Language, objectivity, and public inquiry: a pragmatist theory of expertise

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Abstract: Scientific objectivity is a highly complex notion. As a consequence of its intrinsic complexity, the notion is usually conceived of as lacking a core of essential properties. A pluralist account has thus been put forth, which acknowledges a variety of senses in which that notion can be understood. The aim of this paper is to add a further sense to the list. By shifting the attention from a peer-to-peer scenario to an expert-layperson framework, I argue for the notion of "expressive objectivity" as a key to clarifying what public objectivity is. Public objectivity is the result of a well-conducted public inquiry. Unlike the scientific inquiry, which is carried out by scientists, the public inquiry is conducted by an enlarged community of inquirers, encompassing scientific experts and citizens. Since citizens do not have any scientific training, I endorse the view that if an agreement is to be reached, it can only be reached at the linguistic level. The thesis that I develop in the article is that public objectivity can be achieved if and only if the public language in which the inquiry is conducted is rich enough to make it possible for each member of the community of inquirers to formulate their viewpoint and to express their epistemic values.

Keywords: scientific objectivity; public objectivity; scientific expertise; language; public inquiry; community of inquirers

Much has been written about scientific objectivity in the last few years – and from many different perspectives (Gaukroger 2012, Daston and Galison 2007). It should come as no surprise: the notion of objectivity functions as a sort of litmus test for how science and scientific activity are understood, and for how their role is conceptualized in relation to those of other social institutions.

Objectivity is a contested notion, which has gone through significant changes (Axtell 2016). Traditionally, objectivity was paired with neutrality and value-freedom: it was believed that values and interests distort facts, which only are objective. To be objective meant, therefore, to be neutral between alternative ethical and political views or between conflicting interests.

In recent times, however, the standard view has been questioned, and attention has been drawn to the fact that moral values seem necessary for sci-

entific activity. The argument based on inductive risk – according to which moral values influence the standards of evidence by which we accept or reject a scientific hypothesis – is the most serious challenge to the value-free view of science (Douglas 2009, Elliot and Richards 2017). In the light of this, it has been argued on many sides that taking a neutral stance to non-cognitive values does not count as a necessary or sufficient condition for objectivity (Elliot 2017, Haskell 1998).

As a pragmatist, I side with such a value-bound approach (Putnam 2002). I have shown elsewhere that the entanglement of facts and values is even more radical and far-reaching than has usually been acknowledged (Barrotta and Gronda 2020). The purpose of this article is to take a step further and complicate the account of scientific objectivity by adding a different use of such notion to the stock of those already available.

Scientific objectivity is usually set in a peer-to-peer framework: so, for instance, a statement or a method is said to be objective if and only if it is reliable, if and only if it is replicable, and so on. The implicit assumption is that, if other scientists decided to investigate the same subject-matter or apply the same method, they would get the same result. Objectivity acts, then, as an epistemic warrant: it says that it is rational to rely on something that is considered objective.

To the extent that laypeople trust scientists, scientific objectivity can be broadened to an expert-layperson scenario. But what about a different kind of framework, in which citizens do not simply defer to scientific experts, but rather cooperate with one another, in solving a public problem? What kind of objectivity is at stake in such a community of inquirers (Barrotta 2018)?

This article attempts to answer those questions. It aims to enrich our theoretical apparatus by articulating the meaning of the notion of scientific objectivity. As such, it is less of an effort of conceptual analysis than one of conceptual engineering (Cappelen 2018). The approach is normative, and the conditions in which the epistemic transactions between citizens and scientific experts take place are overtly idealized. Accordingly, I will not take into account the disruptive effects that the experts' violations of moral or deontological standards, as well as the citizens' sceptical resistance to science, have on social enquiry.

This article is made up of four sections. In the first section, after outlining the main features of the pragmatist philosophy of science, I introduce the difference between scientific inquiry and public inquiry, and I provide a clarification of their differences in terms of the different problems that originate inquiry. In the second section, I lay out and discuss the standard account of scientific objectivity as formulated by Heather Douglas in her highly influential *The Irreducible Complexity of Objectivity*. In the third section, I briefly

sketch Montuschi's analysis of the notion of practical objectivity, after which my notion of *public* objectivity is modelled, and I review which of the different senses of the notion of scientific objectivity, as identified by Douglas, apply to public objectivity too. Finally, in the fourth section, I argue for a further form of objectivity – which I call "expressive objectivity" – and then I show why it is characteristic of public objectivity and which explanatory role it can play.

1. *Scientific and public inquiry*

In this section, I am going to sketch what a pragmatist philosophy of science looks like – or, at least, what kind of pragmatist philosophy of science I have in mind. That will provide the framework for further analysis.

In my view, the pragmatist philosophy of science is grounded on the very simple idea that scientific investigation is a mode of practical activity, which is characterized by a high degree of control over its tools and concepts. Unlike commonsense inquiries, which rely on fuzzy tools and concepts, scientific inquiries put great effort into defining the notions by which experiments are constructed and carried out. The more controlled the courses of inquiry, the more likely they are to be successful.

