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Neutrality and Engagement in Science

Is objective science also indifferent science?

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Objective cognition is a value primarily associated with science. In this context, it is understood as the objective validity of knowledge. Cognition that relates to an object without distorting its representation in the form of knowledge is believed to meet the requirement of objectivity. In everyday life, however, we understand objectivity in a slightly different way. We describe people as demonstrating an objective attitude towards a certain cause, idea, or situation or towards others when they are impartial. We value such individuals precisely for that, because they take out of the equation, or neutralize, any bias, self-interest, and personal engagement when dealing with something or someone. At first glance, the relationship linking these two ways of understanding objectivity is not obvious, because it has been retained in a quite narrow scope and on terms that remain unnoticed in everyday life.

In the first case (objectivity I), this is a methodologically normalized relationship between a well-trained cognitive agent (the scientist or scholar, as the subject of cognition) and an object that has been properly prepared, usually in a laboratory or in terms of technology. In this case, the object of cognition is properly isolated from entanglements with other, non-laboratory systems to ensure that the result of the study (experiment, observation, measurement etc.) is as unambiguous as possible (replicable, intersubjectively verifiable etc.). Factors that are irrelevant to cognition are thus eliminated, which brings to light the impact of those that are cognitively relevant. We should also add that the social isolation of the researcher is likewise desirable in laboratory conditions. This also means the cognitive neutralization of the researcher's personal links to various systems of thought that carry a significant social (religious, ideological etc.) baggage. And that is exactly the point – to neutralize all influences and entanglements without cognitive significance, to weaken their impact on scientific cognition or even to eliminate them completely.

In the second case (objectivity II), when we mean objectivity as the impartiality of an attitude towards something or someone, we usually talk about systems of interpersonal relations, which – for reasons inherent in their nature – can hardly ever be isolated in a way that is characteristic for example of scientific experiments. In addition, the situations in which objectivity in this sense takes on special significance occur spontaneously and are not consciously controlled by their participants. What we mean here are interactions and social actions as well as their wanted and unwanted consequences and their intended and unintended results. It is difficult for us, being participants in social life, to look at it in a disinterested way, because we are involved, not merely observers.

Of course, these two meanings of the concept of objectivity are valid only *idealiter,* with the division being motivated by the perception of the objectivity of scientific cognition as a practical value only to the extent to which it can be transmitted as a cognitive value in practice and in technology, i.e. only through technological applications and materializations. This narrowing makes it possible to think of science as independent of the social reality and to regard the applications of scientific knowledge as controllable by systems of value that contribute to its progress. Here, the possible involvement of objectivity, separated in this way from the realities of life, in the real world would be allowed and preferred as the application of

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science (especially in terms of technology) to the needs of social life. All this in keeping with the rule: what proves itself scientifically must also make practical (technological) sense.

This is how the situation of scientific cognition could be imagined in the early 20th century. But this is no longer the case. If this situation corresponded to the conditions from 100 years ago and science itself and social life had not changed radically, we could still separate these two meanings of objectivity from each other and allow for a limited area in which they would be connected (applications!). As scientists, we could repeat the motto "my ethics is my methodology" – if the conditions for controlling the (desirable or undesirable) relations between objectivity I and objectivity II had not changed over the past few decades. What has changed, then?

Science as a participant in social life

Science has an ever-growing impact on our daily life and the reality of social life. Such changes did not occur yesterday, or even in the previous century. Initially, they occurred slowly, accompanied by a gradual shift away from the classical concept of science (developed by Greek philosophers) towards the early-modern concept and then the contemporary understanding. Francis Bacon saw science as a tool for advancing the most important goals of humanity and therefore postulated what at the time represented a completely new model of scientific knowledge – *scientia activa et operativa*. The early modern understanding of scientific knowledge was based on two significant changes in relation to the previous ideal of science. These changes pertained to the concepts of experience and the subject. Legitimate cognition had its source no longer in direct experience but in experience that was technologically and mathematically mediated (with the help of devices, computations, and experiments). A particular, finite, and limited subject was no longer credible, replaced by a subject that was completely autonomous with respect to tradition and social conditions, because only a subject "detached from the world" could achieve true universal knowledge.

It was then that objectivity gained its status as a value of scientific cognition that was held in high regard. Those changes were linked to processes that consolidated the position of objectivity in the hierarchy of values of scientific knowledge. On the one hand, these processes included a historically ever-stronger feedback loop between science and technology, between science that was gaining objectivity through its technological applications and intellectually sophisticated technologies that found applications in science. On the other hand, there was the process of the separation of scientific knowledge from common knowledge. The former change took the form of a progressive process. The latter, not subjected to the rigors of methodology, remained static, conservative, and limited.

