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Before theory comes theorizing or how to make social science more interesting

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Abstract

The basic argument in this article is that sociology and social science more generally are today severely hampered by the lack of attention being paid to theory. Methods – qualitative as well as quantitative methods – have proven to be very useful in practical research (as opposed to theory); and as a result they dominate modern social science. They do not, however, do the job that belongs to theory. One way to redress the current imbalance between methods and theory, it is suggested, would be to pay more attention to *theorizing*, that is, to the actual process that precedes the final formulation of a theory; and in this way improve theory. Students of social science are today primarily exposed to finished theories and are not aware of the process that goes into the production and design of a theory. Students need to be taught how to construct a theory in practical terms ('theorizing'); and one good way to do so is through exercises. This is the way that methods are being taught by tradition; and it helps the students to get a hands-on knowledge, as opposed to just a reading knowledge of what a theory is all about. Students more generally need to learn how to construct a theory while drawing on empirical material. The article contains a suggestion for the steps that need to be taken when you theorize. Being trained in what sociology and social science are all about – an important precondition! – students may proceed as follows. You start out by observing, in an attempt to get a good empirical grip on the topic before any theory is introduced. Once this has been done, it may be time to name the phenomenon; and either turn the name into a concept as the next step or bring in some existing concepts in an attempt to get a handle on the topic. At this stage one can also try to make use of analogies, metaphors and perhaps a typology, in an attempt to both give body to the theory and to invest it with some process. The last element in theorizing is to come up with an explanation; and at this point it may be helpful to draw on some ideas by Charles Peirce, especially his notion of abduction. Before having been properly tested against empirical material, according to the rules of the scientific community, the theory should be considered unproven. Students who are interested in learning more about theorizing may want to consult the works of such people as Everett C. Hughes, C. Wright Mills, Ludwig Wittgenstein and James G. March. Many of the issues that are central to theorizing are today also being studied in cognitive science; and for

those who are interested in pursuing this type of literature, handbooks represent a good starting point. The article ends by arguing that more theorizing will not only redress the balance between theory and methods; it will also make sociology and social science more interesting.

Keywords: Theory; theorizing; metaphor; analogy; explanation; process

My general message in this paper is a positive one. I believe that social science, including sociology, can take a major leap forward today and become much more interesting. Social science has already made one such major leap during the twentieth century, beginning with WWII. It was centred around methods, and mainly had to do with the introduction of quantification into sociological analysis.

Theory, in contrast, has not made similar progress. It is true that many single contributions have been made since WWII, as exemplified by the work of such outstanding individuals as Goffman, Bourdieu and some others. But the practical skill of constructing and handling theories of the average sociologist has not been similarly developed. One reason for this is that theory is not being taught in an effective way to students. Again, compare this to methods, where students can today take courses in both qualitative and quantitative methods, and once these courses are over, be competent to use them in their research.

How then can we develop an approach to the teaching of theory that is as effective as the current way of teaching methods? First of all, it should be made clear that this must be a collective enterprise. There are many difficult issues to address; and the insights of many people are needed. During the last five to six years I have myself tried to contribute to this enterprise, which I refer to in my mind as the theorizing project. I use the term '*theorizing*' as a short-hand for a better understanding of how a theory is put together; how it is handled in empirical research – and how it can be taught in an effective manner.

I also use the verb 'theorizing' to emphasize the elements of process as well as of trial-and-error that characterize the attempt to handle the theory part when you do research. I oppose theorizing to 'theory', which as a noun gives associations to something that is finished once and for all and typically exists in a printed form. You have to engage in theorizing before you have a theory; hence the title of this paper: 'Before theory comes theorizing'.

During the past five to six years I have pursued two types of activities. I have tried to develop some initial ideas about how to theorize; I have also taught classes in theorizing, using exercises as in a methods class. The two activities are closely connected in my mind; and if theorizing cannot be effectively taught, something important is missing.

My first article appeared in 2012 and was programmatic in nature (Swedberg 2012b). I focused on the term 'theorizing' and tried to contrast it to 'theory', arguing that theorizing belongs to the context of discovery and theory to the

context of justification. This article was followed by an attempt to engage an interdisciplinary group of social scientists in this enterprise, which resulted in an anthology entitled *Theorizing in Social Science* (Swedberg 2014b). Around this time I also decided that I should try to develop my own ideas in more detail; and I did this in a book called *The Art of Social Theory*, which appeared in 2014 (Swedberg 2014a).