Two ideas are particularly relevant in this context. First of all, the notion of empirical success is pivotal to the pragmatist approach. The pragmatists' favourite motto – "by their fruits ye shall know them" – points precisely in the direction of giving pride of place to the successful results of controlled inquiries. Unfortunately, that of empirical success is also widely acknowledged as a somehow elusive notion. As Solomon convincingly argued, empirical success – as opposed to theoretical success – can be framed in different ways: it can be "observational, predictive, retrodictive, experimental, explanatory or technological" (Solomon 2001: 21). The point is that the possibility of unifying all those aspects into one single theory is far from obvious.

Solomon highlights two measures of empirical success, namely *robustness* and *significance*. Empirical success is robust when it can be reliably replicated in different contexts. This implies that empirical success is, at least partially, separable from theoretical disputes: while it is a fact that we might not know why something happens, we can nonetheless ascertain whether or not that something happens. Indeed, the possibility of separating theoretical from empirical success lies at the core of many scientific approaches. For instance, our current investigations are not concerned with discovering the reasons why Tocilizumab, an immunosuppressive drug for the treatment of rheumatoid arthritis, is effective or ineffective against Covid-19; they are instead aimed at discovering whether that drug is effective and safe for the purpose. And we

find such an approach reasonable, because we believe that the latter goal can be achieved without achieving the former.

At the same time, however, empirical success is significant when it is "mostly attributable to the theory, rather than to prior knowledge shaping the application of the theory" (Solomon 2001: 30). The rationale behind this assumption is that we want empirical success to provide some warrant for believing the theory. If empirical success happened by chance, or because of our prior knowledge of the phenomenon, then the theory under consideration could not be held accountable for the empirical success that we are interested in. Accordingly, there would be no good reasons to accept it.

I think that Solomon's account of empirical success shares some relevant insights with the pragmatist view of inquiry. As I understand it, her insistence on the successful coordination between the world and scientists, *plus* their instruments and their theories, as a definition of empirical success, is an attempt to frame the whole issue in practical terms (Solomon 2001: 27-28). But, insofar as that definition may look circular, it is not so, since the successful coordination to which Solomon refers in the *definiens* is a mode of practical activity. In this sense, her views are continuous with the pragmatists' ones. In a nutshell, I understand her as saying that empirical success has to do with the objective responses of the world to our activities, which are guided and controlled by the conceptual and technical apparatus that we decide to apply.

Pragmatists formulate the same insight in slightly different terms – namely, in terms of inquiry. Within a Deweyan framework, the notion of empirical success is reconnected to that of a successful reconstruction of a problematic situation, which, in turn, is taken to be *analytically* identical to the notion of objectivity.[1] In his *Logic*, Dewey maintains that object is the name we give to the subject-matter of an inquiry when the latter has eventually come to an end, and the problem that called out the inquiry is satisfactorily solved. Through the process of inquiry, new concepts are constructed that are supposed to satisfy the demands of the problematic situation. If those concepts succeed in bringing about the expected result – i.e., "the establishment of an objectively unified existential situation" (Dewey 2008b: 109; see also Dewey 2008b: 287) – then we cash out their logical import, to use Dewey's own words. Once the course of inquiry is proved to be successful, objects are con-

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[1]   I disagree on this point with Hildebrand, who argues that pragmatic objectivity is to be understood as a regulative ideal rather than as the end state of inquiry (Hildebrand 2011: 595). In my view, Hildebrand's account risks making objectivity explanatorily useless. Having said that, his insistence on the epistemic nature of democracy – which is the overall theoretical framework in which he formulates his conception of pragmatic objectivity – is in deep agreement with the approach I advocate. On this point, see also Frega 2012, Talisse 2007 and 2013.

structed or re-constructed, and they can be applied in overt activities that are directed to modifying the environment.

These remarks lead directly to the other point that I believe is worth mentioning. As is well known, the pragmatist philosophy of science is committed to a problem-solving conception of scientific activity. Dewey argues that an inquiry is solely defined by the specific problem that it attempts to solve, and that the different phases of an inquiry are held together by the so-called tertiary quality that uniquely characterizes that specific inquiry. It follows, therefore, that the criteria for assessing empirical success depend on the goal that the inquirer is expected to reach in order to appropriately reconstruct the problematic situation that originated the course of inquiry. Consequently, the criteria for objectivity are likewise context- and practice-dependent. Look at the purpose of the inquiry and you will have all the information you need to understand what kind of empirical success – and, accordingly, what kind of objectivity – is at stake in that particular activity.

A word of clarification is needed before we continue. The pragmatist account of inquiry is usually cast in individualistic terms. Take up Dewey's theory of inquiry again: because of his biologically-centred understanding of human activity, he conceives of inquiry as a process through which an organism reconstructs its environment. Now, I believe that, though pragmatists have been mostly individualistic in their approach to inquiry, this by no means entails that any pragmatist philosophy of science should be so. Quite the opposite, the Peircean idea of a community of inquirers provides a useful springboard for the formulation of a pragmatist social epistemology that acknowledges groups as legitimate epistemic agents (Barrotta 2018). This is the path that I would like to follow here.

