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# Engaging social science students in the philosophy of science: 10 pieces of advice on how to teach a difficult subject

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## Abstract

It can be challenging to introduce the philosophy of social science (PoS) to students in the social sciences. Noting the lack of literature providing guidance to the prospective PoS teacher, this paper outlines several pieces of advice on how to engage social science undergraduates in the subject. This advice centers on showing the relevance of the PoS in academia and beyond, reducing complexity and presenting only a few contending PoS perspectives. It is also proposed to use textbooks with caution or avoiding them altogether, illustrating how PoS assumptions are embedded in contemporary social research and showing the connection between the PoS on one hand and research questions, methods, and theory on the other. Finally, the importance of showing students how they can make use of the PoS in their own work and teaching the subject in a 'hands on' manner is emphasized.

**Keywords:** philosophy of science; teaching; education; critical realism; constructionism; positivism

## Introduction

I had my first encounter with the philosophy of social science (henceforth: PoS) as an undergraduate social science student in the late 1990s. At the time, the subject seemed all too abstract and intangible to me. I remember sitting in the classroom, wishing the course would soon be over so that I could forget all about it and get on with studying concrete social phenomena. The nature of this first encounter is far from unique. Many – perhaps most – social science students who are introduced to the PoS have similar experiences. They leave the subject behind as soon as they get the opportunity and most of them probably never give it a second chance. As it happens, I did give it a second chance. As a postgraduate student I signed up for a course that would turn upside down my previous conception of the PoS. This course succeeded in making it clear how the PoS can assist us in grasping the assumptions underlying different methods and theories. Now it started making sense to me why

social scientific knowledge takes such profoundly different forms and I came to see great value in the PoS.

Fast forward two decades, one of the undergraduate courses I regularly teach at Copenhagen Business School is on the topic of the PoS. Over the years, while teaching this course, I have had several discussions with colleagues involved in PoS teaching in this and other courses on how best to introduce the subject to social science students. A common experience is that teaching the PoS to these students can be an uphill struggle in that it is challenging to engage the students in the subject. A reason for this is that such students do not enrol in their degree program, be it in politics, sociology, public administration, business studies or something else, out of an interest in the PoS. While a political science student will have no difficulties in understanding the relevance of a course on political theory, the same student may find it less obvious why s/he should take interest in the PoS. Many if not most social science students thus enter their first PoS class in a state of some bewilderment and scepticism.

If teaching the PoS to social science students can be challenging it can also be a joy. Helping students to be able to reflect on scientific knowledge at a deep level is meaningful and rewarding indeed. And although it does take some work, it generally *is* possible to engage most students in the subject by bringing into focus how the PoS can be useful for them. Useful to their studies but also far beyond that. In what follows, I outline some of my thoughts on how to introduce the PoS to social science undergraduates. Although the paper can be seen to have some family resemblances with other texts revolving around aspects of PoS teaching (Grüne-Yanoff 2014; see also Grix 2002), it draws on my own experiences and thoughts as a teacher – thoughts that have in turn benefitted greatly from the aforementioned discussions with colleagues as well as from countless valuable inputs from students. For that reason, the paper is not written as the typical journal article. Rather it takes the form of a series of friendly pieces of advice to the educator who is either about to teach an introductory course on the PoS to social science students for the first time or who already teaches it yet searches for inspiration on how it could be done differently. To my knowledge, few if any texts exist that provide this type of guidance. This is unfortunate for the educators in question and their students. It is also unfortunate for the PoS, including for critical realism, inasmuch as the manner in which the subject is taught to students in the social sciences is almost certain to impact the extent to which it later on – when some of those students have become professional researchers – shapes social scientific practices.

While the pieces of advice provided here do apply when introducing critical realism to social science students, the paper focuses more broadly on teaching the PoS. Undergraduates in the social sciences are typically introduced to critical realism in the context either of a wider course on the PoS or a PoS module under a methods course. The goal of teaching such a course/module should never be to get students to think that one specific perspective is superior to all others. A much better goal is to help students understand the value of the PoS and to present various perspectives in a balanced and fair manner. Thus, while I am a critical realist (see e.g., Buch-Hansen & Nielsen 2005, 2020; Buch-Hansen & Nesterova 2021), and while this surely shapes the way I teach the PoS, in my teaching I also introduce students to positivist and constructionist perspectives, and I do much to emphasize that these

other perspectives are as legitimate to take as is critical realism. Against this background, focusing specifically on how to teach critical realism would be too narrow a focus for the present paper.