Today, about two years after I submitted the manuscript for my book, I have had the time to think some more and to advance my ideas about theorizing. My sense is that the general thrust of the theorizing project is sound, namely that theorizing is a practical process that basically can be taught and learned. But I also feel that many of the issues involved need to be much better understood. In the rest of this paper I will therefore first give an account of my general approach to theorizing. In doing so, I will present a new and updated version of how I look at the process of theorizing. I will also take the opportunity to address two topics that are not part of the process of theorizing itself but closely related to it. The first has to do with the need to develop a literature on theorizing, something that currently does not exist. The second has to do with how to teach theorizing; and here I will argue for a closer relationship between social theory and the theory of education.

An ABC of theorizing

It is in my view possible to isolate certain elements (or perhaps even steps) that make up the theorizing process. By theorizing I mean the process that comes before a theory is presented in its final form, which is usually a paper or a book. Having said this, and in order to avoid a common misunderstanding, it should immediately be added that it is impossible to theorize without a sound knowledge of sociology. Think about it: you theorize not only in sociology but also in law, economics, history, and so on; and each of these disciplines has its own and pretty distinct way of theorizing. In law, you want to develop a legal mind; in economics, an economic approach, etc.

So when I speak about theorizing in sociology, I am talking about the activity of students who already have some basic knowledge of sociology and its theories. Should this type of knowledge be taught separately from theorizing or together with it? While this can be discussed, my own view is that since the two are closely related, they should ideally be taught together or at least be taught in a way that emphasizes their complementary nature.

One way to give a quick sense of the great importance of theorizing is to relate it to the well-known distinction in the philosophy of science between the context of discovery, on the one hand, and the context of justification, on the other. The core idea behind this distinction is that there comes a moment in your research when you develop your main insight. This insight, however,

cannot be presented in the form in which it occurs; it is much too intuitive and underdeveloped for this (i.e. 'context of discovery'). For this insight to become acceptable to the scientific community, it has to be translated into a different language, often in the form of hypotheses that are confronted with data ('context of justification').

It is well established today that you can study creativity with the help of science, including social science. The point I want to make here, however, is somewhat different. Today students are nearly one hundred per cent exposed to theory as it appears in the context of justification. That is, they only get to know theory once it has been discovered and turned into its publishable version. Each time they pick up a book or read an article, this official version of theory is what subconsciously gets hammered into their heads. This means that the actual way of discovering and developing a theory – the strange process of trial and error that goes into it – is effectively hidden from the students.

It should also be pointed out that the type of knowledge that the students do not get exposed to is of a very special kind. It is *a practical kind of knowledge*, similar to the kind of knowledge you need to have in order to be able to ride a bike or swim. Note also that what is involved is also *a personal kind of knowledge*, in that it can only be acquired by the individual who actually does the biking or the swimming – or the theorizing.

Theorizing takes place both in the context of discovery and the context of justification. You need to be able to theorize in order to produce an insight about the problem you are researching. At this stage you need to be able to handle theory – to theorize – so that you can produce this insight. But you also, of course, have to know how to construct a theory according to the rules that are accepted in the profession. The latter is a skill that is relatively easy to learn; and there exist several models to follow in articles and monographs. The way to handle theory so that it helps you to develop an insight and a new understanding of some phenomenon, however, is different in nature. Here you need a practical kind of knowledge that is considerably harder to spell out. To some extent this knowledge also differs from individual to individual, something that adds to the difficulty both to encode it and teach it.

Still, there exist certain elements in the theorizing process that can be isolated for pedagogical purposes and perhaps even placed in a kind of sequence; and it is to this task that I shall now turn. To be precise, you cannot theorize, without knowing how to use concepts, analogies, different ways to explain, and more.

Before saying a bit more about these elements (or steps), however, one more point needs to be made. This is that it is also possible to start a new research project by producing what I call a *prestudy*. The purpose of such a study is to see if the topic you want to research will indeed yield to your efforts and let you discover something new. In my personal view, it is both prudent and helpful to start a research project with a prestudy.

Alternatively, you can just proceed as usual: draw up a research design and execute it according to the rules of the profession. There exist, however, good reasons to believe that this way will just lead to more of the same rather than to new insights. One such reason is that many research designs come into being because the researcher has some intuition and strongly believes that it will lead to some interesting results. In my experience, however, this rarely happens; and this is because the original intuition is not based on enough knowledge of what is actually going on. As a result, the data will not vindicate the original intuition but instead lead in directions for which the researcher is unprepared. Speaking from personal experience, a common response in this situation is to hold on to the initial idea and try to squeeze ever more resistant data into it.

