



Contents lists available at ScienceDirect

Studies in History and Philosophy of Science

journal homepage: www.elsevier.com/locate/shpsa

The irreducibility of value-freedom to theory assessment



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ARTICLE INFO

Article history:

Received 25 November 2013

Received in revised form

26 October 2014

Available online 25 November 2014

Keywords:

Value-free ideal;

Pluralism;

Context distinction;

Women's health research

ABSTRACT

The current ideal of value-freedom holds non-cognitive values to be illegitimate in theory appraisal but legitimate in earlier stages of the research process, for example, when affecting the selection of topics or the generation of hypotheses. Respective decisions are often considered as part of a context of discovery and as irrelevant for the justification and assessment of theories. I will argue that this premise of an epistemic independence of theory appraisal, though often taken for granted, is false. Due to the possibility of value-laden blind spots, decisions in discovery can have an indirect impact on theory assessment that the value-free ideal cannot deal with. This argument is illustrated by a case study from women's health research, namely the assessment of hormone replacement therapy as a prevention of coronary heart diseases. In consequence, the epistemic trustworthiness of science is promoted more by a pluralism of non-cognitive values than by their exclusion; and a normative philosophy of science needs to enlarge its focus to include the context of discovery as well as the social conditions of science.

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When citing this paper, please use the full journal title *Studies in History and Philosophy of Science*

1. Introduction

Today's ideal of value-freedom claims that only cognitive values have a legitimate function in theory assessment, whereas non-cognitive values are allowed to inform decisions on the choice of problems or the application of results. This form of the value-free ideal obviously presumes that there is or can be a sufficiently clear distinction between cognitive and non-cognitive values. Accordingly, discussions about the ideal often focus on whether there is an exclusive group of cognitive values, and if so, whether these are sufficient for the evaluation of theories. While this question is indeed problematic, my aim here is to show that the current ideal of value-freedom is confronted with severe problems, even if we grant the distinction between cognitive and non-cognitive values. The underlying problem is that the value-free ideal is essentially based on a further premise often not stated explicitly: the idea of a clean division between the inside and the outside of the epistemic process. This amounts to the assumption

that the assessment of theories can be independent from non-cognitive values, even if these affect other aspects of the research process. This premise is false because non-cognitive values influencing decisions traditionally regarded as part of the context of discovery (e. g., decisions on funding, choice of questions, theory pursuit, or significance ascriptions) can have an indirect effect on the evaluation of theories. At issue here is whether certain theoretical alternatives are not developed or additional data not gathered because of value-laden blind spots in the scientific community. In such cases, theory appraisal can be based on evidence and cognitive values only—and still reflect non-cognitive values. The current ideal of value-freedom thus fails to fulfil its intended function, since even a complete adherence to its standards does not guarantee the outcomes of theory appraisal to be value-free and unbiased.

There seem to be two possible reactions to this problem: purity or pluralism. The first would extend the ban of non-cognitive values to discovery. I will argue that since there can never be a guarantee that nothing has been missed, this does not provide a solution. The better option therefore lies in a pluralism of non-cognitive values: The integration of different perspectives on a subject can contribute

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to the detection of blind spots and diminish them. Even if this does not give us any guarantee for value-freedom either, it is the better way to promote epistemic trustworthiness.¹

In the following, I will first provide an analysis of the current ideal of value-freedom and the problems it runs into. Afterwards, I will illustrate my argument by an example from women's health research, namely the assessment of hormone replacement therapy for (post-)menopausal women. Concluding, I will consider some consequences for our normative treatment of values in science.

2. Value-freedom and its problems

Before spelling out the argument from blind spots, it is important to see what exactly is at issue when debating the value-free ideal. The value-freedom of science has been subjected to numerous critiques and modifications in recent philosophy of science. The distinction between cognitive and non-cognitive values has been thoroughly doubted (cf., e. g., Longino, 1996; Rooney, 1992), the problem of inductive risks has stirred an intensive discussion since its reopening by Douglas (2000). This makes the ideal of value-freedom a moving target; however, it is possible to identify certain assumptions as constitutive of the ideal (and as common aim of the various philosophical criticisms). While the value-free ideal's exact formulation has undergone historical and philosophical changes, its function remained stable: to make objectivity possible. Constitutive elements of the ideal are those commonly conceived to support this function.

