

NOTES PHILOSOPHIQUES

SCIENCE, TRUTH, DEMOCRACY. A TROUBLED MARRIAGE?

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Abstract. In this text, I highlight and criticize the increasing disregard for objective truth in society, emphasizing a shift towards prioritizing emotions and personal beliefs over facts, often labeled as “post-truth” or “alternative facts.” I argue that this trend reflects an irrational fear of knowledge (episteme-phobia) and cultural malaise regarding our relationship with science, truth, and democracy. I raise critical questions about how scientific knowledge can coexist with democratic values, the role of experts in a landscape where everyone’s opinions are equally regarded, and the potential rise of methodological anarchism in public discourse. I suggest that the decline in trust toward objective scientific methods is symptomatic of deeper societal issues, including the fading credibility of a previously dominant scientific vision that promised science as a solution to social and political problems. In the end, I argue that it is incumbent upon us to re-build the trust in both science and democracy through an epistemic fallibilist view and also a pragmatist philosophical vision.

Keywords: Democracy, Fallibilism, Paul K. Feyerabend, Philip Kitcher, Pragmatism, Hilary Putnam, Science, Truth.

We have been told lately that we are about to get into a time period which is less and less concerned with truth and facts, and more and more with emotions, impressions, and feelings. From amongst several tags that are meant to dub our epoch one may chose “post-truth”, “alternative facts”, “demise of objective truth”.

Frankly, to me all these are symptoms of an irrational fear of knowledge, a kind of epistemic irresponsibility which gets more and more pervasive in our society. This cultural divide which opens up in front of us feeds a moral feeling very aptly phrased by someone who said that “in a time of universal deceit telling the truth is a revolutionary act”.

Here there are several issues of utmost concern for all of us who are involved in research and teaching: How are we going to frame the conceptual scheme of the relationships between science, truth, and democracy? What is the role that science

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plays in a democratic society? Are the standard, traditional values of the objective scientific knowledge compatible with the political values of reasonableness which are supposed to be the norms for democratic political trade-offs? Could the latter norms for democratic transactions ground the ethos of our claims of objective knowledge which should be subjected to the close scrutiny of facts? How is it possible and feasible to integrate scientific knowledge and the values that give the real bite of that knowledge with democratic values? What is the role that experts and their evidence-based expertise are playing in a context in which the rhetoric of the public discourse emphasizes in an obsessive manner the concept that everybody – be it an expert or a layperson – is entitled to an equal right to voice his or her opinions or beliefs, regardless of whether or not he/she complies with the epistemic norms of rationality and of scientific reasoning? How is the contemporary scientific establishment defending the epistemic authority of scientific knowledge against the noise of voicing indiscriminate opinions? Have we already reached that critical stage of a methodological anarchism which Paul K. Feyerabend triumphantly encapsulated into the dictum “Anything Goes”? How dangerous is this critical condition of a fast-growing public mistrust in the authority of science, of the truths of facts, and of the objective and impersonal rules of the empirical methods of science?

It is obvious that all those questions raise very difficult and disturbing issues. And they are symptoms for there existing some serious causes of what I wouldn't be shy to call a cultural malaise. Here is an incomplete list of those causes: the continuous erosion, which up to a certain point is legitimate, of a triumphant scientific vision, which in its heyday made the illusory promise that science is a panacea, a remedy for all our social and political troubles; a simple minded and shallow conception about scientific knowledge, which is on the wrong track committing itself to the view that science could be run in a perfect and purified axiological neutrality; a skeptical if not downright eliminativist conception about our not being able to carry out a fertile and intelligible dialogue or even controversy about the values we share and cherish; but in the same time a shallow and caricatural understanding of the mechanics and the processes of democracy, construed as a kind of soft anarchy; and then again a superficial understanding of the dynamics and progress of science and of its cultural and historic background against which the institutions which create and validate scientific knowledge have emerged and of the complex role that science in general plays in our contemporary society.

Science is based on evidence that is intersubjectively tested, thereby being acknowledged and accepted by the community, which is inevitably elitist, of men and women who produce knowledge. Science works with the classic epistemological distinction between *episteme* and *doxa*, whereas political negotiation and transactions or the speech acts which support our political options emphasize the freedom to express opinions, without insisting upon providing pieces of evidence, justifications or upon making use of methods which are conducive to truth.