The pieces of advice offered in the following pages can be summarized as follows:

- 1: Highlight the relevance of the PoS to social scientific practice
2. Emphasize the relevance of the PoS beyond academia
3. Reduce complexity
4. Introduce three rival PoS ideal-types
5. Use textbooks with caution
6. Show how research questions can fit with PoS perspectives
7. Show how theory and methods relate to PoS
8. Link PoS to contemporary research in the social sciences
9. Explain how students can use the PoS in their own work
10. Make the PoS 'hands on' and fun

Below each piece of advice is unfolded before the paper ends with a brief concluding section.

### **1: Highlight the relevance of the PoS to social scientific practice**

Many students hold the view that for a subject to be of interest and worth engaging with, it needs to be useful, preferably contributing to the development of skills of relevance to the career they wish to pursue.<sup>1</sup> As noted above, few students in the social sciences enroll in their study program out of an interest in the PoS. It is thus particularly important when teaching this subject that its relevance is clarified from the outset. Here it should be noted that the PoS suffers from quite an image problem. It is a widespread perception among practitioners in both the natural and social sciences that the PoS is of little or no direct relevance to their work. According to a one-liner attributed to American physicist Richard Feynman, 'philosophy of science is as useful to scientists as ornithology is to birds'. If the PoS is not even considered useful by many (social) scientists, how could it ever be relevant to students? My advice is to confront the (mis)perception that philosophy of science is useless heads on in your teaching. Don't hide it away and don't be apologetic or defensive about what you do (teach the PoS). I suggest proceeding in two steps.

The first step is to establish that philosophical reflection *is* inherently important to social scientific practice. The research questions we ask, the theories and methods we use, the arguments we make and the conclusions we reach when studying social phenomena cannot but incorporate various philosophical assumptions (whether implicitly or explicitly). This is the context in which the PoS is highly useful to students and scholars in the social sciences. It directs the spotlight towards these underlying assumptions and makes it possible for us to relate to them in a conscious manner (Buch-Hansen and Nielsen 2020). It facilitates reflection on theories, concepts and methods – and the ways they are applied in empirical analyses – and can in this context provide important insights into why our own findings differ from those of others (Kurki 2008: 8-9). The PoS can even help us build coherent research designs. If you are a social science student – be it in political science, sociology,

economics, business studies or something else – you should care about the PoS because it can help you understand the field you are studying at a deeper level. And you should also care about it because it makes the assumptions of others who study the field clearer, making it easier for you to read their works and interpret their results.

Alvesson & Sköldbberg (2000: 7) make the point that ‘social research without philosophically informed reflection easily grows so unreflective that the label “research” becomes questionable’. Seen in this light it really is absurd that many practitioners think they can just bracket philosophical reflection or focus solely on methodology. It is precisely as problematic for a social scientist to not consider the PoS important to his or her research as it would be problematic for a social scientist not to consider theory or methods any important.

On a sidenote, Feynman’s aforementioned observation about the PoS turns out to be correct. But it is only correct because ornithology, in contrast to what is being implied, is in fact highly useful to birds. That is, even though birds do not realize it, ornithology plays a crucial part in efforts to prevent the extinction of bird species. In a similar vein, the PoS can be highly useful to researchers in the social sciences – even though many of them do not realize it.

## **2. Emphasize the relevance of the PoS beyond academia**

Once the case has been made as to why PoS reflections are crucial in the social sciences, the next step is to argue for the importance of PoS beyond academia. The point to emphasize here is that even though the PoS revolves mainly around forms of *scientific* knowledge, it is highly relevant also in relation to other forms of knowledge. I sometimes show my students some job advertisements. True, these advertisements do not include ‘knowledge of the PoS’ as a needed qualification. Yet no matter whether it is a position as an analyst, a teacher, an administrator, a consultant, a manager, or something else it is easy to imagine that the work involves processing different forms of knowledge and acting on them. Being able to relate to the information you encounter in a reflexive manner is, in other words, an extremely important skill in any job. Here PoS ideas and concepts can be highly useful in combination with context-specific knowledge and skills.