A fundamental condition of objectivity² is that we do not let our value-commitments override the facts. Direct conclusions from values to theory assessments (and vice versa) are fallacious; this follows from the Humean separation of prescriptive and descriptive statements. Thus, objectivity does presuppose value-freedom. The point is that the value-freedom presumed here is only of a very basic sort. I will call this the minimal version of the value-free ideal:

(VFI_{min}): Value judgments must not counteract the empirical evidence.

This prohibits direct leaps from value judgments to scientific ones at the cost of basic norms of epistemic quality. Yet, the possibilities for value-influences in science are far more complex than this minimal version is able to capture; and the current ideal of value-freedom is considerably more comprehensive than this minimal version, too.

(VFI_{min}) can be contrasted with a maximal version, which demands science's complete independence from values. But this is also very different from our current ideal. First, while it bears the historical marks of an ancient request for purity of direction (paired with a view of science as contemplation of essential and eternal truth devoid of any worldly interests), this is neither our current view of science nor of value-freedom. Since Bacon, good science is compatible with the search for practical utility. Weber strongly argued against applying the demand of value-freedom to agenda-setting. It is a mainstream position today that

objectivity does not presuppose science's autonomy from all value-laden or interest-driven influences on its direction.³ One cannot deduce from one's misogynist attitudes the result that women are stupid; but one might decide to do research on the question of gender differences in intelligence because of such attitudes.

In addition to purity of direction, there is the question of neutrality. In what I will call the weak sense of neutrality, this requirement reduces to the distinction between is and ought. Not only is it inadmissible to conclude descriptive statements from prescriptive ones, but the same holds for the other direction. Scientific theories cannot justify value-laden beliefs. If research showed women to be less intelligent than men, this would not imply that women are less valuable than men, or that this lower intelligence should be connected with lower social status. Rather, this hinges on the value one ascribes to intelligence beforehand. Accordingly, Weber also criticized any alleged scientific foundation of politics as an intellectual and moral failure, whose only goal is to immunize political positions against criticism.

As clear as it seems that *is* does not imply *ought*, the question of scientific neutrality in the face of politics and policy is not that easy. Most would grant weak neutrality, but there is also a strong sense of neutrality. This does not concern direct implications of science for values, but rather science's responsibility for possible consequences of scientific research. The classic case is the atomic bomb: Proponents of strong neutrality hold that scientists make the bomb possible, but are not responsible for any consequences its use might have. Scientists do the research, about whose application others decide—these others being exclusively responsible for the outcomes. There are numerous critiques of this form of neutrality, arguing that scientists do bear a responsibility to consider possible consequences of their research (cf., e.g., Kitcher, 2001, 2004). Moreover, science does not only have social consequences in these extreme cases. Scientific results often do play a role in normative discourse. Even if it does not follow from a supposedly lower intelligence of women that their work should be less valued, in a certain social context (where intelligence is a highly valued attribute) this sort of research will have consequences for gender hierarchies and social status. Consequences might obtain even if the research fails to establish any gender differences, just because of reinforcing the gender difference question as being significant and worthy of pursuit.⁴ Here as well, one can argue that researchers are responsible for working and publishing on a certain topic.

We can now express the maximal version of the ideal of value-freedom as follows:

(VFI_{max}): Value judgments must not affect theory assessment; and science should be pure regarding its direction as well as neutral (in the weak and strong sense) regarding its application.

However, neutrality is usually connected to scientists' responsibility, not scientific objectivity (since, for example, one can have objective results and still make questionable decisions about their publication and use). Accordingly, the current ideal of value-freedom does not include requirements of purity or strong neutrality. Instead, it focuses on the idea that the epistemic

¹ Numerous authors have argued before that good science requires diversity and critical interaction rather than neutrality; cf. especially Longino (1990) for a detailed account. Although Longino mostly focuses on value-influences in the context of theory assessment rather than on indirect impacts from the context of discovery, her central idea of a beneficial value pluralism is applicable here, too.

² In the following, I will use the terms "objectivity" and "epistemic trustworthiness" interchangeably (following Fine, 1998).

³ It should be remarked that this does not mean everybody would welcome a complete politicization of agenda-setting. However, discussions about the autonomy of science are usually connected to arguments about its efficiency or the democratic necessity of an independent science, rather than to scientific objectivity (cf. Wilholt, 2010).

⁴ Cf. also Kitcher, 2001 (chapter 8) on political asymmetries in the public perception of research results.

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