

Science as Public Service¹

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Abstract

The problem this paper addresses is that scientists have to take normatively charged decisions which can have a significant impact on individual members of the public or the public as a whole. And yet mechanisms to exercise democratic control over them are often absent. Given the normative nature of these choices, this is often perceived to be at odds with basic democratic principles. I show that this problem applies in similar ways to civil service institutions and draw on political philosophy literature on the civil service (e.g. Rosanvallon 2011; Heath 2022) to discuss when such normative judgements can nevertheless be said to be democratically legitimate. Concretely, I seek to show that normative judgements in research need not be democratically legitimated in order for science to be democratically legitimate. Indeed, it can be democratically legitimate for scientists to go against the expressed views of the public or political representatives if this is justified in light of, firstly, the role science has been asked to fulfil and, secondly, when it is in line with public institutions' key principles. This is a counter-position to views currently held in the values in science debate (e.g. by Kitcher 2011; Intemann 2015; Schroeder 2021; Lusk 2021) which argue that value-laden judgements in science are legitimate if they are aligned with the public's views or directly decided by public.

Keywords:

Public interest science; civil service; new demarcation problem; democratic legitimacy; values in science

For some time now, philosophers of science have declared the debate on whether or not science is value-laden settled (e.g. Hicks 2014; Douglas 2016; Holman and Wilholt 2022). That said, it remains unclear what implications this has for the division of labour between science and politics, nor is it settled what it means for science's role in democracies. This paper works towards an answer to these issues by clarifying the notion of democratic legitimacy in the context of public service institutions.

¹ This paper has evolved and changed significantly in response to feedback that I received by Torsten Wilholt, Mathias Frisch, Hanna Metzen, Matt Brown, Ahmad Elabbar, Tanja Rechner, by participants of the Hannover-Groningen workshop in Hannover, January 2024, and participant of the values in science reading group at the University of Cambridge. I am especially indebted to two anonymous reviewers who provided me with very helpful additional literature on the civil service. Lastly, thanks to David Versteeg for multiple proofreads and pep talks.

There is a prominent view both in philosophical and in public debates which holds that value-laden judgements in a democracy ought reflect the public interest. It also holds that only the public (or its elected political representatives) can legitimately judge what the public interest is. The influence science has on politics, the view holds, is democratically legitimate when it either is value-free or when the value-laden judgements in science reflect the public's values.

This paper will put into question the second premise of this view: the notion that the public or its elected representatives alone can legitimately determine what the public interest is. I will argue that non-elected officials and scientists alike can, and must, make independent judgements about what the public interest is. Doing so is democratically legitimate when their power is appropriately constrained and when they substantially contribute to the representativeness and functioning of that democratic system as a whole.

In order to substantiate this claim I draw on an analogy between scientists and civil servants – another group of non-elected employees who are expected to serve the public interest and who, as I will show, have to make value-laden judgements in order to do so. I make use of political philosophy literature on civil services to argue that it is the democratic legitimacy of a public institution, rather than that of individual value-judgements, that can be usefully assessed and evaluated.² This goes against the currently prominent framing in the values in science debate.

Concretely, this paper will proceed as follows. I will begin with introducing the two literatures that I am working with: the values in science debate and the civil service literature in political philosophy. In the second part, I explain why the civil service may serve the public interest best when it enjoys some level of autonomy from the public and political representatives. In section 3, I discuss the traditional rationalist justification for why this is democratically legitimate (which runs parallel to the value-free ideal in science), to then consider a different contemporary justification and specification in section 4, 5 and 6. Section 7 will address some open problems and loose ends of this approach in the context of science.

² Note that the argument of this paper applies to public interest science, i.e. publicly funded research at public institutions, as well as regulatory science. It does not extend to commercial research. More on this in section 7.

1. Civil servants as role models for scientists: learning from the worst?

To situate this discussion, a brief overview of the two discourses that I will engage with in this paper may be warranted. Since it is my aim to contribute to the values in science debate, I begin by sketching the most relevant positions in this field, in particular the democratic legitimacy view. I then motivate why I believe philosophers of science can profit from the literature on the civil service.

Value-laden science and democratic legitimacy

The values in science debate started off in response to the so-called value-free ideal which has been the dominant model for science since the 1960s. The value-free ideal says that the “core” of scientific research, i.e. the interpretation of data, the setting of standards of evidence and the choice of methodology, ought to be free from social and ethical values (see Douglas 2009; Douglas 2016). Over the past decades, philosophers have made a strong case that this ideal is not only descriptively inaccurate but in fact undesirable. It has been argued that normative judgements necessarily play a role when researchers set thresholds of evidence (Douglas 2009; Wilholt 2013), when researchers interpret and operationalise value-laden concepts (Alexandrova 2018; Dupré 2007), when they balance different epistemic standards (Kuhn 1977; Longino 1996), in background assumptions that are inevitable when testing hypotheses (Longino 1990) and when researchers communicate their findings to policy-makers or the public (McKaughan and Elliott 2013). Many have furthermore argued that value-freedom is undesirable even as an ideal because it makes it harder to make transparent, detect and discuss normative judgements in science, amongst other reasons (Longino 1990; Elliott 2017).

There is a problem that has arisen from this position though: letting go of the value-free ideal arguably destabilises the division of labour between scientists and policy makers. According to the traditional view, scientists should inform politicians about what is the case, but leave normative decisions about what ought to be done to them, as politicians are the ones who are democratically legitimated to take such decisions. The worry here is that value-laden science can – by unwittingly ‘disguising’ value-laden information as neutral facts – influence policy-making in a way that undermines this division of labour and is consequently democratically illegitimate (see Betz 2013; Kappel and Zahle 2020; Lusk 2021; Carrier 2022; Menon and Stegenga 2023). Some have argued that in light of

this we should revive and reformulate the value-free ideal (Betz 2013; Carrier 2022; Menon and Stegenga 2023). More commonly, however, those philosophers of science who are concerned with issues of democratic legitimacy argue that, in order to address the legitimacy problem, value-laden judgements ought to be embedded in democratic decision-making procedures.³ This position has been described as democratic alignment view (Schroeder 2021) or democratic legitimacy ideal (Hilligardt 2023).