Some people, especially those who remain faithful to the goals and ideals of science, will say that science is the apex of the conceptual, technical, and methodological achievements of our species. From the 17th century onwards, the mathematized sciences of nature uncovered essential truths about the world, and helped create that frame of mind in which one can substitute truths of facts for superstitions and prejudices. All this triggered social and political conditions for more and more people being more educated, more healthy, living longer and more decent lives, and being more rational and humane. Of course, the biomedical sciences have had their fair share in articulating and speeding up this very complex social and scientific process.

The seminal role that science is expected to play has remained unchanged so far: it should continue the evolution sketched above; it is supposed to engage in free, objective, and dispassionate research, resisting any attempt to distort the facts motivated by a dubious or unjustified moral, political or religious agenda. Of course, today, in agreement with the morals that one can extract from the new philosophy of science, which is informed by a sociological and an historical perspective which presents the institution of science in a more concrete and credible way, endorsing the values and the ideals of science does not boil down anymore to keeping away science from axiology, and to insisting that research should be free of any moral constraint whatsoever. Quite contrary, they should insist on finding out facts and truths, and they should stay away from using immoral methods which upset human rights and dignity and also the rights of those nonhuman animals whom they interfere with in labs and in some other contexts of our life.

On the other hand, our political, moral, and religious beliefs should not distort either the way we frame and articulate our scientific projects or the assessment of the evidence in favor of the conclusions drawn from the scientific research. One should not censor the questions and the problems raised in the process of research through the ideals or through the fears or the prejudices which are prevalent at any given time in our society. And we should not be complacent accepting uncritically everything that is convenient and conventional among our peers especially when those widespread beliefs are severely undermined by lack of strong compelling evidence and reasons. The Kantian imperative "*Sapere Aude!*" has the same force now as it has had since Kant pronounced it at the dawn of the European Enlightenment. (One should dare using his or her own mind!) A complete formation of our students, as members who enjoy the full spectrum of rights and obligations in the society, is achieved not only through their training as specialists but also through the development of their critical thinking and attitude, through their constant struggle to get out from their intellectual and moral infancy and to emancipate themselves from a state of tutelage, as Kant himself put it. Deep down, at the very roots of things, we know that from the lesson of modernity, the epistemic values of truth, scientific honesty and deontology are intrinsically intertwined with the moral values of the public good and with the righteousness of our attitudes and deeds. Genuine knowledge

does not occur in an ethical vacuum, since the Truth and the Good/Right are two facets of the same human condition: the Truth is for knowledge what the Good/Right is for action. The Truth is the norm of knowledge in the same way as the Right is the norm of action. One cannot turn the back to the truth and pretend, nevertheless, that one can achieve the social and political good.

What I have sketched so far is an *image* of science. There are people who think differently about science. They see another image or model of science. They believe that the image sketched by me before is just a philosophical myth, which shows nothing else than the vested interests of those who hold the political and the epistemic power of a society and strive to inculcate the idea of a completely value-free and value-neutral scientific knowledge. The aim of this myth is not only that of dignifying what is eminent in science but also, more important, that of marginalizing and of debilitating alternative points of view, which are upheld by those who defy and contest the power. Every decision that people make in what concerns what should be object of scientific research, what should receive financing or institutional support etc. should also strictly observe a set of value norms and judgements. These minimalists or even nihilists of the objective view of science are contesting or even rejecting the legitimacy of the objective concept of “evidence” or “proof”, which pertains to the hard core of the realist conception about truth and science. They tend to relativize the outcome of scientific research, claiming that the so-called “scientific conclusions” are always filtered through moral, political, and religious values and convictions, lacking therefore any serious claim to universality and objectivity in the strong sense of those concepts. Moreover, according to the same subjectivist and relativist interpretation of science, the whole idea that science delivers truths about nature is another ingredient of the same Platonician myth of the universal objectivity of science as a natural kind and as an enterprise which undercover brute facts and “carve the world at its joints” (as Plato said it). What are we going to get out of this relativist image of science? For sure, one rough idea, which is argued for by people like Th. Kuhn, P.K. Feyerabend and the like, is that science is like any other human group (team) activity – be it social and/or political: the scientific establishment is a very efficient and powerful propaganda machine, which serves the interests, not always obscure, of the elites and which imposes upon the underprivileged and the marginalized the views, doctrines and wishes of the powerful. From this vantage point, science works through mechanisms and institutions which are pretty similar to the political and religious institutions which always enforce and reinforce their political and symbolic social control over the oppressed and marginalized masses.

