

# 13 Is the behavioral approach a form of scientific imperialism?

An analysis of law and policy

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## Introduction

The legal sciences are currently witnessing a sweeping intellectual transformation. Applications of behavioral sciences to law and policy (henceforth: the behavioral approach) are now a flourishing and expanding field of academic inquiry.<sup>1</sup> Outcomes of this research, even though often still preliminary, are eagerly adopted by policymakers interested in enacting laws and regulations that more effectively impact citizens' behavior.<sup>2</sup> The rapid development and growing popularity of behaviorally informed analyses of law has, however, also been met with skepticism. Are the legal ~~and policy~~ sciences the target of “behavioral imperialism”?

The aim of this chapter is twofold. First, we would like to understand the behavioral approach by using conceptual distinctions made in the philosophy of science in discussions on scientific imperialism. Second, we would like to shed light on scientific imperialism – on its definition and assessment.

Proponents of bringing the behavioral sciences to law (henceforth: behavioralists) share the conviction that it is necessary and important that references to findings of the behavioral sciences should be made in order for law and policy to be informed by more “realistic” models of human behavior in legal and policy settings. The authors of the foundational texts of this movement say: “The task of behavioral law and economics, simply stated, is to explore the implications of *actual (not hypothesized) human behavior* for the law” (Jolls et al. 1998, 1476, our emphasis). Behavioralists advocate a “systematic framework” that aims both to “explain the effects and content of law” and “model and predict behavior relevant to law” (ibid., 1474).<sup>3</sup> They are interested in producing policy-relevant scholarship, which is based on empirical evidence and thereby “empirically informed” (Sunstein 2011; Strassheim and Kettunen 2014).

Behavioralists, so we argue, understand law primarily as an *instrument* that influences human behavior. Their goal is to see how a new understanding of human behavior “bears on the actual operation and possible improvement of the legal system” (Jolls et al. 1998, 1480). Behavioralists hence believe both that there is an accessible body of scientific knowledge about the regularities and patterns of human behavior, and further, that behavioral scientific findings can

and should be used in order to inform law and policy, which as a result will lead to “better” (that is, more effective) legal regulations.<sup>4</sup>

Recently, the impact of behavioral analysis for the legal sciences has become a topic that is under increasing scrutiny. Commentators have begun to ask whether and how the behavioral approach changes the legal sciences – and whether a widespread application of behavioral sciences to law is justifiable.<sup>5</sup> It is here that we draw the connection to the debate of scientific imperialism.

Scholars thinking about scientific imperialism have asked themselves a similar question: when (if ever) does a scientific theory, research program, or discipline encroach unduly upon another? Further, why could this be problematic? The recent debate on scientific imperialism in the philosophy of science promises to offer some guidance in answering these questions. Here, the debate has revolved around the question of the *permissibility* of the application of scientific theories and methods outside the discipline in which they were initially introduced (which will also be referred to as “scientific trespassing”). Philosophers of science have attempted to clarify what it means for a theory or a discipline to be applied outside its own field or domain, and whether such an application can be understood as *imperialistic*.<sup>6</sup> Attempts to *identify* instances of scientific imperialism have sometimes been accompanied by formulating criteria for *evaluation*.

The starting point here is the account of scientific imperialism proposed by Uskali Mäki (2013), in which he defines scientific imperialism and situates recent voices in the debate<sup>7</sup> on scientific imperialism. According to Mäki, scientific imperialism is a phenomenon that may occur between two disciplines. Thus, for him, scientific imperialism is a “dynamic interdisciplinary relationship.” Mäki then distinguishes between certain types of imperialism: imperialism of scope, imperialism of style, and imperialism of standing. He argues that imperialistic *advances* should be constrained if they do not advance the pursuit of explanatory unification across disciplinary boundaries. He also argues that scientific imperialism can be defined “neutrally in terms of scope, style and standing in interdisciplinary relations” (Mäki 2013, 338).<sup>8</sup>

In this chapter, we investigate and modify Mäki’s account. We argue that scientific imperialism occurs when some novel applications of methods, theories, *and* research programs are favored at the expense of other methods, or theories, or research programs. For the *identification* of scientific imperialism, we argue that an account of *imperialism of standing is needed*. Yet, we claim that any account of scientific imperialism relies upon a corresponding understanding of scientific progress that cannot be disentangled from it. Imperialistic practices are justified by imperialists, or rebuked by the imperialized, in light of what they each believe to be scientific progress.

The structure of this chapter is the following. First, we introduce the behavioral approach as a relatively recent, *powerful* intellectual development in law and policy that may be regarded as imperialistic. Second, we note that the behavioral approach can be seen a manifestation of a longer trend within the legal sciences and we show why this observation matters for the discussion of

scientific imperialism. Third, we bring the current debate on scientific imperialism to bear on these developments. In this process, we both learn more about the behavioral approach but also discover some shortcomings in the philosophical debate on scientific imperialism. Fourth, we propose an amended account of scientific imperialism. The account builds upon Mäki's notion of imperialism of standing by considering the concrete consequences of scientific trespassing. This then calls for the empirical analysis of the position and power that certain theories or research programs can gain. The account, however, also considers the importance of the notion of scientific progress for defining scientific imperialism. Fifth, we analyze the behavioral approach in light of our account of scientific imperialism.