Some classes into the course, I often do an exercise with the students in which they are invited to reflect on the potential usefulness of PoS concepts and perspectives in hypothetical situations in the job they hope to get after graduation. One of the questions to consider is whether a positivist, a critical realist and a constructionist would approach the same situation differently. An exercise such as this is a good way to prompt students to reflect upon the usefulness of the PoS beyond academia.

My advice, then, is to motivate students to take an interest in the PoS by impressing upon them that not only is philosophical reflection extremely important to the (social) sciences; the PoS is also a field that provides the students with keys to make sense of other subjects they study. And beyond this, insights from the PoS are useful in life.

### 3. Reduce complexity

Why are students in the social sciences introduced to PoS in the first place? In my understanding, the main purpose is to provide them with tools to reflect critically on the nature of knowledge about social reality – both the knowledge contained in existing research in the various disciplines of the social sciences and the knowledge produced by the students themselves when they write essays or project reports.

How many PoS concepts, ideas, debates, thinkers and perspectives do students need to know of to be able to do so? Not that many. Yes, the PoS is replete with interesting concepts, ideas and perspectives that you could introduce your students to. Who knows, maybe it could be of interest to some of them to hear about the ontic and epistemic fallacies or what not in the first class? Maybe so, but I would still strongly advise against it. Your task in that first class is to make the PoS as accessible and inviting to the students as is at all possible. To get as many of them on board as you possibly can. In the introductory class of the PoS course I teach, I introduce my students to the ontology-epistemology-axiology triad. My co-teacher then does a polling exercise with the students, the purpose of which is to reflect on whether selected statements and questions are ontological, epistemological or axiological. Following the typically lively discussion of the results, I briefly use the concepts of ontology, epistemology and axiology to briefly compare three perspectives in the PoS (positivism, constructionism and critical realism). I seek to do so without introducing unnecessary additional concepts. The ‘triad’ is enough ‘ology schmology’ (Daly 2008) for the human brain to cope with in that first class.

In later classes, more concepts and ideas of course need to be brought in. Still, when preparing those classes, I apply a strict ‘relevance criterion’ when determining whether to include a specific idea or concept: how relevant is it for students to know of this concept at this stage in their studies? Unless I deem it highly relevant, I abstain from including it. Once having decided on including a specific concept or idea, the next step is to think carefully about how to present it in the clearest possible way. For example, when I introduce critical realism in one of the classes, I don’t go all Bhaskar on my students. I introduce as little of the terminology as I can get away with while still making the content of critical realism intelligible. I still don’t tell my students about the ontic or epistemic fallacies, I don’t go into the four planes of social being, and I most certainly don’t introduce my students to dialectical critical realism or the philosophy of metaReality (Bhaskar 2008; 2002). The reason is not that I have issues with any of those concepts/ideas/perspectives (quite the contrary, I see value in them); the reason is that such concepts/ideas/perspectives are not necessary for students in the social sciences to know of to be able to make use of the PoS. If a student comes to develop an appetite for critical realism and decides to pursue it further, s/he will soon enough encounter a treasury of more advanced ideas.

Am I making a plea for dumbing down the PoS? Absolutely not. My advice is not to oversimplify the PoS; it is to simplify it by being highly selective when introducing it. The goal is to render it intelligible and as easy as possible to connect to for the students. Reducing complexity requires careful course planning on your part and is by no means easy; yet it is an essential prerequisite for being able to engage social science students in the PoS.

#### 4. Introduce three rival PoS ideal-types

When I started out teaching the PoS, I would introduce the students to selected ideas of a large number of thinkers: Bacon, Locke, Mills, Kant, Hegel, Marx, Comte, Durkheim, Weber, Popper, Kuhn, Feyerabend, Gadamer, Adorno, Foucault, Berger & Luckmann, Giddens, Laclau & Mouffe, Bhaskar and Archer to mention but some of them. It was not a good approach. My students got lost in the jungle of different perspectives and debates and lost sense of what's important to know, what's nice to know and what's not that significant to know as an undergraduate social science student. It made me reconsider my way of teaching the PoS. Further to the previous point about the benefits of reducing complexity, I now introduce my students to a typology consisting of three contending *ideal-typical* PoS perspectives: positivism, constructionism and critical realism. The specifics of this typology are the topic of another paper, but each ideal-typical perspective has been distilled from rich and complex traditions of thought that were developed by many thinkers and that have roots going far back in time. The purpose of presenting selected aspects of these traditions in ideal-typical form is to render them more accessible so as to make the most important ontological, epistemological and axiological assumptions underpinning social research easier to grasp.