With this in mind, we can finally turn to the distinction between scientific and public inquiry. I assume that we all share some solid intuitions about the nature and structure of scientific inquiry – so I will take the notion for granted. By "public inquiry", on the contrary, I mean to refer to those inquiries that deal with problems in which scientific and evaluative elements are inextricably entangled, as a consequence of which the members of the public – i.e., the citizens who are affected by the consequences of the problem (Dewey 2008a) – are legitimate participants in the inquiry. So, a paradigmatic case of a public inquiry is one in which a) disentangling scientific knowledge from the ethical, political and social consequences that are connected to, and follow from, the application of that knowledge is believed to be impossible; and[2] b) it is also be-

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[2] A stronger thesis may be advanced, according to which it is because of such an entanglement that the members of the public have some knowledge that is relevant to the satisfactory solution of the problem. I am ready to accept such thesis, but, since I do not have space in here to articulate that view, I will leave the issue partially unexplored. It is clear, however, that the two clauses are not on the same

lieved that the members of the public have some knowledge which is relevant to the satisfactory solution of the problem.[3] Clearly, scientific knowledge and evaluative concerns can be distinguished in the course of the inquiry; nonetheless, one element cannot be – and should not be – severed from the other. Part of the complexity of such a situation is due precisely to the fact that we cannot boil down the problem either to its factual or to its evaluative components.

Intuitively, the distinction between scientific and public inquiry is quite obvious, and it can be formulated in many different ways. For instance, we may argue that scientific inquiries are those that are conducted within a laboratory; public inquiries, on the contrary, are those that take place in the real world (Latour and Woolgar 1979, Callon, Lascoumes, and Barthe 2009). Such an insight is well-grounded and lies at the core of the distinction made in epidemiology between efficacy and effectiveness. Alternatively, we may say that scientific inquiries are after robust generalizations, while public inquiries are concerned with the application of the generalizations discovered by scientists to some specific cases. In this sense, scientific inquiries are distinguished by recourse to abstraction and idealization, while public inquiries are engaged in processes of de-idealization, thanks to which scientific knowledge is brought down to earth and applied to the circumstances under investigation (Potochnik 2017, Knuuttila and Morgan 2019, Barrotta and Montuschi 2018b). Finally, we may try to formulate that distinction in terms of the people who are legitimate participants in the inquiry. This is, I believe, a more promising approach, provided one can do better than simply concluding that an inquiry is public if and only if its members are legitimate participants in the process of inquiry. The latter is less of a clarification than a definition and, as such, it does not have any explanatory role.

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level. Clause a) states a *de facto* condition: in our contemporary societies, which are grounded on the division of cognitive labour, recommending public inquiries on scientific or technical issues is hardly conceivable. That would sound epistemically unacceptable to almost anyone – with the remarkable exception of strong social constructivists. Clause b) specifies the conditions on which it is legitimate, from an epistemic perspective, to include citizens in the community of inquirers. If some relation of grounding holds between the two clauses, then we may dispense with clause a). I would like to thank Marco Menon for helping me clarify my thoughts on this point.

[3]   What kind of knowledge citizens are capable of bringing into the conversation, thus actively contributing to the public inquiry, is left unspecified here. At the present stage of analysis, the goal of this article is to provide an argument in support of the possibility of public inquiry, not to identify the specific epistemic features of the citizens' knowledge. It might be that such issue is deeply connected with the one concerning the existence of moral expertise, but other lines of thought can be envisioned. For instance, it may be argued that citizens have a privileged epistemic access to their behaviour; accordingly, if their future behaviour is considered relevant to the success of the public inquiry, then one can reasonably conclude that the citizens' knowledge should be aggregated into the total knowledge of the problematic situation.

I hold that the pragmatist philosophy of science enables us to draw a distinction between scientific and public inquiry in a simple and straightforward manner, which also encompasses and accounts for the other criteria which have just been mentioned. My thesis is that it is the definition of the problem that establishes whether an inquiry is scientific or public: by defining the problem as so and so, we fix the criteria by which we can assess whether the inquiry succeeds in reconstructing the problematic situation or not; consequently, we also establish what features of the problematic situation are to be taken into account, by whom, and from which perspective. To say that the standards of empirical success are dependent on the definition of the problem entails that the means required to reach that goal are also dependent on that definition. Accordingly, that between scientific and public inquiry is a functional distinction: it is a distinction that originates within inquiry, as a consequence of the clarification of the kind of problem that we are going to address.

Take, for instance, the current Covid-19 pandemic. If we decide to define it as a medical problem, then the criteria for empirical success will be the suppression, containment, and eventual eradication of Covid-19, and the means to achieve that goal will exclusively be public health measures. On the contrary, if we decide to define it as a more complex problem – for instance, including economic and social concerns – the criteria for empirical success will dramatically change, and so will the means required to satisfactorily solve the problematic situation. Nonetheless, it is only when we decide to take into account, as a distinguishing feature of the problematic situation, the entanglement of factual and evaluative components, and we decide to include citizens as legitimate participants in the process of inquiry, that the problematic situation gives rise to a public inquiry, with other specific criteria for success.

Some relevant consequences follow from this approach to the distinction between scientific and public inquiry. I will just mention two of them, which are particularly important in the present context. First of all, the distinction between public and scientific inquiry cannot be boiled down to the distinction between those inquiries that concern citizens and those that do not. It may be that the best way to deal with a problem that affects the lives of citizens is by treating it as a scientific problem, thus restricting the community of inquirers to the scientists who are competent in that field. So, for instance, it may be that we'd better defer to economists to choose an appropriate tax system, even though it is evident that their choice will significantly affect our lives. In this sense, the distinction between scientific and public inquiry is orthogonal to the distinction between natural and social or human sciences; therefore, it should not be viewed as an attempt to surreptitiously sneak in the idea that the latter are less scientific than the former. Similarly, the functionalist approach

that I am advocating here does not intend to be normative with respect to the specific institutional settings in which public inquiry should take place. A democratic society in which inquiry can be freely carried out is likely to be a necessary condition for public inquiry; apart from this extremely general consideration, however, I believe nothing else can be legitimately derived from my approach. The task of identifying the institutional settings that could support and foster public inquiries is up to political science.