The democratic legitimacy ideal was given a prominent voice by Philip Kitcher with his influential book *Science, Truth and Democracy* (2001) and, more explicitly still, in the book's successor, *Science in a Democratic Society* (2011). In these books, Kitcher argued that all value-laden judgements in science (so not just those in the core phases of research, see also Kappel and Zahle 2020) ought to reflect the public interest which in turn ought to be determined in a well-informed public deliberation process. In his earlier book he focuses on formulating an ideal version of such process, in his later book, he makes explicit reference to James Fishkin's model of deliberative polling as a promising real-world application thereof (Kitcher 2011, pp. 223–226). A similar proposal was subsequently made by Greg Lusk (2021), while slightly different versions have been advocated for by Kristen Intemann (2015) and Andrew Schroeder (2021). These approaches share a general line of reasoning which holds that values in science ought to be democratically legitimated in order to ensure the democratic legitimacy of value-laden science.

Various issues with this approach have been discussed in the literature. For instance, it has been argued that the epistemic quality of research might be compromised in problematic ways when “politically imposed criteria” are being applied (Holman and Wilholt 2022, p.218), that the application of democratic values can impede the transferability of scientific results (Elabbar forthcoming, p.11) and that underrepresented groups might get side-lined in problematic ways when the democratic legitimacy ideal is applied to all science (Hilligardt 2023). The aim of this paper is not to discuss these critiques in detail but to question the political background assumptions that underlie the democratic legitimacy view. To bring to the fore these background assumptions, I argue that drawing an analogy to the civil service is fruitful.

³ A different approach that is present in the literature is to argue for value transparency, e.g. McKaughan and Elliott 2013. For reasons of space I will not go into this line of argument, helpful commentaries on this have been provided for instance by Schroeder 2021; Lusk 2021; Elabbar 2023.

Normativity and democratic legitimacy in the civil service

Civil servants may be a surprising analogy for scientists given that, in most countries, the civil service does not always enjoy a good reputation. Indeed, it seems common in political philosophy discussions on the civil service to begin with Kafkaesque stories of people's encounters with bureaucracies. Bernardo Zacka, a political theorist, starts his book on "street-level bureaucrats" with a quote by David Foster Wallace:

I hated and feared [the bureaucracies] [...] and basically regarded them as large, grinding, impersonal machines—that is, they seemed rigidly literal and rule-bound the same way machines are, and just about as dumb. [...] My primary association with the word bureaucracy was an image of someone expressionless behind a counter, not listening to any of my questions or explanations of circumstance or misunderstanding but merely referring to some manual of impersonal regulations as he stamped my form with a number that meant I was in for some further kind of tedious, frustrating hassle or expense (cited in Zacka 2017, p. 1).⁴

These images, frustrations and fears are shared by many people who have had to interact with government agencies, especially among those who are subject to discrimination and disproportionately exposed to state violence. In light of this, scientists are unlikely to turn to public servants as a source of inspiration. Indeed, public trust levels in science are, in many countries, notably higher than trust in the civil service (ipsos 2019). Why should philosophers of science then be interested in the civil service?

One reason why the discourse on the civil service might be of relevance is that the boundary between the civil service and scientific institutions is fuzzy resulting in an overlap in these fields' objects of study. This is especially the case for what science and technology scholar Sheila Jasanoff (1990) called "regulatory science": research that is undertaken in the context of governmental regulatory agencies. In the values in science literature such regulatory agencies are often discussed and usually not distinguished from other types of scientific institutions. The American Food and Drug Administration (FDA), for instance, often serves as a case study to discuss the appropriateness of evidence thresholds (Douglas 2009, pp. 108–112; Resnik and Elliott 2023). In the political literature the FDA is discussed as an example of a civil service institution (Heath 2022, pp. 7–11). If two sets of literature study the same institutions, those writing in either of these discourses may benefit from insights made by the other.

⁴ Zacka takes this quote from David Foster Wallace's *The Pale King* (posthumously published in 2011).

In the case of the values in science debate and the civil service literature, however, it is not just that there is overlap in the object of study: the two discourses are structured and framed in similar ways and their respective problems share similarities too.⁵ The first case in point being the role of normative or value-laden judgements. As we have seen, within philosophy of science, the discourse on such judgements has been framed and shaped in response to the traditional value-free idea. In the context of the civil service, the role of normative judgements is discussed in relation to the traditional “compliance model” (Zacka 2017, p. 36). According to the compliance model, bureaucratic decision-making ought to be restricted to technical questions: normative questions should be decided on by policy-makers and then implemented in a value-free manner by civil servants. As with the value-free ideal, the compliance model has been the subject of much criticism. Zacka (2017, p. 48) shows that even street-level civil servants have to make normative judgements on a day-to-day basis: they do not simply comply with or implement policy instructions due to what he calls “goal ambiguity, conflicting goals, limited resources, fuzzy boundaries [of categories], uncertainty, soft evidence, unpredictability, entangled ends, and information asymmetry”. At higher levels in the civil service hierarchy, Heath (2022) and others have shown that civil servants are in fact actively involved in the writing and preparing of policies, that they engage with stakeholders to balance different interests and, similar to their lower-ranking colleagues, frequently work with vague and ambiguous mandates that have to be interpreted in ways that go beyond “technical discretion”. In striking parallel with philosophy of science, it has furthermore been argued that ridding the civil service of these normative judgements is not only unfeasible but undesirable, leading to significantly worse policies (Heath 2022) and worse services provided to citizens (Zacka 2017).

The parallel stretches further still: the presence of normative judgements in the work of civil servants is, amongst other things, discussed in light of the implications this has for the institution’s democratic legitimacy – as is often done in philosophy of science. As Heath (2022, p. 11) writes:

According to the standard textbook story, a democratic society is ‘self-governing’ in that the people, via their elected representatives, exercise sovereignty and decision-making

⁵ I selectively focus on political philosophy literature that seems relevant for the purpose of this paper, in particular political historian Pierre Rosanvallon’s book *Democratic Legitimacy* (2011), Joseph Heath’s *The Machinery of Government* (2022) and Bernado Zacka’s *When the state meets the street* (2017). Note that this is not a comprehensive overview of the literature on the civil service, nor does it aim to be. Thanks to an anonymous reviewer for pointing me towards Heath’s and Zacka’s books.

authority. This means that major decisions about the use of state power are supposed to be made by the legislature, and by elected officials. According to this theory of the state, elected officials stand at the apex of power and have the responsibility to decide all questions of 'policy'. These decisions are then handed down to officials whose job is simply to implement the policies that have been adopted.

Acknowledging that civil servants do not simply "implement" decisions but make normative judgements and pro-actively shape policies is to acknowledge that their work stands in tension with this view of democracy (see also Zacka 2017, p. 42). The problem of democratic legitimacy as discussed in philosophy of science thus applies in very similar ways to the civil service.