When you start your research with a prestudy, in contrast, you first make a quick but deep dive into the phenomenon you want to study, but without following any pet idea or big intuition – and also without being systematic or following the usual rules for how to do sociological research. By attacking a topic in this way – from each and every side, in a quick and dirty way – you have a better chance to discover something new about it. And once you have a good sense of what this novelty is, you are ready to theorize it, and to say something interesting.

If you indeed find something new during the prestudy, you are ready to draw up a research design and test if your theory is correct or not. Since the prestudy is not based on a representative sample or carried out according to existing rules, it may well be the case that your insight evaporates once it is confronted with data in a systematic manner. But by proceeding in this way, you have a chance of saying something new. Note also that if you do not find anything interesting during the prestudy, there is not much reason to carry out a full study, based on a conventional research design.

What then are the elements or steps in theorizing that can be isolated and perhaps also taught? The first is *observation*. This may seem counterintuitive: does not observation belong to methods and not to theory? In my view, this is a half-truth, and a half-truth that can be destructive if it is not accompanied by the statement that there are aspects of observation that clearly belong to theory.

One reason why observation also belongs to theory is that sociology is an empirical science. In sociology you always start with observation, and you proceed from there. A second reason is that some important parts of the process of observation are based on theoretical considerations.

Rule number one when you carry out observation in such a way that it will favour theorizing is that it has to be very, very broad in nature. It should include objects and it should draw on all of the senses of the researcher as well as the people she studies. You should also make an effort to tap an unusually broad range of sources – movies, poetry, dreams, graffiti, newspaper articles or whatever. The reason for this is that your aim at this stage is to try to find something new, not to be methodical.

Another important theoretical point when it comes to observation is discussed by Durkheim in one of his rules for how to conduct sociological research (Durkheim 1964:15, 31). This is that you should not reproduce the categories that people use in their everyday lives in your analysis, but go beyond these and try to locate *social facts*.

A third theoretical point is that everything you observe does not qualify as 'facts'. These have typically to be pulled out from what you observe; and this can be a complex and difficult process. This procedure was already discussed by Whewell, who called it 'decomposition of facts', and more recently it has also been addressed by STS people, especially in studies of how scientists use instruments and other procedures to produce the facts or the 'representations' that can be studied (Whewell 1847: 33; Coopmans et al. 2014). Just as you may need an electronic microscope to produce as well as see certain 'facts', you need to know how to produce and see 'social facts'.

During the observation, it is also important to *not* try to develop a theory. Most people have a tendency to jump to conclusions, especially when they have a pet theory. Theory must be based on a thorough type of knowledge of what is being studied; and till this stage has been reached, it is imperative *not* to develop any theory.

But let us say that you have found something of interest, that is, something you did not expect and that the scientific literature is silent about. It could be a major insight or a more modest one; but whichever it is, at this stage you want to lock in the new insight so that is does not get lost. One way to do so is to give your phenomenon *a new name*.

There exist different strategies for what kind of name to choose. Some people prefer an already existing word, taken from everyday language; while others find it more convenient to use a new or relatively new word, say from Latin or Greek. Note also that since you are researching a *sociological* phenomenon, you ideally want the name to reflect this. If you do this, it also becomes easier to incorporate the new insight into the sociological tradition. If you call something, say, 'motherhood penalty', you do not know if it refers to something sociological or not. If you on the other hand call what you are studying 'political anomie', you have already anchored it in the sociological literature.

By using the term political anomie, I have jumped ahead a bit and gone from discussing a name to *a concept*. The difference between the two is roughly that a scientific concept is constructed for a special purpose as opposed to an ordinary term. An analytical effort has typically been made to single out what is central to a phenomenon; scientific concepts should also be accompanied by a definition.

At this stage of the theorizing process it may be helpful to bring in an already existing concept (or several of these), to get a better handle on the phenomenon. Herbert Blumer's sensitizing concept helps you, for example, to both focus on certain (sociological) facts and to further develop the concept itself

(Blumer 1954). According to Whewell's theory of colligation, scientific concepts help you to tie together facts with the help of an idea. It does this, he says, in the same way that a thread ties together a number of pearls into a necklace (Whewell 1847: 48).

One can finally also use concepts after the manner of Weber and his theory of ideal types. In this case, you assume that the actors have full knowledge; that they are fully conscious of what they are doing; and that they act in a rational manner. You then confront these assumptions with empirical reality, and try to explain why the two diverge. The ideal type makes you ask questions you would not otherwise have done.