## **1 What is the behavioral approach?**

By behavioral approach we mean the contemporary approach to law and policy based on the latest findings in the behavioral sciences. This approach, which surfaced in the 1990s with increased attention to the research in behavioral economics and cognitive psychology, has since become a heterogeneous field of study, encompassing behavioral law and economics, heuristics and law, experimental and empirical studies on law, and a normative approach built upon behavioral insights in law and policy (also called behavioral public policy). Here, “nudges” are clearly the most prominent, visible, and contested example in public policy (Thaler and Sunstein 2008).

The behavioral approach developed to a great extent as the result of criticism of one of the most consequential and contentious developments in the legal sciences in recent times – the economic analysis of law, which is based on the premise that the legal sciences should analyze law by applying neoclassical economic theories and their style of inquiry (Posner 1977; Cooter and Ulen 2004; Shavell 2009). Economic analysis of law has been criticized for being imperialistic from a variety of perspectives (see White 2015; Medema 1998; Epstein 1997; Zeltzer 1988; Kelman 1988), and has even declared itself as imperialistic (see Cooter 1981; Becker 1968; and compare Landes and Posner 1993).

The behavioral approach, being a reaction to the perceived deficiencies of the economic analysis of law, promised “new and better understandings of decision and choice” (Sunstein 1997, 1). Behavioralists claimed that a more “realistic” theory was needed, grounded in empirical (and preferably experimental) works. For them, this meant that a theory should be able to explain and predict the impact of law and serve as a basis of policy recommendations. In the behavioral approach to law, a particular emphasis is put on experiments. Sunstein, for example, writes that it is important to “instil a culture of experimentation and evaluation” in law- and policymaking (Sunstein 2011, 1362). Reliance on experimental methods – and often more generally, empirical methods – is treated as a proper way of both testing hypotheses and collecting observations of behavior that can be a basis for the formulation of a more “realistic” model of human behavior, as well as a proper and promising way of

testing policy solutions.<sup>9</sup> The proximity of the behavioral approach to policy is made clear by a recent textbook on the topic, where it is claimed that “[s]uccessful policy [...] must depend on a thorough understanding of human behavior” (Shafir 2013, 1). Yet the justification for the adoption of experimental methods is made without reference to a specific *discipline* from which they stem. Reliance on experiments and on observational data is understood as more accurate and reliable in providing accounts and explanations of behaviors than the formulation of abstract and general theories or models.<sup>10</sup> The optimism about the capabilities and reach of the behavioral approach is apparent here. Ulen argues that behavioral scholars “edge incrementally closer to accurate descriptions of the forces shaping human behavior and to understanding how those forces can be deliberately harnessed” (Ulen 2014, 2).

For us, the following development is important: behavioralists have the ambition to improve or complement neoclassical economic models as they have been applied to law. The idea is to propose an alternative account of behavior and decision making in legal settings.<sup>11</sup> Yet in contrast with earlier episodes in the legal sciences, especially in contrast to the rhetoric of the economic analysis of law (at least of some of its proponents, for instance Gary Becker), the behavioral approach does not formulate “imperialistic” postulates that show the intention of completely replacing other research programs. Behavioralists often strike a conciliatory tone (Thaler 2015), and stress the complementarity, rather than the substitutability, of their approach with prior approaches. This does not mean, as will be shown below, that the behavioral approach cannot still be understood as an instance of scientific imperialism.

## 2 What is special about the legal sciences?

The debate whether to apply behavioral sciences to law can be seen as a novel manifestation of a discussion, lasting for more than 100 years, on the question of the method and scientific character of legal scholarship. This discussion was accompanied by a debate on the possibility of bringing non-legal disciplines to study law. We make this brief historical note because we would like to show why the legal sciences and their relationship to other scientific fields pose a challenge for defining scientific imperialism as ~~an interdisciplinary~~ relation. We will discuss this challenge in more detail in section three, below.

We identify two different rationales for why references to “outside” sciences within legal scholarship have historically been advocated. First, they were made in order to criticize legal scholarship for its common-sense, non-scientific character. The criticism was often accompanied by attempts to establish a new science of legal phenomena. Second, references to other sciences were made to analyze the impact of law in order to inform law- and policymakers so that they could propose more effective laws and regulations. To understand the role of “outside” sciences in law and their potentially imperialistic character, it is important to take into account these two rationales and their interplay. The behavioral approach is, we argue, mainly a manifestation of the latter rationale.

First, let us focus on the critique of legal scholarship and attempts to treat it as a proper science that started in the 19th century. In the realm of the continental legal tradition, Julius Hermann von Kirchman (1848) famously accused legal dogmatics<sup>12</sup> of having quasi-intellectual character: for him, legal dogmatics was pseudo-science. On the other hand, in the common law tradition, American legal realists (e.g. Oliver Wendell Holmes, John Chipman Gray, Herman Oliphant, Jerome Frank) criticized the “formalistic jurisprudence” and argued that methods of interpretation of legal norms, methods of legal reasoning, as well as methods of adjudication, were based on common sense or intuition, and as such were arbitrary, unjustified, and unscientific. Partly as a result of the critique directed against legal dogmatics, scholars tried to launch the project of establishing a scientific legal theory, understood as a discipline explaining legal phenomena. Some, like Hans Kelsen, argued for the autonomous character of legal theory. Kelsen proposed his pure theory of law, with its own subject matter (system of legal norms) and method (transcendental analysis), with the intent to save the legal sciences from influences of any “alien elements,” as he called them (he had in mind mainly the theoretical influence of sociology) (Kelsen 1934/1967). On the other side were legal realists who argued for the application of methods and theories of other (mainly social) sciences in order to analyze law that was – for them – reducible to facts. Legal realists abandoned the idea that legal theory had its specific, autonomous, subject matter and method – and instead called for the embracing of empirical methods, a call that finds its revival today in New Legal Realism (Lang 2015; and Suchman and Mertz 2010).