The main reason, then, why philosophers of science should look to the civil service is that their responses to similar problems present us with a literature that has different conceptualisations of democratic legitimacy and public service. According to the political philosophers that I will draw on in this paper, the civil service represents the public interest in a substantially different way than elected politicians do. Therefore, the democratic legitimacy of the civil service does not explicitly hinge on the extent to which normative judgements are aligned with majority views – even if those views are well-informed. Instead, the civil service's democratic legitimacy is assessed by the role in the broader democratic system, by the extent to which this role is fulfilled well and by the extent to which it adheres to basic principles it ought to represent. My claim is that this comprises a fruitful analogy with the role that scientists occupy in society. Concretely, I seek to show that normative judgements in research need not be democratically legitimated in order for science to be democratically legitimate. Indeed, it can be democratically legitimate for scientists to go against the expressed views of the public or political representatives if this is justified in light of, firstly, the role science has been asked to fulfil and, secondly, when it is in line with public institutions' key principles. Throughout the rest of the paper, I will use the civil service literature to draw out what this entails and relate these insights to current positions in philosophy of science.

2. What is the civil service?

The term "civil service" is used in ambiguous ways. To better explicate the analogy I am drawing, I will begin by clarifying the model of the civil service I am primarily interested in and explaining how this model is situated, both geographically and historically.

In many countries, “civil service” it is an employment category for people who work for the state, often including, amongst others, teachers, university professors, judges and the police.⁶ What I am interested in here, however, is not the employment category, but a specific group of state employees, namely those working for public administrations or bureaucracies. What I intend to designate with the term “public administrations” are the non-elected staff working for ministries, government agencies and regulatory bodies and are generally part of the executive branch of governments. Within public administrations, the most obvious analogies to science can be drawn with high-level bureaucrats as they have a similar type of authority, expertise and are often strongly involved in policy-making processes (Heath 2022; Zacka 2017, p. 25). Thus, when I say civil servants, this is usually what I have in mind, although I will at times draw on accounts of “street-level bureaucrats” as well (Zacka 2017).

The organisation and conception of the civil service and the relationship between the civil service and elected politicians can vary strongly across different regions and countries and has undergone significant changes over the past centuries. I will focus here on Western democracies broadly construed, which, according to political historian and philosopher Pierre Rosanvallon’s account of the history of the civil service, had three particularly prominent phases. In early days of Western democracies, public administrations were largely subservient to political institutions and elected representatives. They were appointed and “quasi-owned” by politicians (in a so-called spoils system or patronage system), and this was generally considered to be the most democratic solution: political representatives were elected by the people and hence authorised to judge who would serve the public best (Rosanvallon 2011, pp. 33–36). However, the spoils system led to a number of problems: a typical and pressing issue was that frequent changes in staff and instructions made public administrations highly inefficient. Furthermore, posts were often given to protégés and relatives of those in power, instead of those most qualified for them. Especially on the level of local governments such nepotism seriously undermined the functioning of public institutions (Rosanvallon 2011, pp. 33–38).

⁶ C.f. Cordelli 2020 for a discussion on why these jobs should be done by permanent state employees rather than contractors or other.

In order to mitigate the effects of these problems, various theorists and bureaucrats in the early 20th century began to advocate for a different model: one where public administrations would enjoy a significant level of autonomy from political representatives. The civil service and its legitimacy were redefined based on the institution's function and separated as much as possible from the political sphere. In many Western European states, a more autonomous model was implemented after the end of the Second World War. It has also been exported to many non-Western states that regained independence in the 20th century, although the way in which the autonomy of the civil service was implemented differs significantly between regions, both Western and non-Western (see e.g. Bersch and Fukuyama 2023). To prevent misunderstandings, it should be noted that when I say the civil service operated autonomously from politics and politicians this does not mean that there were *no* interactions or mechanisms of control in place. Indeed, different control mechanisms are combined in different ways in different countries to constrain the bureaucracies autonomy and to ensure accountability: one may think of as procedural constraints, review mechanisms and ad hoc interventions by political institutions (cf. Bersch and Fukuyama 2023). There are furthermore significant differences between institutions. The federal bank for instance is granted a particularly high level of autonomy from politicians, who might, for example, seek to print money to suit their political programmes (Heath 2022, pp. 14–15; Rosanvallon 2011, pp. 114–119). Ministries, on the other hand are placed under more direct control. Recognising that autonomy takes different shapes and that it furthermore can be present in various degrees, need not contradict with mechanisms of accountability being in place: this will be particularly relevant for section 4 and 5. For now, the main take-away is that, these limitations notwithstanding, the traditional model of the civil service grants significant power to public administrations to act independently from and sometimes even against elected politicians.

A third phase in the organisation of the civil service is seen from the 1980s onwards. Some countries, particularly the US, have shifted back towards a spoils-system where elected politicians appoint and dismiss high-level civil servants (Rosanvallon 2011, p. 67). This process (and discussions thereof) is ongoing: in 2020, president Trump passed an Executive Order (revoked by the next president, Joe Biden, in 2021) that created a new category of civil servants who are “employed in positions of a confidential, policy-determining, policy-making, or policy-advocating character” (Trump White House

Archives 2020) and who were as such under the control of the Federal Government (United States Government Accountability Office 2022; Bersch and Fukuyama 2023).⁷ Another important development has been the introduction of the new public management paradigm in the 1980s which has blurred the line between for-profit and public institutions significantly (Heath 2022; Cordelli 2020). Most countries, albeit to varying extents, have since undergone an intense process of privatisation and outsourcing of tasks that were previously in public hands to contractors or philanthropic organisations (Cordelli 2020).

The "model" of the civil service that I am primarily interested in for the purposes of this paper is the (roughly) mid-20th century version of it, as well as its contemporary adaptations, which I take to be characterised by their relative autonomy and non-procedural democratic legitimation. Both of these characteristics are of relevance for the context of science.

3. Public service and democratic legitimacy: the rationalist view

As we have seen, the "standard textbook story" (Heath 2022, p. 11) of democratic governance has it that policy decisions ought to be made by elected politicians. In this way, the public can choose policy directions by voting for their representative and hold these representatives accountable by either re-electing them or not. Politicians thus serve the public interest in doing what (the majority of) the public wants them to do.⁸ How does an autonomous civil service fit into this picture? What does it mean for the civil service to serve the public interest? When and why would this be democratically legitimate, particularly in cases where politicians' notion of the public interest conflicts with that of the public administration? In this section, I will begin with the 20th century democratic justification of the autonomy of the civil service. In the subsequent section, I will turn to more contemporary accounts that attempt to do away with the traditional rationalist grounding.

⁷ A further move in this direction was made in June 2024 with the overturning of the so-called "Chevron deference", see BBC News 2024.