But, after all, what did contribute to the advent of this grotesque constructivist and relativist image of science? To begin with, of course, the serious drawbacks of this ideology which has no real argumentative merits. In addition to that, however, and this is more serious, we’ve got here a weird situation in which a legitimate and successful criticism against positivism and logical empiricism, and specifically against the would-be axiological neutrality advocated for many years by most

positivists, from the vantage point of a philosophy of science informed by the new history and sociology of science, turned itself ungroundedly into a demolition of the objectivity of scientific contents and truths. It's obvious that in philosophy positivism is extinct today, and in the humanities in general, with the notable exception of law. But the ravages of this kind of Marxist ideology have eroded massively the intellectual authority that science has deservedly enjoyed and undermined its theoretic credentials in the name of an egalitarian and populist conception according to which all beliefs freely expressed have an equal epistemic dignity and value, in a sort of generalized conversation, from which the normative structure of the society is supposed to emerge in a democratic way.

But then, is it the case that the steady and catastrophic erosion of the intellectual and epistemic prestige of science is something intimately connected to the way democracy is organized and works in contemporary society? Should it also be the case that the values of the democracy get in the way of the values and the logic of the development of expert knowledge? Are we witnessing an irreducible and ineluctable paradox and an unsolvable antinomy between the objective truth of scientific knowledge, on the one hand, and the plurality of reasonable beliefs that are of the essence of a democratic way of structuring the social and political values of a society, on the other hand?

What we have got so far are two conflicting images of the role and the value of scientific knowledge in our society. I believe that both sets of views are equally wrong and inadequate, but I am inclined to say that the latter image proved to be by far more pernicious than the former due to its ideological, and more generally, political consequences.

Since we reached this point, it is very natural and useful to make my own position crystal clear. I am not an obscurantist or a negationist in what concerns the social importance and the overwhelming benefits that we all have from the science and technology. Contrarywise, in my capacity as logician and analytic philosopher, educated in the spirit of science, I appreciate very much the beauty and the exactitude of scientific knowledge, of its explanations and forecast, and I am amazed and enchanted by the progress of sciences and of their applications.

Even more to this point, my deep belief is that science constitutes an essential dimension of our European cultural identity, along the Greek philosophy, and historically, Christian religion. The objective and impartial search for the truth and for the ultimate essence of reality began many centuries ago in Ancient Greece, when science and philosophy were intertwined. This is why I think that embracing scientism, which leads to the cultivation of science to the exclusion of all the other major components of culture which pursue the knowledge and the understanding of human values, of subjectivity, feelings, emotions and artistic taste, so, again, embracing scientism would be a very bad cultural decision. And since one of the roots of scientism is this epistemic dream and aspiration of an ultimate objective and impersonal explanation of whatever is apparent and observable, which seems not to

leave any room for human values, subjectivity, emotions and artistic taste, then finding out a way of unifying those two worlds, that of science and that of human subjectivity, emotions and values, is yet a grandiose philosophical project, very likely the most important one on the agenda for the 21st century.

Many contemporary philosophers are addressing this vexing issue: how can one make room, in a justified or grounded manner, to the human subjectivity within the framework of the objective, and impersonal scientific outlook about the world? The answer is not obvious, since the force and the success of science seem to depend on measurement, objective observation, and experiment, which all seem to require the abandon of any serious work and understanding of human values and subjectivity. I am strongly convinced that until we can get together in a unified conception the objective and the subjective we cannot claim that we have a full understanding of the Universe and of ourselves, as distinct individuals with an exceptional ontological status, within that Universe. Consequently, until then, we won't have a complete understanding of the science either in this world in which we live.

So, why is scientism a deeply flawed conception about science and also about its role and relationships with the other spheres of the human creation? Roughly, because there is no scientific substitute for a full-fledged moral education that we can only get through the humanities and the social sciences; and also because the speculative and theoretic dimensions of studying the humanities and the social sciences cannot be exhausted and substituted either by a study which is exclusively centered on positivistic values or on postmodern deconstructivism which turns the grand narratives of philosophy and humanities into fictions, phantasies, or sheer ideologies.

Is there an alternative view to those two wanting conceptions? Here it is a sketch of a project which is work in progress.

There is a metaphysical and an epistemological aspect which lies in the background of this project. It has to do with our species being constantly involved in normative or value judgements in each and every aspect of their lives. The American philosopher Philip Kitcher very aptly called this "the *ethical project*" of human beings. Building knowledge is part of the project. To strike for a balance between science and democracy one needs to figure out the nature and the role of both epistemic norms (truth, reason, adequacy to the facts) and moral norms (the good, the right, the virtues). This process of valuing different political and social contexts stems from human practices which go way back and were key factors for our ancestors' involvement in this ethical project which consolidated the structure of their society. This is a never-ending project which unfolds with each and every generation. Being a political species and our living together and doing things together being a *sine quibus non* for our social being, all these required a capacity for altruism in our ancestors.