Secondly, it should be clear that the distinction between public and scientific inquiry is primarily epistemic: it has to do with the types and forms of knowledge that are deemed relevant to the solution of the problem that caused the inquiry. The epistemic question that has to be addressed is, therefore, "what knowledge is needed to adequately handle the problematic situation?" Now, since knowledge is situated in groups, the question can also be formulated as follows: "what groups have to be included in the community of inquirers to adequately handle the situation?" As we mentioned above, the answer to those two questions defines the kind of inquiry that has to be undertaken. The thesis that I want to put forward is that such answer also defines the kind of objectivity that is appropriate to the inquiry at stake.

2. *Scientific objectivity*

In the case of scientific inquiry, a great deal of work has already been done on the notion of objectivity. Different approaches to the issue are possible. Some attempts have been made to single out a distinguishing feature of scientific objectivity as in (Nozick 2001), in which it is argued that "[a]n objective fact is invariant under various transformations" (Nozick 2001: 76). Others have identified objectivity with some set of values that should succeed in shielding knowledge from what is merely subjective. The most famous example of such a line of thought is the appeal to the value of neutrality. Others, on the contrary, have argued for an eliminative stance. So, for instance, Hacking has advanced the argument that "objectivity" should be conceived of as an elevator word which gives rise to second-order questions that are useless for addressing first-order questions originating in scientific practice. For this reason, he recommended "not to talk about objectivity" (Hacking 2015; see also Novick 1988). My favourite approach, however, is of a pluralist kind: due to the plurality and heterogeneity of scientific activities, I believe that it is not promising to take a reductionist perspective, which aims to simplify a complex phenomenon like objectivity by reducing it to only some of its manifestations, the others being considered either irrelevant or deducible from the core properties. At the same time, I believe that the notion of objectivity plays an explanatory role, earning it a place in our toolkit.

From a pluralistic perspective, of which she is a major proponent, Heather Douglas has spoken of the irreducible complexity of the notion of scientific objectivity. Her point is that "there is no single sense that captures the meaning of objectivity": even though conceptual connections can be found across its different senses, which only provide coherence to the concept of objectivity, "[n]o one concept emerges as core" and "no one mode or sense can serve as the surrogate for the others" (Douglas 2001: 455). I find the taxonomy that she derives from those insights extremely useful. I will briefly summarize her conclusions here, and then I will use them to clarify the notion of public objectivity.

Firstly, Douglas distinguishes among three major modes of objectivity, which she names Objectivity$_1$, Objectivity$_2$, and Objectivity$_3$. Those three modes are different in the features of objectivity that they aim to highlight. Objectivity$_1$ refers to the "processes where humans attempt to interact with the world"; objectivity$_2$ focuses "on an individual's thought process" and on the role that values play in that process; finally, objectivity$_3$ focuses on the way in which agreement can be achieved through social processes (Douglas 2001: 455-456).

In its turn, every mode is internally divided. So, two are the senses in which a process can be said to lead to objective results. First of all, objectivity$_1$ can be understood in terms of manipulability: Hacking's motto "if you can spray them, they are real" (Hacking 1983: 23) provides the best exemplification of this particular form of objectivity. If you succeed in using the world to reliably produce the desired effect, you do not doubt that you are actually manipulating an object; nor you doubt that the latter has the properties that you believe it to have. If the same course of activity can be replicated, then you are led to believe that you are on to something. By manipulating the elements of the situation, the world gives feedback to the agent, and in so doing it proves the objectivity of the conceptual apparatus that guided her activities.

One other distinguishing feature of objectivity$_1$ is the convergence of various lines of research toward one common solution. If several independent witnesses report the same event, we take it as a sign of the reliability of the testimony. Similarly, if the same phenomenon is investigated in different ways, and the same result always occurs, we conclude that the latter is not an illusion. Since that result does not depend on a particular methodology of inquiry, we judge it as objective. Obviously enough, such sense of objectivity$_1$ is close to the idea of invariance advanced by Nozick.

If objectivity$_1$ has to do with the reliability of the results achieved through a course of inquiry – be it commonsensical or scientific – objectivity$_2$ and objectivity$_3$ are concerned with the reliability of the processes through which such results are reached. In the case of objectivity$_2$, the issue is how to pro-

tect the individual processes of reasoning from personal biases. The alleged distorting factor is the use of values in the course of the inquiry. However, values can enter into the inquiry at different points and for different purposes. According to the first and less controversial sense of objectivity$_2$, we should not use values in place of evidence. In other words, we should not let our values, interests, and expectations interfere with the facts. This is the idea of detached objectivity$_2$.

One may want to push such a ban of values further and completely exclude them from science. Detached objectivity$_2$ is thus reformulated as value-free objectivity$_2$. According to such more restrictive sense of objectivity, a process of inquiry is objective if and only if no value whatsoever is referred to. The rationale behind this view is that values are inherently subjective and, consequently, cannot yield an objective result.