⁸ This, of course, is a grossly simplified picture. Political representatives, too, make independent judgements about the public interest that can at times go against the wishes of the electorate. Hanna Pitkin (1972) is one political philosopher who has famously discussed this. Nevertheless, the legislative's accountability to the electorate is significantly stronger than that of the civil service.

Central to the traditional model of the civil service was the focus on its *function*. As Rosanvallon (2011, p. 40) writes (citing the 20th century French scholar Léon Deguit):

[Civil servants] do not simply carry out orders issued by elected officials who supposedly represent the general interest. [...] [T]heir function is to serve the common good. The modern bureaucrat must therefore enjoy a certain degree of independence. [...] the civil servant, or functionary – *fonctionnaire* in French – is a person identified with his function.

Just after, he writes: “the nature of [the civil servants’] role is determined essentially by the objective character of their function” (ibid., p. 41). To spell out what this “objective character” of the civil service’s function entails, theories of rational administration were developed in the early 20th century, specifying how civil servants ought to go about their job. Primarily, these theories focused on the principles of *rationality* and *efficiency*: these principles were considered non-normative and therefore legitimately outside of the realm of political decision-making (ibid., pp. 43-50). Importantly, civil servants could disagree with political representatives based on the function they had been assigned and the principles that were attached to this function. They remained subservient to politicians, however, in all matters concerning normative disagreements.

In section two of this paper I already hinted at the notion that this rationalist model is generally used as a foil in contemporary discussions on the civil service in a way that strongly resembles philosophers’ of science engagements with the value-free ideal. In its broad strokes, it is indeed the same foil these two discourses are engaging with, based as it is on the same Weberian theory of rational organisation, the same Wilsonian division of labour and a similar fact/value dichotomy (Zacka 2017, pp. 37–42; Kappel and Zahle 2020; Rosanvallon 2011, chapter 2).⁹ I also mentioned that in both discourses much has been written on why this model is descriptively inaccurate and normatively undesirable. The respective response, however, have not been quite the same: where the discourse on the civil service particularly differs from democratic accounts in philosophy of science is in its responses to the challenge of justifying a non-elected institution making normative judgements. I argue that what Rosanvallon, Heath, and to some extent Zacka, share is an emphasis on *principles* that can be derived from the function of a public institution within the broader democratic system. These principles are then used to constrain the range of legitimate decisions and institutional structures, as well as the *rules, norms and role identities* that help translate these principles into everyday decisions. In the following

⁹ Kappel and Zahle (2020) provide an account of both the similarity but also the difference between the value-free ideal and the ideal division of labour for the context of science.

three sections, I will explain these two aspects and relate them to existing accounts in philosophy of science.

4. Public service and democratic legitimacy: the updated view

To develop an alternative justification for autonomous public institutions that does not rely on rationalist assumptions about the separability of facts and values, I will draw primarily on the work of Rosanvallon and Heath. There are some important differences between these two thinkers' accounts: Heath (2022, p. 44) criticises Rosanvallon's model, amongst other things, for being wedded to a presidential system of democracy (Heath advocates for a system of parliamentary democracy) and Rosanvallon (2011, pp. 138–139) explicitly distinguishes his account from the liberal account of balancing of powers which Heath is defending. For the purposes of this paper, however, it is helpful to focus on the similarities between their approaches – I leave it to political philosophers to discuss the differences. Two similarities are particularly pertinent here: their institutional focus as well as their characterisation of public service in terms of principles.

The institutional approach

In the previous section, we encountered the notion that civil servants as well as institutions of public administration were characterised primarily in terms of their function. Both Rosanvallon and Heath uphold this general approach and justify why it is important for considerations of democratic legitimacy to acknowledge the specific roles that different institutions occupy.

Rosanvallon's picture of a good democracy entails a *multiplicity of modes of representation* because, he argues, only a variety of forms of representation can do justice to the complexity of the public.¹⁰ One such mode – the one that is most traditionally associated to democratic representation – is electoral representation. But Rosanvallon is critical of the notion that this is the true or the truest representation of the public, amongst other reasons because it necessarily takes recourse to a "fiction", namely that the majority view is treated as if it were the view of the whole public (cf. Rosanvallon, chapter 1). A different

¹⁰ Political theorist Iris Marion Young has explored this notion of multiple modes of representation in her book *Inclusion and Democracy* (2000) with a focus on civil societies. She names social perspectives, opinions and interests as dimensions that ought to be represented in a well-functioning democracy. In the context of science, Mark Brown (2009) has defended a similar approach.

form of representation, but one that Rosanvallon finds equally important, can be found in the judicial system. Constitutional courts represent the people “as principle” by upholding a “moral or functional order” (ibid., p. 140). Social movements are another, very direct form of representation (c.f. Rosanvallon 2008). These forms of representation should ideally capture different time-scales (e.g. constitutional law represents long-term interests whereas electoral politics is focused on immediate concerns), different deliberative registers (meaning that discourse in these different domains is governed by different rules and hence allows for different aspects to be represented) as well as different forms of equality. Crucially, however, some separation and even conflict between these institutions is necessary in order to allow for representational multiplicity to exist:

The full significance of each institution becomes clear only when we are able to grasp how the various institutions that make up a political system interact with one another. It is also important to understand the conflicts that arise between the different types of legitimacy [...] because these conflicts raise important questions about the nature and foundations of democracy. (ibid., p. 142)

Heath’s account has a comparable commitment to a multiplicity of types of institutions, though he endorses the more familiar, liberal framing of a *balancing of powers*:

It is well and widely understood that we do not live in a regime of unrestricted popular sovereignty. Most obviously, the courts play an important role in checking the power of democratic publics, as well as of elected officials, when their impulses conflict with basic principles of liberalism. (2022, pp. 345–346)

For Heath it is crucial for all three branches of the state – namely the legislative, judiciary and executive – to engage with, and if necessary, constrain each other. “Good policy”, he says, “emerges out of the productive tension that arises between all three branches” (ibid., p.85). Accordingly, all of them make their “own contribution to the overall legitimacy of the state” (ibid.).