The early-modern ideal of science is the reversal of Aristotle's idea of science, in the sense that the early-modern era altered the relationship between the known and the unknown. Ancient science projected the known onto the unknown and the near onto the distant, thus making scientific cognition subordinate to everyday experience. Since the Copernican Revolution, since Galileo, Kepler and their successors, the known has been explained in terms of the unknown, of what is being discovered. Discovery thus becomes a condition for new explanations of what has already been known from experience. This changes the understanding of the objectivity of cognition – there is a requirement here to withdraw the subject out of the world and to separate him/her from the environment. This is very well illustrated by the main element of Descartes's philosophy – the separation of the subject from the world is a fundamental condition for methodical, real, objective, and universal cognition. "The Cartesian moment" in the history of knowledge is the moment in which the two understandings of objectivity (namely objectivity I and objectivity II) must be recognized together. Prerequisites for the subjective validity of scientific cognition begin to include not only its methodical effectiveness in the extraction of

truth from the object, but also its neutrality, the fact that the subject of cognition (the scholar) is free from worldly entanglements.

From the beginning of the 17th century onward, the influence of science over human daily life grew steadily. The controls over the process of cognition provided by the scientific method, which had already been transferred to the field of technology, produced and continue to produce spectacular results. Technologically objective knowledge thus confirms its credibility and social prestige. Also, the influence of science on everyday life has yet another, somewhat more controversial aspect, which is easier to notice when we follow it as a historical process in which human self-knowledge makes demands directed at science coupled with the emergence of empirical human sciences (sociology, psychology, and cultural anthropology) in the middle of the 19th century. This process is accompanied by cultural transformations and changes in the social reality. The early-modern period gathers pace and speeds up changes. Population growth, the Industrial Revolution, urbanization, industrialization, and the development of mass media – all these processes, along with their ever-growing pace, unpredictability, and general insusceptibility to the existing forms of political regulation, challenged the idea of objectivity of scientific cognition.

Sociology as a science (as opposed to common sense, folk wisdom, or common knowledge) was expected to describe and explain reality in an objective way, maintaining its neutrality and applying the methodological requirements of subjective cognition. By nature, reality cannot be treated exclusively as an object, is particular in its historical form, and the researcher is part of this reality, which makes this situation still worse for objectivity I. The social, cultural, and mental reality, i.e. interpersonal relations (bonds, ties, interactions), attitudes, meanings given to the elements of this reality by the members of the community, traditions, and cultural customs as well as our thoughts, feelings, and desires are all given to the researcher in two versions at once: as the object of cognition and as the environment of life. Hence the demands made by sociology already in the 19th century: to study social facts as things (Émile Durkheim) and to study values, but not to evaluate (Max Weber). But how should we reconcile the two notions of objectivity in the sphere of the social sciences?

Perhaps Durkheim or Weber believed in guarantees of the impartiality of scholars based on the scholarly ethos that was accepted by them and reinforced by the authority of academia. The 19th-century practitioners of politics and other social technologies most likely did not expect to draw any extraordinary benefits from their knowledge, but this situation changed at the end of the 19th century. The objectivity of scientific cognition as a certain ideal within the social sciences remained a purely intellectual value for a long time. What contributed to that situation to a large extent was the model of scientific cognition developed in the natural sciences. Since the social sciences do not have any spectacular applications, the value of their objectivity is purely intellectual. This situation, which lulled critique to sleep, continued until the time of what is referred to as the anti-positivist turn in science. In what ways did the situation of objectivity in the social sciences differ from the situation that could be sanctioned in the natural sciences?

In the natural sciences, objectivity as impartiality and objective validity is a consequence of the fact that experience in the cognitive process is mediated by ready mathematical structures and scientific instruments, which are themselves embodiments and materializations of scientific knowledge. The scientific method, which uses mathematical and technological means to mediate experience, becomes a safeguard of objectivity. Owing to the rigors of the scientific method, all individual variations in the cognitive abilities, personal inclinations, and intuition of the researcher are "calibrated," or adjusted to the manner in which the function of an instrument or a purely intellectual tool becomes cognitively effective in the achievement of the objectivity of knowledge. It is enough to expose the subject of cognition to the technological and logical rigors of impartiality, and we will be able to achieve objectivity (the objective validity of cognition). In this way, the powers of the subject of cognition are augmented technologically and intellectually. The limits of this augmentation were recogniized rather late.[1] The situation is different in the social sciences. If the calibrated mind of a researcher in the field of the natural sciences is augmented technologically (with the use of scientific instruments), then the mind of a researcher in the field of the social sciences is calibrated and augmented in a practical way. It is *techne* in the natural sciences and *praxis* in the social sciences that form their foundations, their historically shaped and pre-predicative knowledge. Scholars rely on this knowledge when they enter the unknown terrain of scientific exploration and look at it to find the strongest guarantees of objectivity.

But there is yet another difference that is equally important. Objectivity II plays a fundamental role in protecting the institutional autonomy of science. However, the guarantees of its recreation in the communities of scholars depend not only on the internal mechanisms that govern the functioning of such communities, but also, and perhaps above all, on the social mechanisms of intellectual and institutional control and criticism in general. The philosopher of science

[1] Heisenberg's uncertainty principle shows the limitations of the cognition of physical systems that result not so much from the imperfection of measuring devices as from the nature of the physical reality itself.