My advice is to present exactly *three* ideal-types. Due to my critical realist inclinations, I find that presenting only two perspectives – which would then be positivism and constructionism – does not suffice. And presenting four or more is unnecessary for the task at hand: introducing the student to just enough perspectives for them to be able to reflect upon real-types, which in the present context means actual social research – be it that of others or the student's own academic work. Now, typologies with ideal-typical perspectives do have some important drawbacks. For example, ideal-types cannot capture all (aspects of) real-types. As such, the typology I present is not a classificatory system under which all research can be categorized. Also, while ideal-types are useful for highlighting variations, they easily come to exaggerate real-world differences and hereby come to distort reality. With a view to avoid these drawbacks, the typology I use in my teaching includes both a 'strong' and a 'moderated' version of positivism, constructionism and critical realism.

The course still briefly covers key thinkers, but a much smaller number of them. It does this in the context of illustrating strong and moderated versions of the three ideal-types. For example, Weber (1949) is offered as an example of moderated constructionism, whereas Foucault (1984) is suggested to illustrate strong constructionism. Yet the overall focus of the course has shifted: now the key goal is to make the students themselves think about and discuss contemporary research – their own and that of others – in relation to the strong and moderated versions of the three ideal-typical perspectives. Instead of simply categorizing a piece of research as, say, positivist, the point is to think about whether it is a strong or a moderated type of positivism we are dealing with. The students can do this without having been introduced to, say, 12 different varieties of positivism (Halfpenny 1982).

## 5. Use textbooks with caution

No textbook on the market succeeds in providing a general introduction to the PoS that makes it relevant to students in the social sciences. This is not to say that none of the textbooks out there are good – typically they are written by knowledgeable authors and many of them are excellent in specific respects. Yet you will search in vain for a textbook that (1) is clearly written and not loaded with information of little use to students who are not taking a degree in philosophy; (2) provides a general and balanced introduction to a few contending PoS perspectives, (3) gives examples of how such perspectives manifest themselves in contemporary social scientific research; (4) shows how philosophical assumptions are embedded in research questions, theory and methods; *and* that (5) provides guidance as to how the PoS can be *used* in one's own work. At least I have yet to find such a book. While some books meet a few of these criteria, none come close to meeting all of them.

To be sure, PoS textbooks do differ considerably. This is not the place to offer a full-blown review, but we can note that many textbooks are structured around the introduction of a smaller or (in most cases) larger number of rival PoS perspectives, 'methodologies' or 'research paradigms' (Benton & Craib, 2011; Blaikie 2007; Moses & Knutsen 2019). Other textbooks are structured in accordance with specific social science disciplines (Rosenberg 2016) or specific issues or debates relating to the PoS (Cartwright & Montuschi 2014). Still others relate to the PoS in the context of introducing research methods in specific fields (Halperin & Heath 2020; Lowndes et al. 2017; Saunders et al. 2009). One even introduces the PoS through a dialogue between a student ('Socrates') and a teacher ('the Goddess of Delphi') that takes place over no less than 250 pages (Potter 2017).

Beyond these and other differences, a common feature of the bulk of PoS textbooks on the market is that they are not very user oriented. It is apparently assumed that once abstract concepts and ideas have been presented, it must be self-evident how they translate into practice. Textbook authors thus do not go through the trouble of trying to explain how one can make use of the PoS in one's own work or how one can identify PoS assumptions in social scientific research publications. Instead, reading through the pages of textbooks one often gets the impression that the key priority is to introduce readers to a wealth of PoS ideas, perspectives and concepts, to offer insights on a variety of philosophical debates and to provide overviews of the history of the PoS. Often textbooks use odd examples to illustrate their arguments or relate to social science research from a distant past. To put it bluntly, all too many authors of PoS textbooks have lost track of the specific interests and needs of their audience: social science students. I by no means think that social science students take any harm from being exposed to all this information (again, PoS textbooks are generally written by insightful scholars). But the problem with bombarding students with information they have difficulties connecting to is that it creates more confusion than clarity. It does not make social science students excited about the PoS; instead of bringing them onboard it pushes most of them away.