Thus, both Heath and Rosanvallon justify the autonomy of the civil service, including the notion that the civil service can legitimately be in conflict with electoral politics in certain situations, in terms of the contributions public institutions make to the *well-functioning of the democratic systems as a whole*. This is a first important insight for philosophy of science because it indicates that, depending on the political theory we adopt, democratically legitimising all value-laden judgements in science does not necessarily increase the democratic legitimacy of science nor of the democratic system as a whole. At this level, however, the general approach to consider public institutions in terms of their

function for the system as a whole should not be overly controversial, as it is a common starting point in philosophy of science discussions on science and democracy (see for instance Kitcher 2011; John 2021b; Irzik and Kurtulmus 2024). Indeed, political arguments for academic or scientific freedom are often based on a similar argument (Wilholt 2010, 2012; Brown and Guston 2009). More controversial is the question what the role of public institutions precisely entails and, accordingly, when they fulfil this role in a democratically legitimate manner.

Principles of public service

Again, Rosanvallon and Heath have slightly divergent views on this question which nevertheless point in a similar direction. Most importantly, both philosophers argue that the civil service ought to embody or represent certain normative principles which act as constraint on the range of permissible conduct, judgements and its institutional structures. I maintain that this overlaps with many common-sense conceptions of what it means to serve the public interest and can be fruitfully applied to the context of science.

Let me begin again with Rosanvallon. He holds that a crucial representative role of the civil service and related institutions (regulatory and overseeing bodies in particular) is to embody “impartiality”. This, he argues, is fundamentally different from the way politicians represent the public:

Electoral legitimacy rests on popular recognition. It represents an aggregate generality, a quantitative social weight. Impartiality refers to a different type of generality, a negative generality implicit in the fact that *no one* should benefit from a privilege or advantage (ibid., p. 97, emphasis in original)

Heath (2022) once again offers a slightly different account: he sees public institutions, in particular the civil service, not as representatives of impartiality but as “custodians” of basic liberal principles:

[Like courts,] the executive branch – and more specifically, the class of permanent officials – is also the custodian of these basic liberal principles. In the extreme, this means that the executive may be called upon to serve as a countermajoritarian check on the legislature. In the more common run of cases, it means that the public service works as a moderating influence, lending greater stability and rationality to state decision-making. In all circumstances, what guides the decision-making of the executive is a commitment to a ‘minimal’ liberal theory of justice. (Heath 2022, pp. 345–346)

Concretely, he argues that such minimal liberal theory of justice in the context of the civil service should be based on three principles – efficiency, equality, and liberty – which makes for a more comprehensive account than impartiality alone. But crucially, for both

Heath and Rosanvallon, to serve the public interest in the context of the civil service means to represent certain principles, and, if and when necessary, to defend them against democratically established majority views.

The main difference between this position and the traditional rationalist approach is that the principles that Heath and Rosanvallon expound are explicitly normative. This is also the main challenge for such view from a democratic perspective. For while the well-functioning of the democratic system is undoubtedly an important aspect, it is arguably not sufficient to legitimise government agents. As political philosopher Chiara Cordelli remarks:

Asking whether a governing agent is legitimate, I take it, is to ask whether that agent has the right to make and impose certain decisions on others, and whether the agent has the standing to make those decisions in a way that results in changing the normative situation (the rights and duties) of those subject to them. (p. 6)

Legitimacy, she goes on to say, can therefore not be grounded in purely instrumental considerations. What type of decisions, then, can the civil service (and, for our purposes, science) legitimately make? Here we return to the question of what an appropriate division of labour between the civil service and politics may look like, if is not construed along a divide of facts and values or means and ends.

It is Heath in particular who spends a significant amount of time on this question. He maintains that the principles he delineates, despite being normative in nature, should not be made subject to the political domain.¹¹ In order to uphold and justify this separation, he argues, it is crucial to keep one's theory of justice sufficiently minimal so that it can be endorsed independently of the political outlook any one individual in an institution might have (*ibid.*, p. 147). One way to make sense of this "minimal" conception (which is in line with Rosanvallon's notion of impartiality too) is to read principles of public service primarily in a negative sense. It is often much easier to come to an agreement about clear instances of *injustice* than it is to agree on a conception of justice. As "custodians" of principles of justice, it is arguably legitimate for civil servants to point out and act against clear injustices without relying on procedural legitimation. With respect to more intricate questions that concern for instance the balancing of the principles of justice, the civil service should, in Heath's view, defer to what is decided in the political domain.

¹¹ Rosanvallon's argumentation is slightly different from Heath's. In order not to confuse this discussion too much, I will focus on Heath here. If the reader is interested, the relevant pages in Rosanvallon's book on this are pp. 105-120.

There is naturally much more to say on this matter: readers should be aware that within political philosophy this line of argument is hotly debated, too. I will briefly raise some prominent critiques in section 7. What I seek to retain from the above is that a negative characterisation of principles of public institutions is a pragmatic position. By way of example, many public institutions, including scientific institutions, commit to principles of *non-discrimination*, thereby focusing on clear violations of equality, rather than trying to specify what equality really means (see for instance International Science Council 2024). In the next section, I will discuss principle-based views in the values in science debate in order to make the implications of this approach more tangible.

5. Principles of public service in science

In philosophy of science, there are a number of recent authors who have advocated for a principle-based approach. Particularly prominent is the notion that science, as a public institution ought to adhere to basic principles of justice. An interesting example for this is Ahmad Elabbar's work on distributive epistemic justice (a notion he adopts from Irzik and Kurtulmus 2024). In a forthcoming paper, Elabbar discusses whether large-scale assessments, such as those by the Intergovernmental Panel on Climate Change (IPCC), should adopt fixed high evidential standards or context-dependent standards. As I will return to the question of evidential standards in the next section, it is worth introducing this debate briefly.

In the context of assessment reports (and in other places too, but the decision is particularly pertinent here), scientific institutions have to decide what they count as evidence. They usually set a threshold, for instance by including only peer reviewed articles in their report. Now some philosophers of science, notably Stephen John (2021a), have argued that institutions such as the IPCC ought to set *fixed high evidential standards* in order to increase trust in these reports. Other commentators have argued that *varying thresholds* should be applied, depending on what is at stake. Elabbar argues that in situations when the fundamental interests of some groups (in this case users of the IPCC reports in the Global South) are being harmed by maintaining fixed evidential standards, doing so is impermissible. In his words: "Where [...] inequalities of epistemic power disadvantage those in data-poor regions with respect to fundamental interests, such as basic human rights, we have decisive reasons of justice to reject fixed high evidential

standards in favour of variable standards” (Elabbar forthcoming, p. 3). He explicitly presents this as an argument that cannot resolve value-disagreements with regard to evidential standards in all situations. Rather, it is an argument that can justify why some positions are *not* acceptable for public institutions. In a different paper he writes that

we should construe the task of pursuing distributive epistemic justice in assessment as a negative one: a task of curating assessments with the aim of limiting clear failures of justice; eliminating cases where any substantive account of justice would agree that such cases are failures of justice – and draw from these failures insights for institutional reform. (Elabbar 2023, pp. 24–25)

Some authors, notably Irzik and Kurtulmus (2024) and Frank Cabrera (2022), have proposed to use Rawls’ account of distributive justice to make more substantial claims about the way different interest ought to be weighed. For example, Cabrera (2022, p. 817) writes: “In concrete cases in which no result clearly follows from Rawls’s two principles of justice, we can employ the veil of ignorance directly as a neutral framework for adjudicating specific conflicts of interests”. As guidance in matters of adjudication, I believe these philosophical specifications of principles of justice can indeed be helpful. From the perspective of this paper’s approach to democratic legitimacy, however, the danger with becoming too specific in one’s interpretation of principles of justice is to confuse guidance with legitimate authority. Especially with regard to more intricate questions concerning the proper distribution of resources, scientists are rarely in a position to make legitimate judgements in isolation, or against the view of policy-makers or democratically legitimated representatives of the public.