"To live together in this way, they required a capacity for psychological altruism. That is, they had to be able, on occasion, to respond positively to the perceived

wishes and intentions of those around them, to recognize what another band member was attempting to do, and to modify their own plans so as to help the other realize a goal. Despite the perennial popularity of conceiving animals (including human beings) as inevitably egotistic, there is strong evidence for attributing an altruistic capacity of this kind.”¹

The main goal of ethical norms and rules from this perspective is to enforce altruism and to consolidate the moral responsibility of individuals and of the groups which they belong to. Therefore, the ethical project has an evolutionary value and it has to do with our survival as a society. Those practices are distilled and articulated through the requirements or the canon of the public reason, which, in its turn, *via* the action of a kind of virtuous circle, acts as a validating instance of those social practices themselves.

The whole dialectics which is going on here raises an extremely controvertible issue: is there any substantial role for the layperson to play in the process of science validation and certification? To this question one may answer in different ways. We can answer negatively, of course. But that will make extremely difficult to get a compatibility solution to the issue of the relationship between democracy and science. Then, one may answer in the affirmative. And this solution comes in degrees. Ideally, the affirmative answer should not end up in an irresponsible and epistemophobic kind of relativism.

The radical affirmative answer is one of the kind famously put forward – others would say infamously – by philosopher Paul K. Feyerabend. He claims that one should introduce democratic mechanisms into the very processes of science certification. In his own words: “... it would not only be foolish *but downright irresponsible* to accept the judgment of scientists and physicians without further examination. If the matter is important, either to a small group or to society as a whole, *then this judgment must be subjected to the most painstaking scrutiny*. Duly elected committees of laymen must examine whether the theory of evolution is really as well established as biologists want us to believe, whether being established in their sense settles the matter, and whether it should replace other views in schools.”²

It’s obvious that this radical solution won’t do it. It cannot work either a *de jure* solution or a *de facto* solution. And it is quite natural that when scientists, scholars, and philosophers of science emphasize the importance of scientific research being done in an autonomous way, their fear the worst from this kind of “methodological anarchism” advocated by Feyerabend. Their anxiety to the “mob rule” is motivated by their reasonable reaction against the “Anything Goes!” of Paul Feyerabend.

This is why I find very comforting what Ph. Kitcher says in this regard: “Many people, especially scientists, react to a plea for democracy with alarm. Part of the fear stems from suspicions that democratization, even in the guise of well-ordered

¹ Ph. Kitcher, *Science in a Democratic Society*, Prometheus Books, 2011, Kindle edition, p. 40.

² Paul K. Feyerabend, *Science in a Free Society*, Verso Books, 1978, p. 96.

science, will submit research to the tyranny of ignorance. It is worth repeating that well-ordered science is deliberately designed to overcome this problem, that it imposes stringent cognitive conditions, and that it assigns an important role to the authority of experts. Moreover, scientific autonomy, like that of other agents, covers many spheres of activity, and it is important to understand just which of these might be threatened. Very likely, the image of the autonomous scientist is a residue of the original commitment to private activity, embodied in the ‘gentlemen’s club’ of the early modern period, no longer apt when Science has become central to the public knowledge system ...”³.

This is, indeed, a more balanced view. The idea of a *well-ordered science* (which is Ph. Kitcher’s contribution to this debate) seems more appealing. The advancement of science depends on constant good epistemic and methodological decisions. And it goes without saying that the experts are the most important and effective decision-makers. To this, Kitcher has the following to say: “These important characteristics of responsible decision making, both in balancing our own lives and in joint activities with those about whom we care, are reflected more precisely in the conditions of mutual engagement ..., and those conditions yield my ideal of well-ordered science. A society practicing scientific inquiry is well ordered just in case it assigns priorities to lines of investigations through discussions whose conclusions are those that would be reached through deliberation under mutual engagement and which expose the grounds such deliberation would present. The society is likely to contain many different views about how the course of inquiry should now proceed; some, maybe most, of these perspectives may be sadly handicapped by ignorance of the state of the various sciences. Given the cognitive requirements on mutual engagement, that must be corrected. So we should suppose that, in an ideal deliberation, representatives of the various points of view come together and, at the first phase of the discussion, gain a clear sense of what has so far been accomplished and of what possibilities it opens up for new investigation. (...) At the end of this explanatory period, all the participants in the deliberation have been *tutored* (...) The assessment of consequences ... will sometimes require judgments about the likely outcomes of pursuing various investigations. Here they will need the testimony of expert witness. (...) Conversation may end in one of three states. The best outcome is for deliberators to reach a plan all perceive as best. (...) Second best is for each person to specify a set of plans he considers acceptable, and for the intersection of these sets to be nonempty. If there is a unique plan in the intersection, it is chosen; if more than one plan is acceptable to everyone, the choice is made through majority vote. The third option occurs when there is no plan acceptable to all and when the choice is made by majority vote. That is a last resort for expressing the collective will.”⁴

³ Ph. Kitcher, *op. cit.*, p. 118.