Sociologists are sometimes satisfied with having developed a concept or improved on an existing one, and stop at this point. But for a full theory, more is needed. There exist several different ways for how to push ahead in this situation. You can, for example, use a metaphor, in an attempt to better understand what something is like and how it operates. You can also see if the phenomenon is analogous to something else. Sociologists often use comparisons in their theorizing, but when you use it in an analogy, you proceed in a very special way. You do not so much look for similarities and differences but for a possible structural similarity between something that is well understood and the phenomenon you are studying.

It is also possible to move ahead when you theorize with the help of a typology. Phenomena that are of the same kind, but still different, are often bunched together in everyday words; and one way to disentangle things is to use a typology. Love, for example, comes in many different forms; and so does, say, money and capitalism. A skillful use of a typology can make it easier to see what elements a phenomenon is made up of and also how these vary.

The last step in theorizing is to come up with an explanation. There exist many different ways to explain things, dependent on the science involved. There often also exist competing theories of explanations in the same science. In sociology, for example, some explanations take the meaning of the actors into account (say, Weber's interpretive sociology), while others do not (say, demography or rational choice sociology). The element of process is also handled in different ways. Sometimes it is more or less neglected (as when simple correlations are used); and sometimes it holds the centre-ground (as when social mechanisms are used; e.g. Hedström and Swedberg 1998; Beach and Pedersen 2013).

It is hard to come up with a good explanation. In order to succeed, you often have to draw on more than your capacity for logical reasoning, such as imagination and your sense for intuition. To some extent this is true also for the other stages in the theorizing process, but it is extra important here since the explanation constitutes the centerpiece of a theory.

Several different types of thinking, in other words, go into the production of an explanation. Guessing, speculation and imagining something that has not

existed before, are often disregarded in graduate education, but should perhaps be part of it. What is often attributed to the unique talent of some exceptional individual are often ways of thinking that are underdeveloped in the average sociologist simply because they are thought to be outside the realm of science.

Creating a tradition of theorizing

It is clear that theorizing and what goes under the heading of theory differ on several important points. In the former, the emphasis is on the actual practice of creating a theory, when working with empirical material. In the latter, it is on existing theory as this can be found in published articles and monographs.

It is also clear that without theory there will be no theorizing. It is in the existing body of sociological works that the foundational positions of the discipline can be found, and also more recent attempts to further develop these. A work in theory sometimes contains information that is of interest to the task of theorizing.

On the whole, however, there exists very little material on theorizing in sociological studies. One reason for this is that most social scientists see their work as culminating in the published study, while the versions that precede this are seen as incomplete in nature and something you want to leave behind. It is true that people these days often save the data for their studies. This goes for qualitative as well as for quantitative sociologists; and the discussion of Alice Goffman's destruction of her data for *On the Run* indicates that this may even be the norm today (e.g. Kotlowitz 2015). But a data set tells nothing about the trial-and-error type of practice that goes into the production of a theory.

Sometimes it is possible to find autobiographical accounts by social scientists that contain some information that is of interest to theorizing. One example of this is *Sociologists at Work*; and there exist more works of this type (Hammond 1967; for a list, see Platt 2015). Some of the accounts in these two works contain information on how to theorize. But the desire to provide an autobiographical account of how some study came into being is typically stronger than the interest in describing how a theory emerges during the research process. Much of theorizing, it can be added, also consists of silent knowledge. Highly talented people in particular tend to do the right thing, without being able to give a very helpful account of what they are doing.

Many works in theory, to repeat, occasionally touch on theorizing but typically do so only in an off-hand and minor way. If you comb through the collected works of say Weber or Bourdieu, you will find some extremely valuable insights when it comes to theorizing. This is however a very laborious and

time-consuming task. And we basically do not know very much about the ways in which the major sociologists actually produced their theories, including Weber and Bourdieu.

There does, however, exist one exception to the paucity of material on theorizing, namely the works that were produced as part of the so-called theory construction movement (e.g. Zhao 1996). During the 1960s and 1970s a number of US sociologists tried to outline how a theory is constructed; they also started to teach courses on this topic. The whole thing got off to a good start with the participation of sociologists such as Arthur Stinchcombe and Herbert Blalock. But after something like a decade, the whole thing came to an end. No more books were published and no more courses were taught. In 1994 a conference was held to explore why this happened, but no very good reason was found (Hage 1994; cf. Markovsky 2008).

In my own view, what happened was probably something like the following. Very little work on theorizing existed by the time; and this made the task extra difficult. While we today, for example, can draw on many studies in cognitive science that are very helpful when you discuss various aspects of theorizing, this was not the case in the 1960s and 1970s. The whole thing also perhaps ran out of steam; and eventually even a creative person like Stinchcombe gave up. Still, his two works in this genre – *Constructing Social Theories* (1968) and *Theoretical Methods in Social History* (1978) – are still very useful for anyone interested in theorizing.