My advice, then, is to either not use PoS textbooks or use them with great caution. I no longer use a textbook in my PoS course. As readings I for instance use an outline of the aforementioned typology and texts dealing specifically with – or illustrating – specific PoS perspectives (extracts from e.g., Bevir & Rhodes 2016; Buch-Hansen



and Nielsen 2020; Burr 2015; Sayer 2010). Such texts can be supplemented with short selections from original works by key thinkers in each tradition. As already noted, and as I come back to below, my course revolves less around the students having to read a lot of pages to gain in-depth knowledge of the PoS and more around providing them with instruments to enable them to think about and discuss the ontological, epistemological and axiological assumptions underpinning research.

If you do use a PoS textbook, I recommend providing reading notes for the students for each class, i.e., notes in which you offer guidance on what to focus, what to read quickly through and what not to read. It is also important that you connect key content of textbook chapters to material the students can relate to, such as material from other courses they are enrolled in (see section 8 below). Above all, it is crucial that you provide insights into how students can use the PoS in their studies, both to make sense of different strands of research and when writing project reports or theses.

## **6. Show how research questions can fit with PoS perspectives**

When teaching an abstract subject such as the PoS it is particularly important to frequently exemplify the points you make at the concrete level. One of the ways in which you can do this is by illustrating to your students how research questions often (not always) fit better with some PoS perspectives than with others. Here some examples of research questions:

*What main mechanisms caused the Danish unemployment rate to drop to 1.6 percent in July 2008?*

*To what extent was unemployment related to the inflation rate in the OECD countries from 1980 to 2015?*

*To what extent has the prevailing discourse on unemployment changed over time in Sweden?*

You can take these questions – or better, adapt them to whatever your students are studying – and invite them to discuss in groups whether each question fits better with one of the three philosophy of science ideal-types than with the other two.

In fact, this appears to be the case. The first question seems particularly compatible with critical realism, inasmuch as its answer requires the identification of a constellation of causal mechanisms that have brought about an outcome. One approach here could be to use retroductive reasoning. We could ask ‘what mechanisms must in all likelihood have existed for the outcome (the low unemployment rate) to have been produced?’ To help us come up with possible mechanisms, we can lean on substantive theories on unemployment. Once we have come up with several potential mechanisms, the task is to empirically assess their significance (if any) in relation to unemployment in Denmark in the time period in question.

The second question fits better with positivism than with the other two ideal-types. Here we have two clearly delineated variables: an independent variable (the inflation rate) and a dependent variable (unemployment). To analyze the extent to which one is related to the other in quite a few countries over many years, it would be a reasonable choice to conduct a statistical analysis using quantitative data. Through a correlation analysis we should be able to determine how much variation in the dependent variable is associated with variations in the independent one. This analysis may enable us to test hypotheses derived from a general theory.

The third research question fits better with constructionism because it invites us to focus on ideational matters. To answer it we would need to identify changes in the prevailing ideas about unemployment in Sweden. One option could be to focus on the main political parties and see if their rhetoric with respect to the problem of unemployment has changed. This could involve doing a discourse analysis of qualitative sources such as speeches and records of parliamentary debates.

Because positivists are often interested in making generalizations, there will be a tendency for research questions resonating with positivism to be more general than ones resonating with constructionism and realism. Constructionists and realists are typically more interested in context-specific outcomes and will thus tend to ask questions that are less general. Constructionists will often ask questions that in one way or another invite a focus on the (inter)subjective dimensions of reality. According to Rees (2009: 439), critical realists often 'ask why a certain change, rather than any other, was produced in a particular situation, and with what consequences for the agents involved'. Yet realist questions can also simply involve asking about the causes of a specific phenomenon. The key message to communicate is that a research question is not just a research question: it typically encourages the generation of a particular form of knowledge. The PoS can help us reflect on this matter.

## **7. Show how theory and methods relate to the PoS**

A key step in making the PoS useful for social science students is to show how philosophical assumptions are present when we use substantive theories and methods. It is important that students come to understand that all substantive theories incorporate ontological assumptions. This is the case because theoretical concepts pick out features held to exist and be of significance in social reality (Archer, 1995: 12). For instance, some theories are structuralist in that they explain phenomena with reference to social structures such as capitalism or institutions. Others are more agency-centred, seeing phenomena as the product of the free choices made by agents. Still others ascribe considerable importance to ideational factors (discourses, norms, values etc.). The social ontology accompanying a theory regulates the type of explanations we can provide when applying it. A structuralist ontology precludes agency-oriented explanations.