Another sense of objectivity$_2$, which is more relaxed about the presence of values in inquiry, is related to the idea of neutrality. In the sense in which Douglas uses that formula, neutral objectivity$_2$ refers to the fact that each value deserves to be taken into consideration in the course of the inquiry. Neutrality means, therefore, impartiality: the goal of neutral objectivity$_2$ is not that of expunging values from the inquiry, but rather that of reaching a balanced conclusion. An inquiry is neutrally objective$_2$ when it takes no side, "not making commitments to any one value position" (Douglas 2001: 460).

Finally, objectivity may also refer to those features of social processes through which groups of inquirers reach reliable conclusions. The notion of objectivity$_3$ is intended precisely to highlight this point. So, it can be said that social processes are objective if they are procedurally sound, i.e., if the same result is reached "regardless of who is performing the process" (Douglas 2001: 461). In doing so, the ideal of procedural objectivity$_3$ puts some severe constraints on the types of processes that can be admitted: it has to be uniform and allows for the interchangeableness of the members of the group.

Besides, objectivity$_3$ can be framed in terms of inter-subjectivity. The simplest way of ascertaining whether different persons agree on a certain assumption or not is by polling their views on the matter. No interaction or discussion between the members of the group is allowed: the rationale behind this approach is that agreement between people is to be treated as a fact, which is discovered and recorded through polls. Douglas names it concordant objectivity$_3$.

However, we may not be satisfied with concordant objectivity$_3$; it may be that we are in search of a more inclusive conception of inter-subjectivity. Intuitively, we do not want to be as rigid as concordant objectivity$_3$ prescribes us to be; we may be happy with allowing people to freely discuss their opinions so as to eventually reach a shared and truly inter-subjective conclusion.

Concordant objectivity$_3$ does not rule out the possibility of a collective bias; for instance, it does not envisage any mechanisms for testing the premises of the argument. This is clearly not compliant with scientific practice, which acknowledges the importance of peer-disagreement as a way to enhance the quality of scientific outputs. We are thus led to see a different sense of objectivity$_3$, which is built on the assumption that science is a social activity in which opinions are criticized, data are discussed, models are examined, and so on. This is the kernel of interactive objectivity$_3$.

Those modes of scientific objectivity are not reciprocally exclusive, even though some combinations seem to be less stable than others. What all those modes have in common, however, is the idea that the participants in the process of inquiry are either epistemic peers or, in those cases in which the course of inquiry is individual, that they are in an optimal epistemic position to understand what is going on in the situation that they are facing. The implicit assumption in Douglas's taxonomy is that all the members of the group can equally contribute to the inquiry. In some cases, this is also explicitly stated: for instance, convergent objectivity$_1$ assumes that different lines of investigation, carried out by different scientists, lead to the same result. This implies that all researchers are equally reliable, otherwise converging towards one result would be no evidence of objectivity.

Such assumption is justified by Douglas's interest in clarifying the nature of scientific objectivity. It does not hold in a different scenario, in which the community of inquirers is composed of epistemically unequal agents. So, the question that needs to be addressed is: would a different composition of the community of inquirers somehow change the notion of objectivity? Or, in other words, what are the main differences between *scientific* and *public* objectivity?

3.   *Public objectivity*

In the article *Using Science, Making Policy: What Should We Worry About?*, Montuschi correctly remarks that "science provides *a* model of objectivity, and it staves off only some of the dangers that 'objectivity' is supposed to protect us from" (Montuschi 2017: 59). Her point is that other cognitive activities are regulated by the ideal of objectivity, even though the kind of objectivity which they look after is not the one pursued in science. So, she asks: "are we dealing with the same concept of objectivity when we shift from science to policy?" (Montuschi 2017: 59). Her answer is negative.

Take evidence-based policy making (EBPM). EBPM relies on science in the belief that scientific knowledge is helpful in making policy decisions more objective. Nonetheless, it is also believed that we should not let science invade

and occupy the public space.[4] As Montuschi remarks, "[p]olicy making is a complex activity," and "[s]cientific evidence is only one of its building blocks, along with attention paid to social, ethical, cultural, legal, economic, and not the least ideological or even electoral considerations" (Montuschi 2017: 75). We need, therefore, a different concept of objectivity, which could grasp the distinguishing features of EBPM. That concept she names "practical objectivity".

My notion of public objectivity is modelled after Montuschi's.[5] I agree with her that a new form of objectivity has to be acknowledged, so as to block out the reductionist view that "reliable decisions can simply be 'read out' of scientific facts" (Montuschi 2017: 75). Scientific facts *must* be adequately taken into account in EBPM or public deliberation: if they are overlooked or their relevance to the case under discussion is downplayed, the inquiry will be at best successful by chance. Accordingly, the two notions have to be somehow integrated – they are by no means in conflict. Nonetheless, public objectivity is internally more articulated and more complex than scientific objectivity is.

In her article, Montuschi points out three aspects in which practical objectivity (PO) differs from scientific objectivity (SO). She writes that a) "PO is an inclusive rather than exclusive concept;" b) "PO is aim-sensitive rather than aim-neutral;" c) "PO is an achievement rather than a protocol of research" (Montuschi 2017: 75). What she means with those statements is that PO is less abstract and idealized than SO; that PO is context-dependent, while we take SO to hold independently of the purposes for which it is used; that what counts as PO is not established in advance of the process that leads to that goal.