Some of the work that was carried out under the label of theory construction did not so much disappear as change identity (e.g. Zhao 1996; cf. Willer 1996). It turned into what we today refer to as formal theory and/or mathematical sociology. This type of work, however, does not address the full range of questions in theorizing but often only those that are relevant for modelling. Still, the works of people like James Coleman, David Willer and many others must not be disregarded by theorizers.

The fact that there exists so little knowledge about theorizing today means that that there is a great need for material of this type. Textbooks in theorizing as well as articles on many of its aspects are needed; and some of this material will hopefully also appear within soon. Again, theorizing is a collective enterprise, so it is crucial that many sociologists get involved – theorists, methodologists, people who do quantitative studies as well as people who do qualitative studies; and so on.

In the meantime, I would like to point to some individuals whose work I have found very valuable, and whose insights need to be better known as well as further explored. One of these is philosopher and polymath Charles Sanders Peirce (1839–1914), best known for his contribution to logic, semiotics and pragmatism. Peirce explicitly dealt with theorizing, for example in a lecture called 'How to Theorize', delivered in 1903 in Cambridge, Massachusetts (Peirce 1903; cf. Swedberg 2012a). Theorizing is also part of his general model

for how to do science, which was based on his strong interest in natural science (for Peirce's view of sociology, see e.g. Swedberg 2011).

This general model provides a good sense not only for how Peirce viewed the way science should be conducted, but also for his idea that it is imperative to develop and draw on different habits of thinking during the different phases of a scientific inquiry. You start out by intense observation, according to Peirce. You continue with this till you are surprised; and the surprise comes from finding something that should not be there according to the current state of scientific knowledge.

The next step is very different. You now have to come up with an idea for what explains the facts that caused the surprise – what Peirce famously calls abduction. This is the most difficult and sensitive part of the whole research process, in his view. You cannot, for example, come up with an idea for an explanation just by thinking very hard or by drawing on existing knowledge. What you are after, he says, is something *new*, something that does not yet exist.

The only way to get an idea is to somehow access the less conscious parts of your mind (e.g. Peirce 1929). The key is therefore to train yourself to become better at reaching into these parts of your mind; and to turn this type of thinking into a habit. To get access to the subconscious parts of your mind, you need to do things like relax and daydream, according to Peirce. When you do this, you will also be helped by the fact that the human mind is preprogrammed to deal with two most important problems that face human beings: reproduction and survival.

Peirce insists that an abduction is only useful on two conditions. First, it must be possible to test it empirically; and second, the test must be successful. The testing part is called induction by Peirce. This stage is preceded by deduction, during which the researcher tries to deduct hypotheses to test from the original idea or abduction. The three steps in Peirce's model are thus: *abduction*, *deduction* and *induction*.

I have found Peirce very helpful in my own work on theorizing, and when I have a problem I usually try to see what he has to say. Peirce is, for example, very helpful when it comes to approaching difficult topics, such as causality, the nature of an analogy, and the like. His advocacy of more visual thinking is also very suggestive.

When you want to deal with a very difficult issue, Peirce says, you should proceed as follows (Peirce 1997: 205–7). You first write down all the arguments in favor of a certain position; and then do the same with the counterarguments. When this has been done, you try to figure out what the truth is and what method you need to use to reach it. You then repeat this procedure something like three times, with some time in between. Once this has been done, and if you continue to struggle with the problem every year for a period of some 6–12 years, you will acquire a very solid view of the problem. The reason for

proceeding in this laborious and time-consuming way, Peirce repeatedly says, is his own '*stupidity*' (1997: 206–7; emphasis added). I mention this statement about stupidity by Peirce to indicate that theorizing can be a very humbling experience because of the difficulties involved.

The solid type of knowledge you develop, if you follow Peirce's advice, is exceptionally useful to have. But once you face a specific problem and need to come up with an abduction, what else should you do apart from trying to somehow access your subconscious? There does exist one other way to proceed, according to Peirce, and that is to use your capacity for *visual thinking*. You do this, he says, by translating your problem into a very special type of visual representation, namely, a diagram of the type that allows you to work out a solution (see Peirce 1906; Swedberg 2015). This is how scientists often proceed, according to Peirce.