Theories also take different forms that make them resonate – to a larger or smaller extent – with particular PoS perspectives on what the social sciences are to accomplish. Some theories are parsimonious and specify general causal relationships from which the researcher can derive testable hypotheses. Such

theories resonate well with positivism. Other theories take the form of broader frameworks that enable the researcher to make sense of how people interpret their worlds. Such theories are particularly useful in constructionist research. Still other theories are of particular use in critical realist research as they can help the researcher in the (retroductive) process of identifying the mechanisms that have caused some outcome to happen.

Yet, most theories are not unambiguously positivist, constructivist or realist. Moreover, most theories can be put to use in ways resonating with more than one of the ideal-typical PoS perspectives. To give an example I use in my class, the rationalist Varieties of Capitalism theory (Hall & Soskice 2001) can be used consistently with positivism in a covering law manner. Yet it may also be used consistently with critical realism to identify underlying structures, even if rational choice assumptions do not resonate well with this PoS perspective (e.g., Porpora 2015).

Similarly, research methods can for the most part resonate with more than one PoS perspective. No one-to-one connection exists between specific methods and specific PoS perspectives. It may be that positivists use quantitative methods more than constructionists, but this does not change the fact that such methods can be used by constructionists, realists and positivists alike. The key point for students to understand, then, is that there will be substantial differences in how a given method is applied in research informed by, respectively, positivism, constructionism and critical realism. That is, the way in which a method is applied in concrete research is shaped by the ontological and epistemological assumptions embedded in that research. As Darby et al. (2019: 397) point out, '[e]mbedding the same method in a different philosophy fundamentally changes the method itself and the knowledge produced'.

You can show this to your students by taking concrete methods as examples. Take for example the case study method. The question to consider is with what purpose you are conducting the case study. Are you conducting it with a view to test a general theory? If so, you're on positivist territory. Are you doing it to gain knowledge of underlying structures and other mechanisms? In that case your case study resonates more with critical realism. Or are you conducting it to be able to gain insights about a specific phenomenon in its specific ideational or cultural context? If so, this would be consistent with constructionism.

## **8. Link the PoS to contemporary research in the social sciences**

It is not uncommon for PoS books to spend many pages detailing examples of progress in the natural sciences as a steppingstone for considering the question of whether the social sciences can be conducted along similar lines. As 'the possibility of naturalism' (Bhaskar 2015) is a key question in the PoS this is not surprising. Yet, before using examples drawn from the natural sciences when teaching the PoS to an audience of social science students, it is important to carefully consider whether such examples are likely to engage, or even make sense to, this audience. In a similar vein, before using seminal social scientific research from a distant past – say, Durkheim's study of suicide (Durkheim 2005) – to illustrate the significance of PoS

concepts it is important to consider whether this is the best way to help students see the relevance of this subject. I am not suggesting that discussing examples taken from the history of the natural and social sciences is necessarily a bad idea. My advice would however be to focus on discussing the PoS in relation to contemporary research – preferably research on a specific contemporary topic of relevance to the students. This could for instance be a topic they have been introduced to in other courses.

An example I have sometimes used is that of research on the United Kingdom's vote to leave the European Union in June 2016. 'Brexit' quickly became the focal point of a mushrooming research literature (Clarke et al. 2017; Morgan & Patomäki 2018), concerned for instance with the causes of the event and its implications for the future relationship between the UK and the EU. Glancing through the pages of this literature, fundamental differences in how researchers seek to explain the outcome become apparent. These differences are relevant to discuss in relation to different PoS perspectives.

