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Unscientific Science and the Insignificance of "Significance": James, Kuhn, and Flyvbjerg

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The contemporary ideal is a pan-hygienic world: a world in which all contacts between men, and between men and their world, are the result of foresight and manipulation. School has become the planned process which tools man for a planned world, the principal tool to trap man in man's trap. It is supposed to shape each man to an adequate level for playing a part in this world game. Inexorably we cultivate, treat, produce, and school the world out of existence.

—Ivan Illich (2000), *Deschooling Society*

But we call the poet inactive, because he is not a president, a merchant, or a porter. We adore an institution, and do not see that it is founded on a thought which we have. But real action is in silent moments.

—Ralph Waldo Emerson (2004), “Spiritual Laws”

Introduction: The Tyranny of Practice

This essay is a call to reconsider how we think of the categories of “theory” and “practice” in education and the vital pathway to knowledge and understanding that lies seemingly neglected in the humanities and arts. What I offer in the pages to follow is an invitation to interrogate the social science approach of wielding theory into practice as the primary pathway to knowledge and a challenge to trouble our seemingly limited interpretations of what constitutes theory and practice in an intellectual push to practice theory in education.

As a philosopher of education, I have become used to getting ribbed by remarks like, “you philosophers, you just make everything up.” I once presented a paper, which has since been published by *Studies in Philosophy and Education* (Rocha, 2012), making an analytic comparison between compulsory schooling and preventative war. Afterwards, I overheard a complaint unrelated to the details of my argument: a social scientist was upset that I did not have any data, just a philosophical argument. Lacking quantitative or qualitative research data to support my argument, the social scientist found my analysis flimsy, unscientific, and untethered to “practice,” too theoretical. By making a cogent argument, but failing to “do” more than that, I had somehow violated an unwritten rule about what counts as knowledge. It seems that the operative assumption in education is that theoretical concepts must be distilled into practice, and the best (and most lucrative) route is through social scientific studies, preferably quantitative ones. There is something significant about statistical claims that arguments or descriptions or rigorous conceptual theories inherently lack, for whatever reason. This focus on applied data is a powerful hegemonic assumption.

In this essay I will use a notion of social science writ large. There are many reasons that will arise in the treatment itself, however, the most important one is that social science, regardless of quantitative, qualitative, or mixed methodologies, asserts itself on and as the same scientific epistemological authority. While clarity will require a particular focus on one case or another, I do not mean to depart from this general category of the collective social sciences. While there may be a great deal of debate within the social sciences, there is at least the implicit consensus that what they are doing is science, not art or humanistic research.

Also, while the reader will surely want a precise description of what the terms ‘theory’ and ‘practice’ refer to, I will resist offering succinct definitions. There are no neat and tidy definitions that convey the actual thing in question. A very limited, provisional definition of theory and practice would be to point out the distinction between concepts and percepts: abstract, conceptual objects that only exist in conceptions of mind (like $1+1=2$) would belong to the theoretical and concrete, perceptual ones that exist materially (like the chair I am sitting in) would belong to the practical. This is not to say that practice can be reduced to a purely materialist or physicalist position, but it does seem to emphasize the concrete. It is my hope that the analysis of the three principal sources will offer some clarity to the terms and their relationship. The intellectual history, in both chronological scope and specific relevance, of the three sources to follow form a very modest genealogy of sorts, and invite the reader to consider my viewpoint in light of the analysis to be found there. Particularly relevant will be the thought of William James, who in many ways contributed to the present notion of practice in his theoretical work in the pragmatist tradition. In the end, the question of credibility will not be a scientific one, but instead something more like aesthetics. The reader is invited to consider the taste, attunement, and overall balance of the viewpoints to be found here, which might insert something slightly new or different into the present discussion, for further circumspection and deliberation. In contrast to my more critical reading to come, I would agree with Kuhn (1996) that, in discussions of epistemological paradigms, “These are the arguments, rarely made entirely explicit, that appeal to the individual’s sense of the appropriate or the aesthetic” (p. 155).

I am not a social scientist. The structure and flow of my prose should reveal that to most readers. This negative identity helps defines me within my field and my current institution. I have a negative identity in that I am the exception—the only non-social scientist in an entire school of education and human development. The answer to why this negative identity is the case is intimately related to the alarming exile of the arts and humanities as legitimate routes to forming our collective cultural imagination, from schooling and education to politics and governance. For this reason, then, I offer three readings

of foundational ideas as treated in William James's *Talks to Teachers On Psychology* (1912), Thomas Kuhn's seminal—and now 50-year-old—*Structures of Scientific Revolutions* (1996) and Bent Flyvbjerg's (2001) apologia, *How Social Science Can Matter Again*. A critical examination of these texts yields support to the assertions I have begun and will continue to make, and, hopefully, give some credit to the idea that education is in desperate need of a more rigorous sense of what is significant and worthwhile—beyond the disciplinary gaze of social science.