To emphasise why this matters, let me show how such differentiation contrasts with other views in the values in science literature. As said, whether or not values play a role in research is a settled matter for many philosophers. A debate that has remained prominent since then asks which values can legitimately influence science, and under what circumstances they can do so. This has been called “the new demarcation problem” (Holman and Wilholt 2022); the democratic legitimacy view outlined above is one response to this problem. In discussions on demarcation, one method philosophers use juxtaposes cases of value-laden science deemed straightforwardly good (such as feminist research that uncovered male bias in science) to clearly objectionable cases of value-laden science (often related to industry-funded research)¹². They then develop a demarcation

¹² Note that I conceptually separate industry-funded research and public interest research. More on this in section 7.

strategy that explains the difference between acceptable and unacceptable, legitimate and illegitimate value-ladenness (see for instance Hicks 2014; Elliott 2017). Reviewing such attempts, Holman and Wilholt (2022) delineate five strategies that are prominent in current discussions: axiological, functionalist, consequentialist, coordinative and critical-contextual strategies.

So far, none of these strategies have been able to successfully demarcate all or even most of the disputed value-laden instances of scientific research; a point that Holman and Wilholt (2022) make at the hand of a somewhat ambiguous case that involves balancing of human and non-human interests. From the perspective of the constraints-approach, the particular issue at hand appears to be that the different strategies address different *types* of value-laden conflicts. Principle-based approaches would fall under Holman and Wilholt's category of an axiological strategy: they "mark out a set of values [or principles] as appropriate for informing scientific research" (2022, p. 212). As I have shown above, based on such principles (i.e. principles of justice), it can be argued that instances of research that harms the fundamental interests of people in the Global South are not acceptable. These constraints will, however, as Holman and Wilholt also point out, fail to provide uncontroversial demarcation criteria for instances where no strong case of injustice is at stake. Thus, in the case of the nature conservation research they discuss, scientists can operate with a range of permissible value-laden judgements and adjudicating between these options will require different strategies.

In sum, I have so far argued for a constraining role of principles that govern public interest institutions, most importantly principles of justice. This characterisation provides us with constraints on the permissible range of value-laden judgements by public servants. Nevertheless, one might justifiably argue that this is not enough: there are situations in which we need a positive account of the public interest rather than a means to exclude outliers. Now, the civil service literature does provide us with a way to further specify what it means to serve the public interest, to serve it well, and to do so legitimately. It proposes to turn to the norms, rules and ethos that govern the civil service, the effects these normative structures have and the ways in which they might be improved in order for the above-mentioned principles to be actualised more concisely, that is, positively. In the next section, I will argue that, also in science, focusing on norms and institutional structures can be more fruitful to assess the legitimacy of science than considering that of individual value judgements.

6. Characterising public service in terms of norms, rules and ethos

Given the range of acceptable normative positions that civil servants are left to choose from when the public interest is defined in negative terms, I have come across three aspects seem particularly relevant in the political philosophy: norms, rules and the ethos guiding individual civil servants' decisions. When turning these aspects towards use in philosophy of science debates, I am suggesting that, firstly, we ought to distinguish between the legitimacy of an institution and the legitimacy of individual judgements. The values in science debate often focuses on the latter, but, in order to better understand what it means to serve the public interest, institutional factors such as norms and rules are likely to be more important than individual value-judgements. Secondly, these factors should be conceived of as context-dependent and subject to change. I will therefore not provide an ideal for how these factors should be actualised across all of science but instead point to some key questions that I believe ought to be continuously addressed in public interest science.

Rules

The first, most formal way to translate the above-mentioned principles into the everyday work of civil servants is by means of rules. It was discussed earlier that rules cannot strip on-the-ground decisions of their normativity, but they can nevertheless significantly constrain an individual's normative discretion, if that be desired. A general question that arises is *how much discretion* a system of rules ought to leave. This question arises in the context of the civil service as well as in science.

In section 1, I mentioned the different sources of discretion in the work of street-level bureaucrats that Zacka delineates in his book: ambiguous and conflicting policy goals, limited resources, fuzzy boundaries of categories, uncertainty, soft evidence, unpredictable environments, entanglements of means and ends and information asymmetries (Zacka 2017, pp. 49–61). Rules cannot eliminate these sources of discretion, but they can constrain them. Doing so, however, comes with trade-offs:

While strict rules may yield democratic control, they sometimes get in the way of the other normative standards against which we also measure the performance of public service agencies—standards such as effectiveness, efficiency, fairness, respect, and responsiveness. (ibid., p. 49)

Take the fuzzy boundaries of categories: Zacka gives the example of disabled people who are categorised in the US based on being “unable to work by reason of their medical condition” (ibid., p. 54). This definition excluded those individuals who are able to work but who realistically stand no chance in a competitive labour market because of a medical condition. Such individuals had therefore no access to the disability programme. But when this situation was criticised, the US congress made the category boundaries more fuzzy. They specified that the administrations “should avoid turning disability into unemployment, but . . . should be ‘realistic’ about it” (cited in Zacka 2017, p. 54): in other words, they granted individual civil servants more discretion in judging who counts as disabled and thus who ought to get access to the disability programme. In this case, at least in Zacka’s view, vaguer rules allow for a better and more fair public service to be provided.

The question how much discretion rules ought to leave arises in science as well. Importantly, this question is different from the question after the value-ladenness of science. Once more the debate on fixed high evidential standards provides us with useful case: when scientific institutions set fixed high evidential standards they reduce the normative discretion of individual report authors. Allowing for varied evidential standards, on the other hand, grants more discretion to report authors and arguably allows for better, context-dependent decisions (see Elabbar forthcoming for a helpful summary of this discussion). Importantly, this debate is not about what the “right” values are. It is about the *rules* that should govern scientific assessments in light of their position in societal and political decision-making. It is an important discussion to have and, based on the approach of this paper, one that is relevant for the democratic legitimacy of public interest science.