For instance, some Brexit researchers use quantitative data to determine how various independent variables correlate with the dependent variable (the voting results). Their goal is to determine the most important factor leading to the outcome, in some cases with a view to test competing theoretical explanations (e.g., Inglehart and Pippa 2016). The research of such scholars is broadly consistent with the positivist perspective. Other scholars provide multi-causal explanations, identifying a variety of mechanisms that together caused the result (e.g., Patomäki 2018). Patomäki's study, which brings into focus several mechanisms, including globalization, neoliberal policies, deindustrialization and inequality, resonates well with the critical realist perspective. Still other scholars seek to explain Brexit (or aspects of it) through studies of the subjective reasons that specific voters in specific local settings had for voting the way they did. Based on interviews and observation their studies seek to come to an in-depth understanding of how the people in question made sense of the world (e.g., Mckenzie 2017). Such research can be seen to be shaped by constructionism.

The main point for students to realize is that the diversity of social scientific research is by no matter just a question of researchers using different methods and theories because they are interested in different aspects of a social phenomenon. At a far more fundamental level, the diversity of research also stems from basic disagreements as to how social phenomena should be explained and what type of knowledge researchers should aspire to produce. For instance, do we need to understand peoples' beliefs if we want to explain a social phenomenon such Brexit? Some researchers think we do; others do not find it necessary. Is it the task of researchers to make generalizations? According to some scholars it is, but many others do not share this view. Should social research seek to illuminate unobservable social structures? Again, opinions diverge. Some researchers believe that the identification of such structures is at the core of what social science is all about; others dispute the existence in the first place of unobservable structures. Such disagreements are, in turn, rooted in diverging assumptions as to what type of social reality we are dealing with. Is it for instance a reality that contains clearly delineated objects that have properties independently of other objects as positivists

would have it? Or is it, as critical realists insist, a reality consisting of interrelated objects the nature of which depends on their relations to other entities?

## 9. Explain how students can use the PoS in their own work

There are various perspectives on what the nature of the relationship between philosophy and (social) science is – or ought to be. For example, one is that philosophy should function as an ‘underlabourer’ that removes obstacles encountered by the sciences (e.g., Bhaskar, 2015). Another is that philosophy helps science when the latter finds itself in moments of crisis (Kuhn, 1996). Such perspectives are important, yet if you aim to make students in the social sciences see real value in the PoS, you need to provide guidance as to how they can bring the PoS into their own academic work, including project reports and theses.

My advice is to introduce the students to two strategies between which they can choose the first time they make use of the PoS. I label these the ‘alignment strategy’ and the ‘*post hoc* strategy’. The alignment strategy consists in making a research design that is consistent with one of the three philosophy of science ideal-types in either its strong or moderated version. This involves opting for a version of either positivism, constructionism or realism and then making sure that all elements of the project – research question, theory, methods, data – resonate (are aligned) with it in the way they are used. To exemplify, aligning a thesis/project report with critical realism could involve making a research question that asks about the main causes of some phenomenon or outcome, selecting theory that points in the direction of some of the main mechanisms that may have been at play and using methods and data to try to establish whether those mechanisms were in fact significant or whether other mechanisms may have been more important. Further to a point made above, *the* alignment of a specific PoS perspective and theory is as much a question of picking theory incorporating ontological assumptions resonating with that PoS perspective as it is a question of *using the theory in a specific way with a specific purpose*.

With the *post hoc* strategy, philosophy of science is given no role in the process of constructing the research design. *Post hoc* is Latin for ‘after the event’ – and indeed the strategy involves bringing in philosophy of science *after* you have made the research design choices. Here the student constructs the research design considered most feasible for answering the research question without giving consideration to the PoS. Only subsequently, the PoS is used to reflect on the choices that have been made. For example, if two theories are used that incorporate different ontological assumptions about the nature of agents (say, agents acting based on context-specific ideas vs. agents as rational utility maximizers), what does this mean for the analysis? Does it create frictions or inconsistencies?

The main upside of the *alignment strategy* is that it helps the student ensure that his/her research design is coherent and internally consistent. Its downside is that it is constraining in terms of what research question one can ask and in terms of *how* theories, methods and data can be used to answer it. As for the *post hoc strategy*, its main upside is that it gives the student the freedom to put together the research design considered best suited to answer the research question. S/he does not have to worry – initially at least – about whether the way a particular method is used or the

assumptions underpinning a particular theory are consistent with a specific philosophy of science ideal-type. The downside is that one may end up with a research design that – in terms of the ontological and/or epistemological assumptions it incorporates – is incoherent.

It is worth reiterating that the two strategies are not to be thought of as descriptions of how social researchers proceed in practice when they make a research design. The strategies should be taken for what they are, namely some guidelines the student can draw on the first time(s) the PoS is used in her/his own work.

