIRCE, Charles Sanders. Truth and falsity and error. In: BALDWIN, James M. *Dictionary of Philosophy and Psychology*, v. 2. London: Macmillan, p. 716-720, 1902. Available: http://www.commens.org/bibliography/collection_article/peirce-charles-s-1902-truth-and-falsity-and-error-dictionary. Accessed on 30 set. 2019.

PEIRCE, Charles Sanders. *The essential Peirce*. v. 1. HOUSER, Nathan; KLOESEL, Christian. (ed.). Bloomington: Indiana University Press, 1992. [Cited as volume (v), page (p) (EP v:p)].

PIHLSTRÖM, Sami; STADLER, Friedrich; WEIDTMANN, Niels. (ed.). *Logical empiricism and pragmatism*. Vienna Circle Institute Yearbook, v. 19. Cham: Springer, 2017.

PUTNAM, Ruth Anna. Dewey's Epistemology. In: COCHRAN, Molly (ed.). *The Cambridge Companion to Dewey*. Cambridge: Cambridge University Press, 2010. p. 34-54.

REISCH, George. Doomed in advance to defeat?: John Dewey on logical empiricism, reductionism, and values. In: NEMETH, Elisabeth; ROUDET, Nicolas (ed.). *Paris-Wien: Enzyklopädien im Vergleich*. Wien: Springer, 2005a. p. 241-251.

REISCH, George. *How the Cold War transformed philosophy of science: to the icy slopes of logic*. New York: Cambridge University Press, 2005b.

RICHARDSON, Alan. Engineering philosophy of science: American pragmatism and logical empiricism in the 1930s. *Proceedings of the Philosophy of Science Association*, S36-S47, 2002. DOI: <https://doi.org/10.1086/341766>

RICHARDSON, Alan. Philosophy of science in America. In: MISAK, Cheryl (ed.). *The Oxford handbook of American Philosophy*. Oxford: Oxford University Press, 2008. p. 339-374.

RUSSELL, Bertrand. *The impact of science on society*. New York: Routledge, [1952] 1985.

UEBEL, Thomas. Calculation in kind and marketless socialism: on Otto Neurath's utopian economics. *European Journal of the History of Economic Thought*, v. 15, n. 3, p. 475-501, 2008. DOI: <https://doi.org/10.1080/09672560802252354>

UEBEL, Thomas. American Pragmatism and the Vienna Circle: the early years. *Journal for the History of Analytical Philosophy*, [S. l.], v. 3, n. 3, p.1-35, 2015. DOI: <https://doi.org/10.15173/jhap.v3i3.39>

UEBEL, Thomas. Intersubjective accountability: politics and philosophy in the left Vienna Circle. *Perspectives on Science*, [S. l.], v. 28, n. 1, p. 35-62, 2020. DOI: https://doi.org/10.1162/posc_a_00332

VOSSOUGHIAN, Nader. *Otto Neurath: the language of the global polis*. Rotterdam: Nai, 2011.

Acknowledgements

This article benefits from discussions with Alexander Linsbichler, Anjan Chakravartty, Caroline E. Murr, Christian Damböck, Gelson Liston, Luiz Henrique Dutra. Preliminary versions were presented in five occasions (the first two were partly financed by CAPES/PROEX): a Wissenschaftsphilosophisches Kolloquium at the Institute Vienna Circle (Vienna, Austria, July 2019); the 16th Congress of Logic, Methodology, and Philosophy of Science and Technology (Prague, Czechia, August 2019); the 11th and the 12th Principia International Symposia (Florianopolis, Brazil, August/2019 and August/2021); the 1st Workshop on Logic and Analytic Philosophy (Londrina, Brazil, February/2020). I thank the audiences in these occasions for their insightful remarks and debates. I also thank anonymous referees for their considerations.