Another person who is inspiring when it comes to theorizing is Wittgenstein. The central theme in his work is that we need to better understand the role of language in human affairs. This is also something that it is absolutely crucial to be good at if you are to theorize well in social science. Related to this, you have to observe how people use language in a very careful way (e.g. Gert 1997). In Witttgenstein's view it is also important to hold off on the analysis till you have sufficiently observed what is going on. '*Don't think but look*!' (Wittgenstein 1953: 66e; *emphasis added*).

Once the stage of observations is over, you need to find an explanation for your phenomenon; and Wittgenstein's way of writing mirrors this search in an interesting way. While philosophers and social scientists typically only present their conclusions, and the logic that informs them, Wittgenstein proceeds differently. He first of all tries to attack a problem from many sides – from the front, from the side, from whatever side that will let him move forward. All of this is recorded in his texts, and in a such a way that his thinking is nearly made visible to the reader. Note also that this way of proceeding allows Wittgenstein to move forward and theorize more effectively. Another interesting quality of his theorizing style of writing, is that it can only be fully appreciated if the reader is willing to enter into Wittgenstein's way of thinking and to work with the problem he is struggling with.

Here is a typical statement by Wittgenstein that needs to be developed by the reader:

> People nowadays think that scientists exist to instruct them, poets, musicians, etc. to give them pleasure. The idea *that these have something to teach them* – that does not occur to them. (Wittgenstein 1980: 36e)

We can learn certain things from artists, Wittgenstein says, but does that also include things that help us to theorize better? I would argue that this is the case; and I can see that a dialogue between artists and social scientists would be very helpful. Both social scientists and artists, for example, observe very carefully

what they want to represent. Do their ways of proceeding, once the phase of observation is over, differ in some fundamental way? Or do they have some things in common (as e.g. suggested in Goodman 1976)?

It can be argued that the insights about theorizing that can be found in the work of Peirce and Wittgenstein are of a general nature, and do not only fit sociology but also many other sciences. This is true. But there also exist sociologists whose work is of direct relevance for theorizing just in sociology. One of these is Everett C. Hughes (1897–1983), best known for his fieldwork and for being the successor of Robert Park as the leader of the Chicago School.

Hughes wrote nothing on theory, and his comments on theorizing are scattered throughout his work. This has created the impression that he had no interest in theory (e.g. Becker 1998: 1–3, Shils 2006: 52). This, however, is wrong. It is true that Hughes was scornful of what went under the heading of 'theory' in sociology. Hughes, however, had trained himself as a theoretician, namely by reading Weber and Simmel; and over the years he developed his own, very subtle version of sociological theory. In many ways this type of theory is close to what has been called theorizing in this paper; and it basically consists of practical advice for how to use theory when you try to make sense of empirical data.

Besides Hughes' writings, there also exists one other source of information for his ideas on theorizing. This is one of Hughes' students, who early realized that Hughes was trying to develop a very special and practical kind of theoretical knowledge. His name is Howard Becker; and the book in which he presents Hughes's view of theorizing is called *Tricks of the Trade* (1998).

From working with Hughes on various research projects, Becker got an opportunity to see him in action. According to Hughes, a sociologist should for example always take what powerful people say with a great deal of reservation ('*doubt everything anyone in power tells you*' – Becker 1998: 91). Sociologists know that power makes you see things from a biased perspective; but what matters when it comes to theorizing, is to formulate insights like this in the form of practical guidelines – as Hughes here does. It should be added that this particular piece of advice is also important for another reason: it shows how a topic like power can be worked into the theorizing project.

Hughes was of the opinion that in order to handle theory well in empirical research, you basically need two kinds of knowledge. You first of all need to develop what Hughes calls 'the sociological eye' (Hughes 1984). This type of knowledge has to be very deep, so deep in fact that you can draw on it without hardly thinking. If you can instinctively zoom in on what is social – interactions, structures, groups, institutions and so – you have the sociological eye.

The second type of knowledge that a sociologist needs to have, according to Hughes, is concepts. Like many sociologists, he seems to have been more interested in teaching students concepts than to present them with full theories. According to Hughes, it is important to know a pretty large number of concepts if you want to be good at sociology.

Hughes also said that you do not need to have a very deep knowledge of these concepts. It is enough to have a general sense of what they are about. One way to acquire this type of light knowledge is to study the index of a book. Students also respond more positively to concepts that are somewhat loose in their formulation, according to Hughes, than if they are rigorously defined.

The work of C. Wright Mills also contains some very valuable advice for those who are interested in theorizing. There is first and foremost the important appendix to *The Sociological Imagination*, which is called 'On Intellectual Craftmanship' (Mills 1959: 195–226). It contains a somewhat different approach than *Tricks of the Trade* to the kind of knowledge you need to have, in order to theorize well. Like Becker, however, Mills gives the reader advice on how to do things that are eminently practical in nature.