Norms

A second mechanism to further constrain and shape the way public institutions work is by means of norms and conventions. Norms by their nature leave more room for discretion than rules, yet they significantly influence everyday decisions in any given institution. Of course, norms have received ample attention in philosophy of science for decades: I will focus here on the question how norms relate to the ideal of democratic legitimacy, or to the demarcation problem more generally.

In a recent paper, David Resnik and Kevin Elliott (2023) argue that the demarcation debate should shift its focus from values to norms. They argue that, in order to address the “new” demarcation problem, we should take inspiration from the old, Popperian one (the latter turning on the question of how to differentiate science from pseudo-science). Resnik and Elliott argue that philosophical attempts to answer such question in terms of necessary and sufficient conditions have proven unsuccessful. Instead, it has been fruitful to approach the issue by means of “lists of criteria”, such as Robert Merton’s CUDOS norms (communism, universalism, disinterestedness and organised scepticism). They propose to apply this insight to the new demarcation problem: instead of trying to find necessary and sufficient conditions that could help us differentiate legitimate and illegitimate value influences in science, they argue that efforts should focus on assessing if a certain instance of research complies with “epistemic and ethical norms that are constitutive of good science” (ibid., p. 15). The list of norms they propose comprises 18 points, such as honesty, self-correction and engagement (ibid., p. 16). (see also Resnik and Elliott 2019; Bright and Heesen 2023).

Interestingly, Resnik and Elliott derive these norms from the aims of science and go on to devise a list of “rules, conventions, policies and procedures” based on the norms they have outlined. As such this approach is very much related to what I am proposing. I disagree, however, with the way they relate norms to the demarcation problem and consequently to issues of legitimacy. Resnik and Elliott (2023, p. 14) hold that the list of norms they compile “can be used to classify science from ‘good’ to ‘bad,’ depending on how well it complies with the norms”. They spend little time, however, with the question where the norms themselves are located on a spectrum from good to bad and why.¹³

There are many norms are operative in science and some of them are indeed tied to science’s public mandate. Consider the following norm, absent from Resnik and Elliott’s list, but which I take to be present in scientific communities: the norm not to engage in partisan politics (Oppenheimer et al. 2019; Abramoff 2023). This norm is certainly present in various civil services, too, where it is meant to prevent a politicisation of the civil service – to prevent, so to speak, an undesirable blurring of boundaries. As Heath (2022, p. 34) writes: “A civil servant who engaged in significant partisan activity in her

¹³ Partially this might be due to what they consider as norm: “honesty” for instance might be better conceptualised as a virtue. I will set this question aside here though. The point I am making holds for virtues, too.

spare time would find it a significant obstacle to promotion [...]. As a result, ambitious civil servants almost uniformly adopt a veneer of political inscrutability". However, even if we assume that there is a general usefulness to this norm (which not all do, see Oppenheimer et al. 2019; Harding 1992), there can be contexts where this does not work or has detrimental effects. This was the view many representatives of the scientific community defended in the run-up to the 2020 presidential election in the United States. They argued that Donald Trump was anti-science to an extent where he was unsupportable for the scientific community. As a result, journals such as *Nature* openly sided with Joe Biden:

[Joe Biden] has shown that he respects the values of research, and has vowed to work to restore the United States' fractured global relationships. For these reasons, *Nature* is endorsing Biden and urging voters to cast a ballot for him on 3 November. (*Nature* 2020)

There can, thus, be good reasons to break with norms and there should be avenues by which norms can change, too. Resnik and Elliott take a normative approach: they list not just any norm that governs scientific research but those norms which they think ought to govern research. When addressing issues of legitimacy of an institution, however, we might stand to benefit more from approaches that (seek to) make explicit and critically discuss those norms currently operative in science, and to do so in light of whether they contribute to the institution, over all, fulfilling its function well. When it comes to the legitimacy of an individual judgement, I would argue that norms are not the right criterion: even a good norm can only specify what type of behaviour is desirable *most* of the time.

Ethos

Lastly, at least according to many political philosophers, in order for public institutions to serve their role well they need to cultivate a public service ethos, i.e. the appropriate "moral disposition" (Zacka 2017) or self-understanding of their role. This of course is not new to philosophy of science, yet in practice scientists arguably have a much weaker role identity than other professions for instance doctors. If we accept the claim then that fostering a professional ethos is important for the democratic legitimacy of science, more work should be done to establish how this can be put to practice. For now, I shall focus on one general aspect only that seems most relevant from the perspective of the analogy that I have drawn, namely that there is an important difference between role responsibilities (which would be part of a professional ethos) and moral responsibilities which apply to all moral subjects equally (Heath 2022, p. 50).

Within philosophy of science a similar distinction has been drawn, amongst others, by Andrew Schroeder and by Stephen John. In his 2020 paper titled “Thinking about Values in Science: Ethical versus Political Approaches”, Schroeder argues that thinking in terms of role responsibilities is specific to political philosophy, as opposed to ethics. Ethics is usually concerned with rules that apply to all moral subjects. Political theory, on the other hand, is concerned with rules that apply to government agents or state institutions more broadly - and these rules are not always the same. Stephen John (2018, 2021b) has made a similar distinction, though he stays within the framework of ethics. He writes that there are “role-specific obligations, which fall on scientists, but not others: scientists are obliged to declare ‘conflicts of interest’ whereas advertisers are not” (John 2021b, p. 373). Based on this difference, John comes to the surprising conclusion that scientists ought not aim to be honest, sincere, open and transparent when communicating results. Rather “[t]he key ethical demand in science communication is simple: to communicate only those claims which are well established” (John 2018, p. 84). The appropriate ethos in science, as in the civil service, then arguably seems to hinge on the way in which the specific roles are perceived and lived. The question then is what role-based ethos is currently being fostered in science: is this ethos making scientists make value judgements that overall contribute to science fulfilling its function well and if not what ought to change?¹⁴

The aim of this section has been to demonstrate that, in order to assess the legitimacy of a public institution, we have to consider the way in which the guiding principles of that institution are being translated into everyday public service by means of rules, norms and the fostering of an appropriate ethos. Of course, none of these aspects is new to the philosophy of science discourse and the account that I have provided is far from exhaustive. Instead of aiming for completeness, I have tried to indicate which questions are particularly pertinent when it comes to public interest science and as-of-yet underdeveloped from the perspective of discussions on legitimate values in science.