Second, in the 20th century, the question about the method and scientific character of legal scholarship was accompanied by an interest in the analysis of the *impact* that law had on the behavior and decisions of different actors. An analysis of this kind had been present in the realm of American and Scandinavian legal realism, sociological jurisprudence, but also in the disciplines that emerged in the meantime – the sociology of law and psychology of law and, finally, in the economic analysis of law. What these approaches had in common is the belief in offering a ~~more powerful~~ description of human behavior that is general enough both to explain and predict people’s reactions and responses to legal norms. One of the discussions that preoccupied scholars was the “gap problem” between law and behavior – that is, the problem of the discrepancy between behaviors required by official norms and behaviors observed in social reality. The challenge for behaviorally oriented legal scholars was to get rid of this discrepancy by making law better suited to the behavioral patterns identified. In the 1950s and 1960s, hope and emphasis were put on empirical sociology as a science that could provide insights into how law could influence human behavior (Macaulay and Friedman 1969). Since the 1970s, it was economics that was supposed to serve this role. Today, we can witness a turn to the behavioral sciences in law- and policymaking.

In the debate on scientific imperialism, some draw a distinction between internally driven imperialism and externally driven imperialism (see Mäki 2013,

335). While we believe that the behavioral approach probably represents a mix of both, what we do want to stress here is the extraordinary receptiveness of the legal sciences to outside influences. The brief overview above should demonstrate that there are diverse rationales for referring to outside theories or approaches (which are often connected to questions about the scientific status of the discipline). Legal scholarship has been methodologically unsteady and at the same time open to external influences, as well as prone to internally driven imperialistic influences. The overview shows further that in legal scholarship we have various legal disciplines that all struggle over scientific status (such as, for instance, legal theory and legal dogmatics), and that it is nearly impossible to point to a clearly defined discipline that could represent legal scholarship.

### **3 Using scientific imperialism to understand the behavioral approach – and vice versa**

The debate on scientific imperialism in the philosophy of science has revolved around the question of the permissibility of the application of scientific theories and methods outside the discipline in which they were initially introduced (“scientific trespassing”). Philosophers of science have attempted to clarify what it means for a theory or a discipline to be applied outside its own field or domain, and whether such an application can be understood as imperialistic. The debate was initiated by John Dupré in his article entitled “Against Scientific Imperialism.” For him, scientific imperialism takes place when we have horizontal relations between theories, that is when theories of different kinds deal with the objects at the same structural level. Dupré formulates his general remarks on scientific imperialism on the basis of his analysis of two examples of imperialistic approaches to studying human behavior: economics (Gerry Becker’s economic analysis of law), and evolutionary biology (Dupré 1995). Dupré characterizes scientific imperialism as an application of a “successful scientific idea” “far beyond its original domain” (Dupré 2001, 74), so that this application cannot “provide much illumination.” Clarke and Walsh, inspired by Dupré, propose their definition of scientific imperialism as “illegitimate occupation by one discipline of another discipline’s territory.”

As Mäki (2013) concisely points out, they identify three possible reasons for thinking of an occupation as illegitimate: (a) it violates local autonomy; (b) it exploits local colonized populations by “an unjust extraction of resources”; and (c) this exploitation “unfairly prevents the exploited from realising their potential to develop” (Clarke and Walsh 2009, 200, 201). Clarke and Walsh argue that scientific imperialism can cause science to fail to progress in a way that it otherwise would progress. This claim provokes a response from Kidd, who criticizes them for endorsing an idea of “counterfactual progress” (Kidd 2013).

As mentioned at the beginning of the text, the point of departure for our analysis of scientific imperialism is Uskali Mäki’s (2013) account. In his attempt to explicate the notion of scientific imperialism, we share many of Mäki’s intuitions, for instance the introduction of the concept of imperialism of

*standing* and his remarks on Dupré (1995), Clarke and Walsh (2009) and Kidd (2013). Mäki points to the ambiguities in John Dupré’s text, in which Dupré characterizes scientific imperialism as an application of a “successful scientific idea” “far beyond its original domain” (Dupré 2001, 74), so that this application cannot “provide much illumination.” Mäki argues instead that “there is nothing imperialistic per se in applying a scientific idea beyond its original domain of application” (Mäki 2013, 327), and that “the idea of frequent failure – should [not] be part of a general characterization of scientific imperialism” (Mäki 2013, 327) because these views will result in excessive scientific caution and risk-aversion. Also, in his discussion with Steve Clarke and Adrian Walsh he emphasizes that “scientific imperialism is neither sufficient nor necessary for [...] poor explanations” (Clarke and Walsh 2009, 333). Likewise, our account is indebted to his proposal to incorporate an institutional perspective into the analysis of scientific imperialism through the introduction of the notion *standing*. However, even though we perceive Mäki’s proposal as an important advancement in the debate, there are claims in Dupré (1995), as well as in Clarke and Walsh (2009), which we think must be drawn upon for a convincing account of scientific imperialism. This concerns their initial intuitions about the relationship between imperialistic tendencies in science and notions of scientific progress presumed by the “imperialist.”