## **10. Make the PoS ‘hands on’ and fun**

My final piece of advice is to make the PoS inviting to students through your style of teaching. Having basic knowledge of the PoS is obviously significant when teaching this subject, yet I would argue that having a positive and engaging attitude towards teaching the PoS is far more important than having deep expert knowledge of the philosophy of science. Again, the task at hand is to help students in the social sciences learn how to reflect on social scientific knowledge, not to know what ‘meta-incommensurability’ (Oberheim et al. 1997) or what not is all about. You can make the PoS inviting by avoiding too much one-way lecturing. Use cases and examples the students can relate to. Get them involved in discussions. Make use of opinion polls, quizzes and quick exercises in class. Tell a joke or a funny story now and then. Focus less on how abstract and difficult the PoS is and more on how rewarding it is to make use of it. In short, create a pleasant, fun and stimulating environment in class.

In the PoS course I teach, no more than a handful of the classes take the form of lectures. Prior to these lectures, we provide reading notes to students to guide them through the readings. The rest of the classes are ‘hands on’ workshops where student groups get to think about, discuss and present PoS concepts and perspectives in relation to content covered in other courses and real-world cases. The group element is important as many students benefit greatly from discussing the PoS with their peers. The students are thus far more involved in reflections and discussions than is the case in a standard introductory PoS course. I reckon it’s an important key to making the subject engaging and making the students see how it can be useful. The exam is shared with another course of mine, a course on political economy. In groups, the students write a 20 pages project report followed by an oral exam. In the project report they both have to conduct an empirical analysis using political economy theory *and* make use of the PoS. Many students seek to align their research design with a particular PoS ideal-type in either its strong or moderated version.

## **In conclusion**

Drawing on my own experiences and fallible knowledge, I have provided 10 pieces of advice on how to teach the PoS to students in the social sciences in this paper. To make the PoS relevant to such students I suggest you highlight the relevance of PoS to their studies and beyond, reduce complexity and present only a few contending

PoS perspectives, use textbooks with caution or avoid them altogether, show the connection between PoS on one hand and research questions, methods and theory on the other, illustrate how PoS assumptions are embedded in contemporary social research, make it clear how students can make use of the PoS in their own work and finally teach the subject in a ‘hands on’ manner.

Contexts differ. As such, not all advice provided here is possible or feasible to adopt directly in other settings; and, conversely, some of the above pieces of advice apply also when teaching other subjects. Teachers also differ. What works for one does not necessarily work for another. Only by teaching yourself will you know what works for you. My hope is nonetheless that the advice provided here can contribute to make PoS teaching not just less daunting but also a more rewarding and enjoyable experience for both teachers and students in the social sciences. I would welcome a wider conversation on this matter and thus encourage contributions from others who have experiences teaching the PoS – veterans and newcomers alike – on what works for them and what does not.

### Postscript

Only a few hours after I had completed the first draft of this manuscript, I received an email informing me that the PoS course I teach will be closed “to create space for other courses”. The plan, it turns out, is to give students an additional quantitative methods course, while introducing them to the philosophy of science in a small module under a qualitative methods course. On one hand, this decision took me by surprise. The PoS course has consistently received glowing student evaluations for a decade, suggesting that students consider the subject highly relevant to their studies and beyond. Such evaluations normally matter in the neoliberal university, in which students are treated as customers. On the other hand, it is far from uncommon these days to see universities close or downsize spaces for critical reflection, including PoS courses. Methods courses and other skill-oriented courses that, allegedly, improve student employability are considered vital. In practice, as opposed to in discourse, gaining deep knowledge – and the ability to reflect critically on that knowledge – is no longer regarded as essential in many university programmes. In the neoliberal university, pervaded as it is by pathological managerialism and tunnel vision, critical reflection at a deep level is in many cases at best seen as useless and at worst as a threat to the powers and discourses that prevail. This also goes to emphasize the importance of making the most of PoS teaching in whatever shapes and forms it takes in different settings – and to try to resist its further downsizing in the social sciences.

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The author reports that there are no competing interests to declare.

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<sup>i</sup> This perception that usefulness and employability are closely connected is undoubtedly shaped by wider discourses in society – discourses which many universities reproduce in their ways of communicating with students.