7. Loose ends

At this point in the paper, I hope to have provided an account of what it means to serve the public interest that does not solely rely on democratic procedures to determine value-

¹⁴ For the context of policy advice, Roger Pielke (2007) famously delineated four different role conceptions: the science arbiter, pure scientist, issue advocate and honest broker. Discussion such as these are what I have in mind here.

laden judgements. To this end, I have characterised public service in terms of constraints as well as institutional mechanisms that help translate key principles into on-the-ground decision-making (ethos, rules and norms). I now want to discuss some problems this account and the analogy to the civil service generally might give rise to.

On democratic legitimacy

A first objection might be that the definition of democratic legitimacy that I have used in this paper is invalid. Such objection would be fair enough – it is not up to me to decide what democratic legitimacy “really” means given the many meanings currently in circulation. Allow me to briefly sketch an alternative view and discuss which parts of my argument hinge on my chosen account of democratic legitimacy.

I have, with Heath and Rosanvallon, dismissed the “textbook” understanding of democratic legitimacy, which hinges on procedural authorisation by the electorate, in order to adopt a more institutional and holistic approach. But there are, of course, strong arguments in favour of this textbook understanding. Here is Cordelli (2020, p. 295), a proponent of more participatory procedures in public administrations, arguing that

Without appropriate procedural integration [...] ordinary laws and policies lose their democratic legitimacy because they fail to carry out the will of the people, and they cannot be attributed to the lawmaking community as a whole. [...] [T]he practical value of procedural integration requires the insertion of participatory and contestatory elements within the administrative apparatus.

It should be noted at this point that none of the thinkers referenced in this paper are *against* using participation procedures, also in the executive – and neither am I (Rosanvallon 2011, p. 147; Heath 2022, Chapter 2.4). They emphasise that such methods can be extremely helpful to improve decision-making by getting relevant information of participants and increasing the responsiveness or proximity of public institutions to the public. In practice, then, not all seems to hinge on the definition of democratic legitimacy that we adopt.

What I am arguing against, however, is a strict alignment view: the notion that science is *only* democratically legitimate when it follows, in all instances and for all value-laden judgements, what the public thinks the public interest is. What I have sought to emphasise is that full democratic control over an institution like science is impossible and undesirable. As with the civil service, it remains true that scientists “are in many cases

unable to do their job effectively without developing some conception of where the public interest lies” (Heath 2022, p. 345). Furthermore, there are instances where public servants can legitimately act against the public’s views, as well as those who have been elected by the public. Any account of public interest science, I hold, should therefore take into account the multiplicity of mechanisms that are put in place to facilitate and guide this process rather than trying to get rid of it.

Lastly, a brief note on the terminological choices. I have argued in this paper that public interest science is democratically legitimate if science’s power is appropriately constrained and it contributes, in a substantial way, to the representativeness and well-functioning of the democratic system as a whole. “Democratically legitimate” here means “legitimate in a democracy” rather than “democratically legitimated”. If anybody would feel more comfortable with calling this type of legitimacy “political legitimacy” or else, I would not mind, as long as it is clear that my normative ideal is a democratic society.

On the non-political nature of principles

In my view, the most troubled waters this account of public institutions seeks to navigate concern the boundary between value judgements that are properly political and value judgements that can be settled by appealing to principles: I hold that this boundary is both unstable and contested. This is first because we may contest which principles are the “right” principles for a specific public institution (as we have seen, Heath and Rosanvallon already provide different accounts; for science we might again come up with conflicting notions). Secondly, even when we agree on principles, there usually is further disagreement concerning the proper application of principles (see for instance Cordelli 2020, p. 29; Young 2000; Mouffe 2000). Some disagreements can be avoided by adopting a minimal or negative approach, but not all. Removing such disagreements from the political domain, or worse still, claiming that there is consensus about them when there is not, may open the door for technocratic, paternalistic or otherwise undemocratic forms of government.

At the theoretical level, this problem goes beyond the scope of this paper. From a pragmatic perspective, however, I would maintain that it is both possible and sensible to (seek to) come to an agreement on certain principles that should structure and guide public institutions and, what is more, that doing so matters for the well-functioning of the

democratic system. Indeed, the notion that public institutions should treat all citizens equally and fairly is one that implicitly is present in most (public) scientific organisations. Furthermore, while institutions should stay open to the possibility of revising and reformulating these principles, it is not necessarily helpful to entangle such process with everyday political decision-making. Differentiating between distinct types of value-laden conflicts is then still worthwhile. Furthermore, it is worth noting that granting discretion to public administrations or science does not (and should not) foreclose the possibility of having channels for contestation and accountability where citizens can voice their disagreement with specific decisions. What this ought to look like, however, is, again, beyond the scope of this paper.

On the scope of public interest science

Lastly, the aim of this paper is to offer a characterisation of *public interest science*. When science is discussed in these terms, this often suggests that *all* science ought to be guided by the criteria discussed so far. This argument is particularly important when it comes to the legitimacy of industry-funded research (Hicks 2014; Cabrera 2022). I disagree with this view: not all science is public interest science and especially commercial science is governed by different principles, rules and norms. Rather than arguing that commercial science, too, ought to be more publicly-minded it is worth thinking about which roles ought to be occupied by public science, which research can be done by companies and how the latter can be constrained.

8. Conclusion

The aim of this paper was to address a problem that applies to science, to the civil service and also to the judiciary (though I only touched upon the latter in this paper): in all of these institutions, employees have to take normatively charged decisions on a regular basis. These decisions can have a significant impact on individual members of the public or the public as a whole, and yet mechanisms to exercise democratic control over them are often absent.

To remedy this problem, various people have argued that we should put in place such control mechanisms. In philosophy of science, this argument is present in calls for aligning values in science or the aims of research with democratically chosen values/aims. In the

context of the civil service, one version of this argument is currently pushed by conservatives in the US who argue for more political control over all public institutions. Another version underlies moves towards public participation in administration.

I have argued against this approach, although I wish to retain from it that there are good epistemic and justice-related reasons for increasing public participation in both science and public administration. I have argued that a healthy amount of normative discretion is beneficial for the democratic legitimacy of the system as a whole, also for unelected representatives of the public. But to make this work, public institutions need to be appropriately constrained and be held accountable based on a minimal conception of principles of justice, implement rules that limit the amount of discretion individuals can exercise and foster norms and role identifications that make the system as a whole provide equal and fair service to all citizens. In as far as research takes place in public institutions, I argue that these criteria can be applied to science as well.

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