⁴ *Ibidem*, pp. 113–114.

There are many interesting ideas packed in this long quotation which speak for themselves, and which also deserve a close scrutiny. I'll make very few comments. One idea is that when making decisions one has to keep in mind the actual contingent configurations of science and the needs of the people as they are defined and acknowledged by public reasoning and argumentation. There is a sort of path-dependence theory, kind of, involved here (similar to what we have in political science)! The history of the context is an essential part of the complex mechanism which will causally determine the outcomes of our decision making.

What are then the big landmarks and the meta-constraints for this rational and historic process? Here it is a reasonable proposal, which is rather modest in not being too metaphysically loaded, but rather realist and practical. One may find a defense of this proposal in Hilary Putnam's essay "Capabilities and Two Ethical Theories"⁵, which, according to the way the author sees these facts, articulates a Deweyan position. The Deweyan response combines two crucial components for a balanced relation between science, with its truths uncovered by the experts, and democracy, with its rule-governed processes of decision making and majority vote taking: democracy and fallibilism.

Democracy recommends this attitude as far as the use of certain argumentative practices in building up overlapping consensual majorities is concerned: *one should strike for arguments which are convincing for substantial majorities, such that, one can hope, the procedure will eventually produce "overlapping consensus"*. Therefore, one way to go is to set up institutional mechanisms in which experts – i.e., academics, scientific researchers – in concert with stakeholders – i.e., NGO's members, policy makers, a.s.o. – would act in a manner which is similar to a voting procedure for public policy matters. However, when it comes to very abstruse scientific matters, one wouldn't expect that all the people who are concerned and involved would take a real vote. Nevertheless, "if their policy recommendation are to be acceptable, they must be arrived at by informed discussion that respects 'discourse ethics' and that tries to understand and make explicit the concerns of all affected. (...) But it is not to be expected that the result will usually be unanimous agreement, among the experts any more than among the voters."⁶

Does this application of a voting procedure mean that necessarily the weighted overlapping consensus that scholars and policy makers "arrived at by informed discussion" is the right one? It's kind of obvious that this cannot be the case. And here one needs the second Deweyan component which brings into focus the empiric content of the scientific concepts, ideas, theories, a.s.o. This is the fallibilist stance. Here it is a sketch of this crucial stance.

Fallibilism: "A Deweyan pragmatist does not propose necessary and sufficient conditions for 'right' and 'wrong', 'reasonable', 'well-being', or any other

⁵ H. Putnam, "Capabilities and Two Ethical Theories", in H. Putnam, *Philosophy in an Age of Science*, Harvard University Press, 2012, pp. 299–311.

⁶ *Ibidem*, p. 310.

important value concept. What Deweyans possess is the 'democratic faith' that if we discuss things in a democratic manner, if we inquire carefully, if we test our proposals in an experimental spirit, and if we discuss the proposals and their tests thoroughly, then even if our conclusions will not always be right, not always justified, not always even reasonable – we are only human, after all – still, we will be right, we will be justified, and we will be reasonable more often than if we relied on any foundational philosophical theory, and certainly more often than if we relied on any dogma or any method fixed in advance of inquiry and held immune from revision in the course of inquiry. In sum, what Winston Churchill said about democracy applies to inquiry as well: fallibilistic democratic experimentalism is the worst approach to decision making in the public sphere that has ever been devised – except for those others that have been tried from time to time.”⁷

So, to wrap up the whole discussion: How are we going to balance the relationships between science, truth, and democracy? How could we make this complex, and, on occasions, quarrelsome machinery work in a smooth way? Well, as I suggested, what we've got here is a kind of “troubled” marriage, and in such a marriage, we all know too well from our practical wisdom and realist spirit, it is worth pursuing reasonable compromises. More often than not, we know not only that it is worth fighting for such a cause but one can even get eventually the desired result. And in those public reasonings and debates we need a lot of patience, mutual recognition, and trust. And it doesn't hurt a bit of love, as well! Which, of course, in our case here is “love of wisdom”, that is *philosophy!*

⁷ *Ibidem*, p. 311.