Karl Popper linked allowing critical opinions into the open public sphere to the conditions for scientific criticism. Today, we have no difficulty noticing historical situations characterized by links between the collapse of criticism in the social reality and the tendency to suppress it in science. Conversely, we can only combine the two meanings of objectivity (as objective validity and as subjective impartiality) into a single concept in situations in which the institutional autonomy of science fosters the expansion of knowledge, and scientific knowledge receives recognition and enjoys prestige in society, because its objectivity is valued.

How do, in the social sense, scientific cognition and the value of knowledge gain the status of objectivity in today's world? What could pose a threat to the objectivity of scientific knowledge? What processes could degenerate it as a cognitive and social value? What social forces and what scientific values could impede the unity of its objectivity?

The objectivity of knowledge as a non-cognitive value

Threats to the objectivity of knowledge come from what is external and internal to science. Modern science – which means science that is coupled with technology and institutionalized, *scientia activa et operativa* – increasingly involves entities that have the capital necessary for the creation of knowledge. Governments and corporations, which spend huge amounts of money on the advancement of science, make numerous demands of scholars, and such demands are often difficult to reconcile with the scholarly ethos and institutional autonomy. In this way, something that could be described as an "expert culture" has emerged among scientists. Its social role is to influence scholarly attitudes, the goals of scientific research, and the forms of its presence in society that are aligned with the needs of those who provide funding for scientific studies and thus remain permanently present in the fabric of the scientific community. This applies not only to the medical or natural sciences but also to the social sciences, especially those that can provide the means for political action.

But such threats also come from the community of scientists itself. The commercialization of research and the "corporatization" of the scholarly community means that the scientific knowledge so generated gets transformed into a commodity, differently than what happens when research findings become the property of social actors, which can use such knowledge without respect for scientific values. Knowledge has become a market value offered by reputable Western universities. Commercializing prestige and traditions that are sometimes dignified as well as the reputation gained thanks to the presence of Nobel Prize winners among employees, and so on transforms scientific knowledge understood as a product of the intellect into a commodity with a specific price. Hence the internal degradation of the scholarly community, in which what Popper described as "friendly-hostile" relations between scholars, which are based on respect for the products of science and the cognitive value of knowledge, end up getting transformed into "hostile-hostile" relations, characterized by rivalry no longer in the field of knowledge but in the field of power. The avant-garde of this social movement includes "fast-thinkers", or scholars who flatter the taste of the general public and its level of competence, often appear on television, and write "bestselling books on science." Hence also the "cult of banality," the "sociology of levelled-down standards" among those who buy knowledge as a commodity from universities that vie for students.

When science identifies its morality with its methodology, it easily succumbs to the temptation of the ideological or economic exploitation and consumption of the values it generates for purposes that produce not more knowledge but social frustrations. If science equates its social value with market value, it quickly exhausts its creative potential. It frustrates not only scientists but also all those who are disappointed by the mirages of financial success created by the properly trained employees of "corporatized" universities. Alongside science and its institutions, we are therefore witnessing the emergence of a culture of "epistemic malcontents," characterized by what could be even described as denial of the very cognitive value of scientific knowledge. "Flat-earther" and "anti-vaxxer" movements are byproducts of social engineering projects that incorporate mechanisms harnessing knowledge in ways that actually degrade both its cognitive and its social values. But the moral, social, technological, and intellectual conditions in which the values of scientific knowledge, including its objectivity, are consumed on a large scale for non-cognitive purposes cannot be easily transformed into conditions in which cognitive values can again be generated. This happens in particular where scholarly communities have modest resources at their disposal – not just in the sense of financial resources. And this is where the Matthew effect comes into play: the poor will get poorer, and the rich will get richer.

It will be possible to create economic conditions that foster a re-grounding of the value of scientific knowledge in society, but it can done only with difficulty, through an effort on the part of the whole of society, and perhaps not without great detriment to the situation of universities. The more science can influence our lives, the more we need not only clear criteria that allow for its objectivity but also criteria for the rational shaping of the conditions in which the objectivity of knowledge can be appreciated as a non-instrumental value and as a common good. ■

Further reading:

Amsterdamski S., *Between History and Method: Disputes about the Rationality of Science*. Boston, 1992.

Bourdieu P., *On Television and Journalism*. Pluto Press, 1998.

Daston L., Galison P., *Objectivity*. New York, 2007.

Daston L., Objectivity and the Escape from Perspective. *Social Studies of Science* 1992, 22(4).

Elias N., *Involvement and Detachment: Contributions to the Sociology of Knowledge*. Oxford: Blackwell, 1987.

Furedi F., *Where Have All the Intellectuals Gone?: Confronting Twenty-First Century Philistinism*. Continuum International Publishing Group, 2004.