The Sociological Imagination is a classic and often referred to in a very positive way. The targets for Mills' anger – Parsons, Lazarsfeld and their students – are by now all gone; and few sociologists these days feel that the book is aimed at their way of doing sociology. This is also what you would expect, but what is truly strange is that amidst all the praise for Mills' book, practically no sociological attention has been paid to its central them: *imagination*.

As it turns out, imagination is not very much studied in the other social sciences either, psychology included. There are many reasons for this, but the point I want to make here is that in order to theorize well you need imagination. You need to know what imagination is; you need to cultivate it; and if you have to turn it into a kind of habit à la Peirce. According to Sartre, imagination allows us to get a sense for that which is not, for that which does not exist (Sartre 2004). This is a very broad definition, but helpful in the sense that when you do research and are surrounded by facts, you need to somehow make sense of it all; and imagination is one of the few tools that helps you to do that.

There exist several other interesting ideas about theorizing in the work of Mills. One of these is his notion of what makes a work into a classic in social science (Mills 1960). The interesting answer that Mills gives is the following. What makes a theory truly classical is its capacity to inspire researchers to create new theories with its help. Classics like Marx, Weber and Durkheim have inspired many new theories. According to Mills, another sign of a classic is that even if the new theory turns out to be wrong, the classical theory is not refuted or finished by this. The reason for this is that it still has the capacity to inspire others to theorize and invent new theories.

Another person whose work on theorizing I find inspiring is James G. March. His most important contribution can be found in a work, co-authored with Charles Lave, called *An Introduction to Models in the Social Sciences* (1975). It can be described as a textbook in theory construction, addressed to students in social science in general, not just sociologists.

The style in which *An Introduction* is written was consciously chosen by the authors to make the students learn to theorize. The students are often told to

stop reading, and not to proceed until they have answered some questions that the authors consider important to address in order to take the next step towards a solution ('***STOP AND THINK***'). The reason for this, according to the authors, is what they call Gresham's Law of Study. Reading, they say, drives out thinking. It does this because it represents a well-known intellectual technology that we all master, while thinking is much harder to engage in and also to measure.

What March and his co-author particularly want the students to learn is how to *speculate*. In order to produce good social science, they argue, it is crucial to know how to speculate – to guess, to imagine, and to come up with new and strange ideas. It is crucial to be logical and consistent, but it is not enough. You also have to know how to speculate. '*Speculation is the soul of the social sciences*' (Lave and March 1975: 3; *emphasis added*).

An Introduction is intended as 'a practical guide to speculation'; and it is centred around models and their use (Lave and March 1975: 2). The authors believe that the best way to teach students how to theorize is to make them familiar with a small number of standard models in the social sciences. They also try to teach them the logic behind these models, so that the students will be able to use them in new circumstances. Lave and March focus on a handful of well-known models that deal with topics such as diffusion, choice and adaptation.

It can be argued that by using Lave and March's approach you run the risk of not teaching the students how to construct a model on their own, but only to apply a number of standard models (e.g. Sorensen 1978). There is a certain truth to this charge. It is also true that theorizing with models comes with certain risks. There is sometimes a tendency, for example, for modelers to ignore the role of sociological concepts and also to fail to link up the model properly to the sociological tradition.

On the other hand, model building has its advantages. A model typically attempts to cover the full process of some phenomenon, as expressed in one clear statement, with full transparency about the way in which its parts interact. It is also often possible to experiment with a model and see if something interesting happens when its logic is pushed to the limit.

The last source of inspiration for theorizing that I have found very valuable is cognitive science. During the last couple of decades the interdisciplinary field of cognitive science has developed very quickly and generated an impressive number of insights. Sociologists have not made much use of these, which is a pity. Sociology has, of course, its own stable foundations; and there exists no reason to replace these with cognitive science. In fact, sociology is often needed to correct the tendency in cognitive science to ignore context and also to be universalistic.

But it is also clear that sociologists have failed to address a number of topics that are important to theorizing, and that cognitive scientists have already been working on for several decades. Two of these topics are concepts and analogies. Cognitive scientists have also developed some important insights in other areas

where sociologists are active but have not been particularly innovative. Studies of meaning, memory and emotions are some examples of this.

Before saying something about these advances, it should also be noted that according to many cognitive scientists human beings have an inborn capacity to explain (e.g. Gopnik and Meltzoff 2000). This capacity follows an inner course of development during which it also interacts with social reality in a complex way. Theorizing, it would seem, is part of this capacity.