Those are very useful insights into the nature of public objectivity. Nonetheless, I think something more specific can be said in this regard. Even at a preliminary stage, it is possible to rule out some other features commonly attributed to scientific objectivity as unfit to represent public objectivity.

Let's go back then to the taxonomy of scientific objectivity provided by Douglas and see whether or not objectivity$_1$, objectivity$_2$, and objectivity$_3$ can

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[4]   This cautionary principle is grounded on different reasons. Some of them are political: for instance, it is feared that, due to its authority, science can be used ideologically to silence legitimate political dissent. Some others are prudential: it is not clear whether scientists are expected to inform or to advise, and such a lack of clarity may lead some of them to inadvertently trespass into the political field. Yet others, however, are, strictly speaking, epistemological and have to do with the structural differences that exist between scientific inquiry and political 'inquiry'. The latter are those with whom I am concerned.

[5]   The most relevant difference that I can spot between our two approaches consists in the presentation of the problem. Montuschi seems to frame the whole issue in terms of the notion of application: this is why she chooses to speak of *practical* objectivity. On my part, I am more inclined to think of the whole issue in terms of the co-production of knowledge within a community of inquirers. In any case, this is less a substantial disagreement than a difference in emphasis.

provide a satisfactory account of public objectivity. Before starting the analysis, it may be useful to recall how public inquiry has been defined. Contrary to scientific inquiry, public inquiry is characterized a) by the acknowledgment of the entangled nature of the problematic situation at stake *and* b) by the belief that the entanglement between facts and values is to be dealt with by allowing citizens to participate in the community of inquirers. While the former clause states a necessary condition for an inquiry to be public, it is the latter that ensures the publicity of the problem and, consequently, of the inquiry which is aimed at solving it.

In this context, which is an expert/layperson scenario, it seems evident that objectivity$_1$ is to be discarded. As a matter of fact, since objectivity$_1$ is concerned with the reliability of the results achieved through a course of inquiry, if the community of inquirers is thus formed that some of its components cannot undertake that course of inquiry because of their lack of competence in the field, then it is not possible for them to assess whether the reached results are reliable. Consequently, public objectivity cannot be understood in terms of objectivity$_1$ – be it manipulable or convergent objectivity.

Things are more nuanced when it comes to objectivity$_2$. Clearly enough, value-free objectivity$_2$ – the idea that all values and interests are banned from inquiry – is untenable as a representation of public objectivity. As every inquiry, public inquiry is directed to an aim; besides, it is commonly held that one of the reasons why citizens may be willing to participate in the community of inquirers is because they are interested in responding intelligently to a problematic situation that concerns them. Values, interests, and concerns are, therefore, spread over public inquiry.

On the contrary, I believe that detached objectivity$_2$ and value-neutral objectivity$_2$ grasp some relevant aspects of public objectivity. In no inquiry whatsoever is one allowed to use values in place of evidence; at best, the values and concerns of the citizens participating in public inquiry may constitute *part* of the evidence that is relevant to the inquiry – which is a point that I am ready to concede. For instance, I think that it is reasonable to include in the evidence of the case what the members of the group affected by the problematic situation want. But this does not entail that the values, interests, and concerns of the inquirers can take the place of evidence or modify it when the latter is perceived to conflict with the former.

Similarly, I believe that it is convenient for a public inquiry to take a position that is respectful of the different values held by its participants. Value-neutral objectivity$_2$ can thus be viewed as a necessary condition to reach a reflectively "balanced position," which is one of the features that we would like public objectivity to have (Douglas 2001: 460). I will come back to this point in the next section.

Finally, let's turn to objectivity$_3$. I think it should be evident that procedural objectivity$_3$ is to be resisted. The rationale behind procedural objectivity$_3$ is that, no matter who is going to participate in the process of inquiry, the same outcome is always produced. Intuitively, this is not what we want from public objectivity: since public inquiry is concerned with a problematic situation that affects the lives of the members of a specific group, the composition of the community of inquirers is likely to have some consequences on the outcome.

We should also discard concordant objectivity$_3$. Concordant objectivity$_3$ results from of a process of belief aggregation, in which the participants are not allowed to interact with the others. This is because concordant objectivity$_3$ aims to assess what people believe about a certain situation or subject-matter, not to develop an opinion in which they all agree. As such, that is a too reductive conception of objectivity.

On the contrary, interactive objectivity$_3$ depicts a pivotal feature of public objectivity. It is almost a platitude that objectivity arises from free discussion among the participants in the inquiry: it holds both for common-sense and scientific inquiry that free discussion enables the inquirers not only to detect and revise their errors or biases, but also to better clarify their views on the matter. No surprise, therefore, that public objectivity accommodates interactive objectivity$_3$.

In the light of what has just been said, we can easily enrich Montuschi's characterization of public objectivity. Montuschi rightly insists on three aspects of practical or public objectivity: a) it is inclusive, in that it does not resort to idealization and abstraction; b) it is aim-sensitive; and c) it has to be conceived of as an achievement rather than a protocol of research. We now know that public objectivity is also detached (values cannot be used in place of evidence) and value-neutral (a reflective equilibrium has to be reached). Furthermore, it is intrinsically interactive: public objectivity stems from a free discussion among the members of the community of inquirers.