Mäki introduces a distinction between imperialism of scope, style and standing. For Mäki, imperialism of scope obtains when “an expansionist discipline seeks to explain phenomena that belong to the perceived domain of another discipline. This is the pursuit of explanatory unification that is disrespectful of disciplinary boundaries” (Mäki 2013, 334). Imperialism of style appears when “the styles and strategies of research, such as the techniques and standards of inquiry and communication, characteristic of one discipline, are transferred to, or imposed on, other disciplines” (Mäki 2013, 334). Imperialism of standing is characterized in the following way: “The academic and non-academic prestige, power, and resources as well as the acknowledged technological and political relevance of one discipline increase at the expense of those of another” (Mäki 2013, 334).

Mäki defines scientific imperialism in disciplinary terms – for him, scientific imperialism obtains through the relation between disciplines. Yet this understanding cannot capture misgivings we may have in the context of references to “outside” scientific findings in law described earlier. Looking at the history of legal scholarship, it is not clear at all which legal discipline could be imperialized – legal dogmatics, legal theory, jurisprudence? The status and boundaries of each of the fields is particularly contested within legal scholarship, their character as scientific is still highly debated, and any attempt to explain a notion of scientific imperialism in this context will require clarification of these debates (and thus to be able to demarcate disciplines clearly). Later we show why a disciplinary framework is too restrictive when attempting to analyze the potential imperialism of the behavioral approach.

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As already mentioned, for Mäki the imperialism of scope takes place when “an expansionist discipline seeks to explain phenomena that belong to the perceived domain of another discipline.” Yet in the behavioral approach, findings of the behavioral sciences are incorporated in order to explain and predict how people react to legal norms, and not in order to explain *legal* phenomena of any kind. Law (legal norms) is treated as given, as a part of the *explanans*, and not of the *explanandum*. Therefore, it would be difficult to understand the behavioral approach as replacing a traditional legal analysis and explaining phenomena that previously “belonged” to a specifically “legal” domain (that contains “legal phenomena”). Furthermore, it should be noted that like other historical trends in legal scholarship we mentioned above, the behavioral approach we find today embodies a scientific attitude. Even though proponents of the behavioral approach do not want to offer explanations of *legal* phenomena or legal norms, they *do* claim that most of the legal scholarship and, more importantly, law-making before the “behavioral turn,” was based on mere intuitions or common-sense generalizations, and that it is the behavioral approach which provides scientific advancement and insights to legal scholarship.

Disciplinary framing cannot help us to understand the imperialism of style that takes place not due to the fact that a certain way of inquiry proved successful in any particular discipline. In contemporary references to behavioral sciences in law, experimental methods are relied upon as the proper way of testing hypotheses and collecting observations of behavior that can be a basis for the formulation of a more “realistic” model of human behavior. Experimental work and the resulting empirical evidence is understood as more accurate and superior compared to abstract and general models – like those in neoclassical law and economics. Instead, the experimental method is advocated not because of its relation to any particular *discipline*. Indeed, the superior insight that is supposedly gained is not justified by arguing that it proved successful in, for example, a more advanced discipline, but that the newly introduced approach is “more accurate” or “scientific,” or more policy relevant. We think that the adoption of experimental methods in law and policy can reasonably be called imperialistic – but that this would elide Mäki’s definition due to its focus on relations between disciplines.

Finally, understanding scientific imperialism in disciplinary terms excludes certain other interesting cases of scientific imperialism. We mention here cases that come into existence because of factors not directly related to disciplines proper – for example, the imperialism of a certain theory that is owed to its success in policymaking and politics. Arguably, one factor contributing to the popularity and influence of the behavioral approach stems from the eager reception of both private and public actors outside academia. Here, these private and public actors developed and sustained an interest in the behavioral approach not because of the scientific advancement it provides (for the explanation of legal phenomena, or for the explanation of mechanisms underlying human behavior and decision making, for instance), but because of its *usefulness*



in direct application – which behavioralists in turn are quick and eager to provide.<sup>13</sup> The behavioral approach is attractive because of its promise to deliver results in the form of allowing policymakers to shape the behavior of their policy-takers with little effort, cost and hindrance. These developments facilitate scientific imperialism.

The rise of “nudges” in public policy illustrates our point. The so called “nudge theory” does not provide explanations for why law or policy “work” in a certain context (the mechanisms responsible for the behavioral impact of many nudges are still not properly understood; see Grüne-Yanoff 2015). However, the increased *standing* of nudging (e.g. through support and acknowledgment of policymakers) leads to a growing popularity of a certain brand of behavioral research within legal scholarship. In addition, nudges are often presented as policy innovations, drawing on the authority of science. It is the scientific character of these policy instruments, together with their alleged effectiveness, that makes them influential for legal scholars as well as policymakers.<sup>14</sup> Hence, it can be seen that imperialism can be driven not only by epistemic advancements that are external or internal to a discipline, but also by concerns of usefulness in policymaking backed by the invocation of the authority and progress of science. An account of scientific imperialism should be able to accommodate this.