While sociologists typically cling to the classical theory of concepts (or the idea that a concept must fulfill sufficient and necessary conditions), cognitive scientists have established that this theory cannot explain how concepts are actually being used. In short, the theory of language games and similar theories in cognitive science are better at capturing what is going on than the classical theory (e.g. Laurence and Margolis 2011). What the consequences of this are for the construction and use of *scientific* concepts, is, on the other hand, a topic that needs to be better understood.

Cognitive scientists have also for quite some time tried to understand how human beings use analogies and what these are like (e.g. Gentner 2003). What exactly is taken from one topic (the so-called *source*); and what happens when it is applied (*mapped*) to another topic (*the target*)? Much experimental work has been carried out on analogies; there also exists cognitive-historical research on how someone like Maxwell tried to solve theoretical problems with the help of analogies (Nersessian 2008).

Sociologists study emotions, and so do cognitive scientists. They do this in somewhat different ways, however; with cognitive scientists being more interested in the biological dimension, and sociologists in their flexibility and variation. Damasio and others have, for example, established that something essential is missing from human beings whose brains have been damaged in the areas that control the emotions (Damasio 2003). This suggests that emotions play a role in everything that human beings do, including thinking and theorizing. We need to better understand the role of emotions, in short, to better understand theorizing.

Ever since Weber sociologists have also been interested in the topic of meaning; and there now exists a huge sociological and anthropological literature on this subject. Little analytical work, however, has been carried out on the theoretical structure of meaning, which is a very difficult topic. It is also a very important one since meaning is central to human existence and what differentiates important parts of the social sciences from the natural sciences.

Cognitive scientists sometimes work with a nearly behaviouristic attitude to meaning, but there are also exceptions. There exist today a few cognitive scientists who do research on meaning (see e.g. Gärdenfors and Johansson 2005; Gärdenfors 2013). The importance of pointing at things, and in this way attract the attention of others to something, is, for example, currently being explored. It has also been established that if you understand the meaning

of something, it will be easier to remember it. The human capacity to fill in missing parts of cognitive patterns is another interesting area of research.

Memory represents yet another area where theorizers can learn from research in cognitive science. It also takes us to another topic, namely the educational dimension of theorizing. The reason why the two sometimes overlap is that theorizing primarily draws on a special type of practical knowledge; and this knowledge stands and falls with the ease with which it can be learned and remembered.

While it is generally acknowledged that cognitive scientists have not developed the science of learning that many hope for, some of their results are very interesting and can be used to improve educational practices. One of these is that you learn more if you do the learning in different environments and do not remain in one single place, even if it is your own study or favorite place in the library (e.g. Carey 2014: 61–2). Another insight is that if you want to teach students something like five different types of X, they will learn this better if you discuss all five at the same time, instead of first discussing one, then another, and so on (see e.g. Brown, Roediger III and MacDaniel 2014: ch.3). A third result is that repetition is not the most efficient way to learn, but *retrieval* (e.g. Brown, Roediger III and MacDaniel 2014: Ch. 2). If you want to remember something, you should not go back to your book and read your underlinings; you should instead be patient and try to recall what you have read by walking back, so-to-speak, in your mind.

Concluding remarks

I would consider this paper to be a success if it makes the reader feel that theorizing should be high on the agenda for sociology today, and especially so if she also feels encouraged to work on her own capacity to theorize. Theorizing is a very personal enterprise, in the sense that it is something that everyone must do for themselves. Theorizing, in brief, has a distinctly existential dimension. It is also very democratic in the sense that you should in principle not let anyone theorize for you. The reasons for this are similar as the ones that Kant advance in his well-known argument why you should not let anyone think for you (Kant [1784] 1970).

But theorizing, to repeat, is also a collective enterprise. The issues that it raises are collective in many senses. They are, for example, often very difficult, and you therefore need the input of many people, and this over time. You also need advances in many different areas, from epistemology to education, and much more.

Some of the tools of theorizing are also collective in the sense that you need to interact with others in order to become more skilled in your own use of them. Educational practices fall, for example, in this category. How are we to

develop useful exercises for theorizing that can be used in classes if not through a process of collective trial-and-error? You first have to design the exercises, then use them, then re-design them based on what happens when they are used, and so on.

More generally, it is true that much of what needs to be done in the area of theorizing is still waiting to be done. The number of topics that have to be addressed, if theorizing is to really get off the ground and be successfully institutionalized, is huge; and surely not the task for a single individual. Every sociologist needs to be able to theorize, and the more people who realize this, the quicker the project of theorizing will advance. And the more interesting social science will become!

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