At a preliminary level, that clarification is satisfactory; it grasps those aspects that we intuitively associate with the notion of public objectivity. But is this all that can be said about it? Can something more be added to such a sketchy characterization? In particular, can we draw some relevant consequences about the nature of public objectivity from the shift from an expert/expert to an expert/layperson scenario?

4. *Language and expressive objectivity*

While discussing interactive objectivity$_3$, I have remarked that public inquiry is an activity of reciprocal confrontation and dialogue, through which only agreement could be reached. In doing so, I have deliberately stressed the

continuity between scientific and public objectivity; it belongs to the nature of inquiry to be a self-corrective activity that allows us to discuss, check, and revise every assumption – be it implicit or not – that is relevant to the case. In other words, collective inquiry structurally depends on the possibility of formulating each passage of the process of investigation in linguistic terms, thus making it possible for the participants in the inquiry to critically inspect the tools that are to be used in the course of activity.

In the case of scientific inquiry, linguistic competence – the ability to express views, biases, and assumptions in a linguistic form – is continuous with tacit knowledge. Scientists present and submit the results of their work to the judgment of their peers, who are – at least to some extent – capable of replicating the experiment or train of thought that has led to those results. The linguistic formulation of the various phases of inquiry is essentially intertwined with the capacity to perform those activities that are necessary to carry on the inquiry: knowing that and knowing how go, therefore, hand in hand.

On the contrary, in the case of public knowledge, the essential interwovenness of knowing how and knowing that is *in principle* impossible. Laypeople are defined precisely by their lack of scientific training: if laypeople were capable of conducting a scientific inquiry, they would be scientists rather than laypeople; public inquiry would then turn into a scientific inquiry and the very problem of public objectivity would disappear. Accordingly, if an agreement is to be reached, it can only be reached at the linguistic level. Public objectivity is essentially linguistic.[6]

That conclusion should come as no surprise; it was implicit in the arguments that led to the rejection of objectivity$_1$ as a proper characterization of public objectivity. But it can also be viewed as following directly from an important insight that has been formulated first by Collins and Evans. In their works, Collins and Evans draw a distinction between interactional and contributory expertise. The latter is full-fledged expertise, namely that kind of expertise which "enables those who have acquired it to *contribute* to the domain to which the expertise pertains" since "they have the ability to *do* things within the domain of expertise" (Collins and Evans 2007: 24). The former, i.e., interactional expertise, consists in the ability to *master* a specialist language. The point that Collins and Evans stress is that such an ability to properly speak a specialist language does not imply the ability to contribute to the domain of expertise. By being immersed in a community of specialists and by being exposed

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6   That does not mean than public inquiry is *purely* or *exclusively* linguistic. From a pragmatist perspective, an inquiry is a process of *objective* modification of the environment, which makes use of linguistic tools (see above section 2).

to their linguistic products, an individual can eventually learn the specialist language without having the know-how that is necessary to contribute to the collective process of knowledge acquisition. Even though she cannot directly participate in, and contribute to, the inquiry, she can nonetheless interact with the scientists by mastering the language of their discipline.

The rationale behind Collins and Evans's notion of interactional expertise is that language is somehow independent of the practices in which that language is grounded and whose contents it aims to express. This is due to the fact that the use of language is itself an autonomous practice ruled by specific criteria for efficacy and satisfactoriness. Now, one of the consequences that follow directly from the autonomy of language is that the same content can be *satisfactorily* formulated in different ways, according to the different compositions of the group to which the linguistic formulations are directed. A scientist will state the same concept differently if she is talking to a colleague, an informed amateur, or a person who has absolutely no knowledge in the area. The criteria for the success of her linguistic activity vary accordingly, depending on the specific context in which she has to act.

This rather unproblematic form of contextualism is relevant to my present purposes. As has been repeatedly said, the community of inquirers that originates in response to the acknowledgment of the public nature of a problem is composed of scientific experts, "local" experts (i.e. people who have local knowledge), and citizens affected by the consequences of the problematic situation, who are believed capable of providing some epistemic contribution to the solution of the problem, even though they do not have any kind of scientific competence or "local" knowledge.[7]

Now, one of the necessary conditions for an inquiry to be public is that all the members of the community of inquirers can participate in the process of inquiry. Since such a process is essentially linguistic, they must be able to understand each other's speech: in other words, for an inquiry to be public, the language by which the inquirers communicate must be public too. The existence of a shared language is taken for granted in the scientific communities: the acquisition of the scientific language is one of the primary goals of scientific training, on a par with the acquisition of the practical skills that constitute the scientific know-how that enables scientists to act as contributory experts. On the contrary, the construction of a public language is a task that public inquiry has to accomplish.

The idea of the publicity of language and, consequently, of the publicity of the inquiry which depends on it puts some normative constraints on what

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[7] For an analysis of the notion of local knowledge, see, among others, Wynne 1996 and Barrotta and Montuschi 2018a.

public objectivity should be. First of all, it implies that the language in which the community of inquirers communicates has to be so constituted that every participant in the inquiry can understand the terms of the problem, as well as the different proposals that are advanced to deal with it throughout its stages. This is a minimal condition for the result of a public inquiry to be objective. It can be seen as a rather unproblematic corollary of interactive objectivity₃ when the latter is translated from a peer-to-peer scenario into an expert/layperson one: a fruitful interaction among different inquirers is possible if and only if they can understand each other.