Discarding the disciplinary frame in the debate about scientific imperialism does not, of course, imply downplaying the importance of disciplines in scientific activity or downplaying the usefulness of it for understanding scientific imperialism. It may well be that disciplinary reactions to applications of certain theories or methods to new problems, or fields, can be informative for a discussion on scientific imperialism. In fact, science continues to be materially, socially and institutionally organized within disciplines. One of the reasons why there is sometimes opposition to new approaches is precisely the danger of undermining a given institutional or organizational structure of disciplines (when, for instance, as Mäki notices, scientific trespassing leads to undermining “local disciplinary monopolies”; Mäki 2013, 331). On the other hand, one of the reasons why a certain theory, research program, or method is able to expand, can similarly lie in the way in which a particular discipline is institutionalized, or organized. However, it is not the case that theories and methods of an entire discipline are transferred to another discipline; such transfers are rather partial. Also, it is not always the case that theories and methods are transferred because they proved “successful” in one particular discipline (see the case of the experimental method in the behavioral approach, discussed above).

## **4 Scientific imperialism: proposal of an account**

### **4.1 Definition**

For the reasons discussed above, we do not propose to analyze scientific imperialism in purely disciplinary terms. Thus, we would like to argue that

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some novel application X of methods, theories, research programs<sup>15</sup> becomes imperialistic when:

- 1 X is *avored* (by members of the scientific community) at the expense of other methods, or theories, or research programs in terms of academic and non-academic prestige, power, or resources, and when
- 2 the attempt of justifying this favoring of X is made by claiming that X is  
...
  - a more “progressive” than applications of other methods, or theories, or research programs (justified by the progress *in science*);<sup>16</sup>
  - b more “scientific” than applications of other methods, or theories, or research programs (justified by the progress *of science*);<sup>17</sup>
- 3 claim (2) is assumed to hold without providing an argument for it.

By novel application we understand the application of methods, or theories, or research programs to problems that have not been analyzed on the basis of them so far (sometimes in the text we call a novel application also an instance of scientific trespassing). Our account emphasizes that instances of scientific imperialism require a reason given by the imperialist of why a novel application is undertaken. However, even if the reason is given, it is not argued for, nor demonstrated by the imperialist, why the novel application is more progressive. In order for an onlooker to judge an instance of scientific trespassing as unjustified, she must find the justification questionable by disputing that X is in fact more scientific or more progressive. Note that our account builds on the notion of *standing* as introduced by Mäki: it means the favoring of certain scientific theories, or methods, or research programs<sup>18</sup> in terms of academic and non-academic prestige, power, and resources, acknowledged technological and political relevance at the expense of other theories, or methods, or research programs.

Furthermore, we argue that scientific imperialism is an activity that is related both to a certain view on improvement and progress, as well as to a power to realize it (it is in fact favored). Otherwise, without pursuing this vision of improvement, scientific trespassing is only aggressive, or invasive, but not imperialistic. Without the power actually to have an effect – that is, actually to affect the standing between approaches – such an attempt is mere scientific quixoticism.

We propose that the “expense” at which one theory is favored over another should be analyzed both empirically and normatively. In terms of empirical analysis, *improved* or *worsened* standing could be tracked by looking at indicators such as public money distributed to X rather than other approaches, time spent in teaching and research on X, the prominence of X in curricula, etc. Much more sophisticated ways could ascertain ~~the way in which~~ an increase in standing could be identified and measured. Here, the debate about scientific imperialism could be considerably enhanced and expanded by drawing on the sociology of science.

The normative analysis could be advanced by comparing the scope of the current standing of theories, or methods, or research programs with a standard of appropriate *distribution of standing* across disciplines. This standard could be defined in light of someone's views on the organization of science, as well as in light of the view on the epistemic loss related to the institutional favoring of one approach. We argue that the term “at the expense” denotes an asymmetrical relation: being in this relation is beneficial for one scientific approach while it is harmful ~~for~~ another approach. To put it simply, when we deal with the phenomenon of scientific imperialism, we always identify loss (loss of opportunities, loss of funding, loss of societal relevance) experienced by a certain theory, research program, or approach. This loss has an epistemic dimension – it leads to forgoing a certain type of research and knowledge. If someone does not agree with the distribution of standing resulting from the imperialistic scientific trespassing, then one can oppose it as unjustified in the light of one's view on the appropriate distribution of standing.

In order to evaluate the justifications given for instances of scientific trespassing, one needs to engage in a philosophical debate on scientific progress. We believe that the role of the philosophy of science (in understanding scientific imperialism) is to analyze which notions of *scientific progress* are being relied upon when someone makes the charge that a novel application is more *progressive* than other theories, or research programs. In the light of our proposal, philosophy of science helps to reconstruct the notions of scientific progress that are presumed in a given account of scientific imperialism. It should clarify criteria that are used by those making the charge of scientific imperialism, as well as by participants in the debate to state when a theory, or a method, or a research program is more *progressive* than other theories, or methods, or research programs, and whether it is more *scientific* than other approaches. Our account then allows for some charges of scientific imperialism having less plausible justifications than others.

Scientific progress (*progress of science*) can be examined along diverse dimensions and aspects of science: non-epistemic (economical, professional, educational, methodical) and epistemic (increase and advancement of knowledge), following Niiniluoto (1980). As Niiniluoto notes, “these types of progress have to be conceptually distinguished from advances in other human activities, even though it may turn out that scientific progress has at least some factual connections with technological progress (increased effectiveness of tools and techniques) and social progress (economic prosperity, quality of life, justice in society)” (Niiniluoto 2015).

*Progress within science* (that is, the scientific progress of a research program, or a theory, ~~or a method~~) can be judged by employing an account of scientific progress understood as the increase and advancement of scientific knowledge. Following Kitcher (1993), we argue that there is a variety of dimensions of progress within science (cognitive, conceptual, explanatory).<sup>19</sup> The question of whether an instance of scientific trespassing is correctly characterized as justified and unjustified requires making explicit an account and dimension of *scientific*

*progress* in the light of which the expanding theory, or method, or research program is supported (at the expense of another).

Let us summarize the ways in which scientific imperialism can be criticized and opposed in the light of our account. First, when analyzing the expense at which one application of method, or theory, or research program is favored over another, one has to adopt a standard of appropriate “distribution” of standing. If someone opposes this standard, then this person can judge the novel application as *unjustified* in the light of her view on the appropriate distribution of standing in the organization of science, as well as due to the epistemic loss related to the institutional favoring of one approach. Second, one can analyze whether a novel application is *unjustified* according to her views on scientific progress (*progress of science*, or *progress in science*). A critic can question the notion of scientific progress an imperialist is putting forward upon which a novel application relies. This can be done by either arguing to replace it by another notion, by demonstrating that the imperialistic approach is not progressive in the light of the notion of scientific progress endorsed by its proponents, or by rejecting entirely the very notion of scientific progress.

Our account does not exclude the possibility of having justified instances of scientific imperialism. It is conceivable that the scientific community manages to provide reasons for accepting an epistemic loss resulting from novel applications, or for accepting the notions of progress endorsed by an imperialist. However, our definition says that we face an instance of scientific imperialism if the reason for trespassing is not argued for, nor demonstrated by an imperialist, why the novel application is more progressive. This means that even cases in which justifications are provided, scientific imperialism will be always unfair. Our understanding of unfairness in this context is close to ~~those~~ of Clarke and Walsh. They hold that the favoring of a particular theoretical perspective is grounds for criticizing scientific imperialism because “other theoretical perspectives are not given a fair hearing” (Clarke and Walsh 2013, 345).

We would like to emphasize that the above-mentioned types of critique can overlap. Scientific imperialism in our view presupposes an understanding of progress of science or progress in science. Such convictions (concerning the importance and role of science) can have implications on the view of what constitutes an appropriate distribution of standing, and therefore, how scientific approaches should “treat” each other.<sup>20</sup> For example, a behavioralist who thinks of law and economics as unprogressive might wish for law and economics to feature significantly less prominently in the education of the next generation of legal students. However, apart from implying a stance on the distribution of standing, such convictions also imply a stance on what counts as “fair interaction between scientific approaches.” To stick with the example, the behavioralist here might also hold that it is advantageous that discarded approaches are to be replaced by the more “progressive” or more “scientific” approach. Yet others might have different convictions and think that scientific approaches generally “deserve” a “fair hearing.”

In the debate on the notion of scientific imperialism the link to the notion of scientific progress is sometimes made. Dupré notices that imperialistic tendencies that manifest themselves in claims that a particular theory provides the key in the understanding of a given phenomenon, are often related to the attempts to provide explanatory unification that is presented as “unqualified scientific good.” He criticizes such tendencies for introducing inappropriate methodology for studying a given phenomenon. Furthermore, as Clarke and Walsh point out, Dupré attacks evolutionary psychology and neoclassical economics for assuming that progress in science will be made as a result of explanatory unification. They mention that on Dupré’s view, “we should make no overarching assumptions about the trajectories along which particular scientific disciplines will or should progress, but rather should focus closely on empirical detail, and decide between competing explanations, on their own explanatory merits, regardless of whether or not these explanations happen to be part of attempts to unify science” (Clarke and Walsh 2013, 343). This is also the view that they defend. Clarke and Walsh believe that there may be a progress in science, even though “there is no one definitive account of progress [...] What we decide to count as progress in science will be a matter of how we decide to weigh the various backward-looking factors that contribute to progress” (Clarke and Walsh 2013, 345). Mäki uses the notion of epistemic scientific progress, of advancement in knowledge, “including explanatory knowledge about the world: growth of explanatory unification” (Mäki 2013, 336), in order to assess scientific imperialism. He proposes four constraints on scientific imperialism (ontological, epistemological, axiological, institutional) that set conditions for acceptable scientific imperialism that contributes to scientific progress in the sense advocated by him. All of the preceding accounts (Dupré, Mäki, Clarke and Walsh) are examples of how participants in the debate of scientific imperialism bring their convictions about scientific progress to the debate.

In our account the notion of scientific progress already forms part of any charge of scientific imperialism, as we argue that it is those novel applications of theories, methods, or research programs that are imperialistic when they are supported as being more progressive. The critique of novel applications can involve questioning their progressive character, or the very notion of scientific progress being endorsed by the “imperialists.”

In the next section, we consider whether the behavioral approach can be seen as a possible instance of scientific imperialism.

#### **4.2 *The behavioral approach and scientific imperialism: behavioral imperialism?***

We can identify two types of reasons why references to the behavioral sciences are made within legal and policy contexts: *progress of science*, and *progress in science*. Behavioral sciences are brought to law- and policymaking because the authority of science is supposed to provide law and policy with knowledge of the regularities and patterns of human behavior which can then be used in

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order to influence behavior in an effective manner, hence denoting the *progress of science*. At the same time, the behavioral sciences are also advocated as more progressive – seen as an advancement in comparison with alternative (mainstream economic) theories applied to law and policy, hence denoting the *progress within science*.