Another, stronger criterion that can be derived from the normative idea of the publicity of inquiry has to do not with the bare capacity to understand the linguistic moves made in the course of the inquiry, but rather with the full-fledged acknowledgment of its publicity. What I have in mind here is something along this line: for an activity to be truly public, it is not enough that each participant understands what is said by the other participants; she also has to be convinced that her point of view is correctly presented and satisfactorily represented in the debate. If that condition is not met, the publicity of the inquiry is spurious.

That insight can be refined into a philosophical thesis. It can be restated as follows: the result of a public inquiry is objective if and only if the public language in which the inquiry is conducted is rich enough to make it possible for each member of the community of inquirers to formulate their viewpoint and to express their epistemic values.[8] In doing so, every participant is put in a position to make a contribution to the inquiry. Incidentally, this entails that the result thus reached is objective also in the sense that it issues from the best knowledge available on the matter. This latter aspect is a welcome by-product of the former: it adds an important layer of epistemic justification to that thesis.

This form of objectivity – which I call "expressive objectivity" – focuses on the expressive resources that a language must possess to lead to a solution to the problem that can be acknowledged by the participants in the inquiry as genuinely public. In this sense, it provides a necessary but by no means sufficient condition for public objectivity. There is nothing in it to prevent the result from being unsatisfactory, biased, or partial: it might be, for instance, that the final decision is taken unilaterally by one group and imposed on the other members of the community. In the latter case, even though the condition of expressive objectivity is met, we would be reluctant to say that an objective result has been reached. But this is not problematic from my perspective, since

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[8]   The rationale behind that assumption is similar to the one that justified the notion of strong objectivity. See Harding 2015 and Scheman 2011: chapter 11.

I have never meant to argue that public objectivity boils down to expressive objectivity. Quite the opposite, it is what one should expect from a pluralistic account of objectivity.

As a final remark, let me add a word of clarification. Saying that the notion of expressive objectivity does not coincide with or thoroughly explains the notion of public objectivity does not mean that the former kind of objectivity is ineffective or parasitic on the other features of the latter. By shifting the focus of attention away from the result of the inquiry to the resources of the language in which the community tackles the problem, expressive objectivity enables us not only to locate disagreement in the course of inquiry but also to provide some criteria to assess its legitimacy. This is a particularly welcome result. One of the most challenging problems in the contemporary philosophy of science is to find a productive equilibrium between the search for consensus and the need to preserve a place for dissensus (Laudan 1984, Kitcher 2012). Intuitively, we want to preserve dissensus in science, since we believe that a plurality of lines of research would enhance the chances of achieving relevant knowledge. At the same time, however, we want to keep the potentially disruptive effects of dissent at bay: if the existence of a single contrary opinion is considered sufficient to reject – or withhold from accepting – the conclusion arrived at by the majority of the scientists working in that field, then no scientific consensus could ever be reached.

The idea of expressive objectivity claims to deal with that problem. On the one hand, it makes room for a plurality of viewpoints: in doing so, it acknowledges the creative function of dissent, and cashes out its epistemic import in concrete and pragmatic terms – namely, in terms of their contribution to the refinement and enrichment of the process of public inquiry. The richer the language of the community of inquirers, the better the definition of the problematic situation and, consequently, the statement of the various planes of activity through which that situation is handled. On the other hand, however, since expressive objectivity identifies the fruitfulness of dissent with the contribution that different viewpoints can make to the inquiry, the recognition of the importance of dissensus does not prevent sound consensus from being reached, even in those cases in which the outcome of the inquiry does not gain universal acceptance.

5. *Conclusion*

In his *Solidarity or Objectivity?* Rorty has notoriously maintained that solidarity and objectivity are two different ways in which human beings try to "give sense to their life". Those two ways are not only different, but mutually

exclusive: while solidarity attempts to reach that goal by "telling the story of their contribution to a community;" objectivity describes human beings "as standing in immediate relation to a nonhuman reality" (Rorty 1991: 21). Rorty remarks that, while realists try to ground solidarity in objectivity, pragmatists go the other way around: they wish to ground objectivity in solidarity. To achieve that goal, according to Rorty, pragmatists should realize that "the desire for objectivity is not the desire to escape the limitations of one's community, but simply the desire for as much intersubjective agreement as possible, the desire to extend the reference of 'us' as far as we can" (Rorty 1991: 22).

Although I do not share either his *tirade* against epistemology or his too quick dismissal of the notion of objectivity, I believe that that Rortyan insight perfectly captures the rationale behind the notion of expressive objectivity. The extension of the possibility to actively participate in the inquiry to as many members of the community as possible secures the public nature of the inquiry and enhances the epistemic quality of the latter.

Even so, I am aware that the arguments put forth in this article rely heavily on philosophical idealization. They do not offer any suggestions about how to define the problematic situation – if it has to be understood as a scientific or as a public problem; nor do they provide any criteria to decide how the community of inquirers should be formed or how the public language should be constructed. I do not think that this is a shortcoming of my approach, though: as a pragmatist, I am deeply convinced that those are issues that cannot be solved on a purely philosophical level. The aim of the account of public objectivity that I have tried to outline here was far more modest. My goal was to develop some notions that could enrich our conceptual apparatus in a way that could help envision new forms of inquiry. What those inquiries would look like depends on the choice that the communities of inquirers will make in their collective efforts to deal with the problematic situations that they will be asked to solve.

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