In order to state whether the behavioral approach is imperialistic in view of our account, an empirical analysis would have to be conducted to grasp the expense at which it is favored, as well as to endorse a notion of scientific progress in order to justify applications of behavioral sciences in legal settings. It is beyond the scope of this chapter to perform empirical analysis, or to fully reconstruct the view of scientific progress that is presumed within the behavioral approach and that is relied upon to justify the expanding reliance on behavioral theories and methods. Similarly, we would have to commit ourselves to a view of progress of science from which the position of the behavioralists could then be critically assessed.

However, at this stage of our investigation we can formulate the following working hypothesis: proponents of the behavioral approach understand scientific progress in both epistemic (advancement in explanatory and predictive power) and non-epistemic (increase in policy relevance and policy impact) ways. If the behavioral approach is not progressive in the light of a notion of scientific progress that is being endorsed – for instance, if proponents of the behavioral approach support a view of progress in science as advancing explanatory progress, but it turns out that they cannot actually offer greater explanatory and predictive power than other theories or research programs – and if the behavioral approach is nevertheless favored at the expense of other approaches, then the behavioral approach can be criticized as *unjustified in the light of the view on scientific progress*. Our account of scientific imperialism allows the treatment of the behavioral approach as *unjustified* also in case one questions the underlying idea of scientific progress as advancement in explanatory and predictive power, or as advancement in practical (policy) impact of research.

Nevertheless, we venture to make two hypotheses here: in the case of actual effects, we do observe a strong intellectual movement that gradually supplants (rather than complements) traditional ways to engage in legal and policy analysis. Likewise, we have provided some textual evidence that shows the underlying view of progress of science that behavioralists hold and with which they justify scientific trespassing. Second, and taking our account seriously, we would have to commit to a view of progress of science and progress in science in order to say whether the justification of the behavioralists has merit. One way in which such an argument (which stems from an underlying stance on what constitutes progress in science) could be made is the following: for us, it is not obvious that the social sciences should strive similarly towards explanatory unification as is often called for in the natural sciences. We believe that in the case of the social sciences, we should not strive to achieve “explanatory unification,” but rather that it is more important to retain a “cautionary pluralism”

of social scientific approaches (similar to what Dupré calls “horizontal pluralism”).

## 5 Conclusion

Our analysis of the application of the behavioral sciences to law and policy has helped us to propose a refined account of scientific imperialism.

Past and recent developments in legal scholarship lead us to question the approach to scientific imperialism as a purely inter-disciplinary phenomenon. We instead stress the actual impact of changes in the distribution and character of *standing* as key to identify instances of scientific imperialism. Further, we emphasize that only these instances of scientific trespassing can be called imperialistic that endorse and pursue a certain understanding of scientific progress and are being justified by imperializers as more progressive.

To say conclusively whether the behavioral approach is imperialistic or not requires further (empirical and philosophical) work, yet the groundwork for such an investigation has been laid here. For now, we have contributed conceptual clarifications and suggestions of how advancement can be made on the conceptual analysis of the notion of scientific imperialism.

The role for philosophy of science here is clear: what is needed is a debate about the conditions of scientific progress upon which any conception of scientific imperialism is built.

The role played by sociology of science should also be clear: what is needed for the identification of instances of scientific imperialism is an empirical matter as well – and sociological approaches can help to suggest indicators of how to approximate the “imperial standing” of scientific approaches.

We hope that our account can be helpful in shedding new light on the debate on scientific imperialism, and also explain existing positions in it, as well as clear up some misunderstandings. Clarke and Walsh are worried that scientific imperialism can be problematic for epistemic reasons: “the adoption of one theory, due to its successes in another explanatory domain, leaves us liable to dismiss rival theories, without properly testing their ability to account for reality” (Clarke and Walsh 2013, 345). In the light of our account, we could explicate their worry as a critique of the expense at which one theory or research program is favored over other scientific approaches. We stress that in order to fully spell out this type of critique, it should be clarified what notion of the fair distribution of *standing* one endorses. Furthermore, when Dupré opposes an idea of scientific unification while analyzing examples of applications of economics to new fields, our account can help clarify and understand the source of his anxiety. Dupré opposes these applications because he does not believe that progress in science stems from the realization of the pursuit of unification, and he is worried by the extent to which applications of economics and evolutionary biology, advocated in the spirit of unificatory crusade, are favored at the expense of other approaches to analysis of human behavior. Mäki, on the other hand, believes that science progresses through explanatory

unification. His normative evaluation of scientific imperialism is proposed as “constraints on the pursuit of explanatory unification across disciplinary boundaries” (Mäki 2013, 336). A legitimate instance of scientific trespassing for him is one that is argued for in the light of these conditions. We do not oppose this view – our account permits that this is a reasonable approach to justifying instances of scientific trespassing. What we would like to stress, however, is this: it is possible to question this stance on the grounds of a different understanding of scientific progress.

## Notes

- 1 “[T]he behavioral perspective occupies a respectable and increasingly popular niche in many graduate programs in economics, business, law, policy, and the social sciences more generally. And thus we have arrived at a point where it is only natural to explore how best to incorporate elements of the behavioral perspective into policy thinking” (Shafir 2013, 1). “My belief is that behavioral law is one of the most important developments – and probably *the* most important – in legal scholarship of the modern era” (Ulen 2014, 14).
- 2 See the Social and Behavioral Science Team (SBST) of the US White House; the Behavioral Insights Team in the UK. Increasingly, international organizations commission behavioral studies, for example, the EU’s Directorate-General for Health and Consumers (DG SANCO) or the recently formed Global Insights Initiative team at the World Bank. At the same time, see several associations bring together like-minded behavioralists, such as the European Nudging Network (TEN) and other national associations (such as the Behavioral Science & Policy Association).
- 3 Other seminal texts for the behavioral approach are Camerer et al. (2003); Sunstein (2000); Korobkin and Ulen (2000).
- 4 Shafir (2013) argues that there are “many ways in which our new understanding, this new view of the human agent, might help design and implement better public policy” (Shafir 2013, 9). Strassheim et al. (2015) analyze behavioral expertise comparatively; they show that the behavioral approach was partly a response to the criticism of “new public management” and “evidence-based policy” approaches arguing that the behavioral approach “promised a renewed state-science-citizen relationship in which scientific experts and political actors would become collaborators.”
- 5 See the contributions of Cserne, Feldman and Lobel in Alemanno and Sibony (2015); Nourse and Shaffer (2009); Mitchell (2014, 2002); Posner (1998); Arlen (1998).
- 6 Thus far, economics imperialism (e.g. Kuorikoski and Lehtinen 2010; Mäki 2009) is the most-debated example. See also (Clarke and Walsh 2009; Davis 2012; Dupré 1995). Other accounts include, e.g. geographical economics (Mäki and Marchionni 2011; Marchionni 2012), and the case of evolutionary psychology in international relations (Bell 2006).
- 7 See the debate between Clarke and Walsh (2009, 2013), Kidd (2013) and Mäki (2013), inspired by the text of Dupré (1995).
- 8 We regard scientific imperialism, like most commentators in the debate, as an inherently pejorative term that defies a purely neutral or descriptive definition. However, we will not explicitly draw upon political metaphors, which is an approach that other participants in the debate have taken (Stigler 1984; Dupré 1995).
- 9 See e.g.: “regulations [should be] written and implemented in ways that lend themselves to experimental evaluation and creation of independent review to assess the *effectiveness* of regulations” (Sunstein 2011, 1391, our emphasis).



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- 10 Ulen claims that behavioral findings used in the legal academy and well known within the social science community “are not theoretical; they are empirical” (Ulen 2014, 2). Korobkin and Ulen argue that behavioral law and economics can develop “without a *grand, overarching theory of behavior* so long as one has a due regard for the relevant decision-making capacities of the actors in that specific setting. By borrowing from psychological and sociocultural theories in addition to economics, the law-and-behavioral-science approach consciously chooses to emphasize its *external usefulness* in analyzing legal problems rather than either its internal elegance or universal applicability” (Korobkin and Ulen 2000, 1058, our emphasis). See also: van Gestel and van Dijk 2011; and Ranchordás 2013.
- 11 Their insistence is to continue using “the tools of traditional economic analysis” (Jolls et al. 1998, 1474), being “deeply constructive” (ibid., 1475), and “enriching the traditional economic framework” and not to “undermine it” (ibid., 1475). Opinions diverge, however, on whether and to what extent economic analysis of law is compatible with behavioral approaches. See e.g. Nourse and Shaffer (2009), who also regard the behavioral approach as correcting law and economics. It is also claimed that expected utility theory underlies neoclassical law and economics, whereas behavioral law and economics is based on the alternative theory of decision making – prospect theory. See Arlen and Talley 2008.
- 12 Legal dogmatics, mainly in continental tradition, is a branch of legal sciences analyzing a law in force enacted by a lawmaker.
- 13 See e.g. “Low-cost regulatory policies, such as disclosure and simplification, may be justified even if we do not have a clear understanding, in the abstract, of whether the relevant behavior is mostly a product of loss aversion or social influences” (Sunstein 2011, 1362).
- 14 We would like to argue that this scientific attitude should be included in the account of scientific imperialism. We include it in our account and argue that scientific imperialism is often being justified by its proponents as more “scientific.” This claim presupposes a certain notion of a progress of science. See more in sections 4.1. and 4.2.
- 15 By novel, we mean that specific applications are being brought to problems that have not been analyzed by these applications before. We used the short-hand term “scientific trespassing” to describe these instances (see also Hirschman 1981). Another word used in the literature is the term “horizontal relations” by Dupré.
- 16 It should be noted here that an analysis of scientific progress also has a normative component. Progress is a normative concept that should be distinguished from a notion of “change” and of “development” (Niiniluoto 1995). Progress within science means improvement judged through the criteria for “good science.”
- 17 For example, when a scientific approach is brought to practically oriented fields of study, it is sometimes claimed that it will make it more scientific. Here we have a move from non-science to science (justification through the *progress of science*). However, if, for instance, prospect theory is claimed to replace or complement expected utility theory, it is believed that it will lead to scientific progress understood as *progress within science*. Here we have a move from one scientific theory to a more advanced one. These reasons can also overlap.
- 18 Mäki speaks about disciplines, but for the reasons mentioned above we resign from a disciplinary frame in our analysis.
- 19 See also Mäki (2002) and his list of perspectives from which scientific progress can be analyzed.
- 20 This account of standing presupposes that the *distribution* of standing is in some respect a zero-sum game: scientific approaches compete for scarce resources and attention. However, the notion of standing is not confined to such questions of distributional fairness. Instead, it can also encompass questions of relational fairness: not giving a fair hearing to a specific scientific approach could be unfair regardless of

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how resources and attention are distributed but instead be unfair because it unfairly treats a competing approach as having a less-than-equal status.

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