Readers may note that my sources seem “dated,” which means that the scrutiny of science has already begun through a need to address the relevance of sources that range across one-hundred, fifty, and just over ten years old. While mathematicians still struggle over the question of whether math is discovered or invented, a question that oscillates between Plato and Kant, social scientific research moves at a much quicker, albeit more disposable, pace. However, if social science wants to make sense of itself reflexively, it will not do so on the authority of recent sources. When the disciplines try to understand themselves, they all turn to philosophy, at least some extent. This is the notion of the *philosophia perennis*: the perennial philosophy, the immortal (or at least very hard to kill) questions. When neuroscience seeks clinical approaches to anesthesia it must rely on recent studies and scholarship; however, when it wishes to investigate the fundamental question “What is consciousness?” neurological studies may not find anything more recent than Rene Descartes in the 17th century. This essay will be no different in this respect; that the questions are not recent does not mean they are outdated. Some questions do not come with an expiration date. While one may want to ensure that the academic conversation is contemporary and relevant for serious reasons, there are also good reasons to ensure that academic dialogue is perennial and durable enough to justify itself in the first place.

The sources I have chosen represent a progression across three general questions: What is action? How do we as humans observe and know things? What is social science? The first two sources are original in their historical and intellectual import; the third is derivative, but draws upon important original sources; my discussion in the third instance will focus on the latter original sources, not the former derivative concerns.

James: Action in the Widest Sense and Invincible Blindness

There is little doubt that an active, almost functionalist, sense of things is central to understanding William James's philosophy. Understanding James's (1912) theory of mind begins with the notion that “mind is primarily a verb” (p. 274)—the notion Dewey (2005) made famous later in *Art as Experience*. For

James the mind is dynamic and cannot, therefore, be understood under the static terms of a traditional noun. This conception of mind has driven an action-centered interpretation of James, Dewey, and pragmatism in general. However, this interpretation often takes for granted what is meant by the term ‘action.’ I will begin by arguing, that, without a rigorous examination of the meaning of action, there is very little done to advance a substantial understanding of James, or pragmatism, or the notion of “practice.” Furthermore, in educational research, clarifying this question—the question of action—might begin to complicate the relationship between theory and practice, leading us forward into deeper questions of the philosophy of science (via Kuhn) and the validity of social science (via Flyvbjerg). James advocates for “action in the widest sense” (p. 13) a notion of action that forces us to imagine a much wider and deeper horizon for what counts as action. This sense of action is an important starting point. The task this interpretation presents for the educational imagination might be to question the merits of narrower articulations of James, education, and more.

In *Talks to Teachers on Psychology*, James (1912) begins by describing “the stream of consciousness” (p. 9). What he means is this: “in each of us, when awake (and often when asleep), *some kind of consciousness is always going on*” (p. 7, emphasis in original). This somewhat unconscious description of consciousness is crucial for understanding Jamesian psychology because, for James, consciousness—and even attention—is predominantly involuntary. After describing this mostly involuntary stream of consciousness, James begins a commentary on action and behavior.

In chapter three, James (1912) describes the “Child as a Behaving Organism.” He argues that a child’s behavior “has two functions that are obvious: (a) it leads to knowledge, and (b) it leads to action” (p. 11, enclosures mine). When he describes the second function (action), James reminds us that:

You must remember that, when I talk of action here, *I mean action in the widest sense*. I mean speech, I mean writing, I mean yeses and noes, and the tendencies ‘from’ things and tendencies ‘toward’ things, and emotional determinations; and I mean them in the future as well as the immediate present. (p. 13, emphasis mine)

James then goes on to tell teachers that, “You should regard your professional task as if it consisted chiefly and essentially in *training the pupil to behavior*;” but—lest one begins to think that James was a behaviorist—he goes on to add, “taking behavior, not in the narrow sense of his manners, but *in the very widest possible sense*, as including every possible sort of fit reaction on the circumstance into which he may find himself brought by the vicissitudes of life” (p. 12, emphasis mine). What James means by action, and behavior, is defined by his radical empiricism that demands that a principle of wideness always be taken into account. This brings us to the paradoxical nature of James’s conception of

action: *action in the widest sense*. This wide sense of action is excessive; always more than what can be located in our relatively small voluntary space of attention; more than what we can experience in present-tense time and localized space.

What James means by 'action' is obviously not limited to present, external, or even material, movement or utility. It is not simply the sense of things that seem to be obviously "active" to us from a conventional, narrow understanding of the word 'action.' While conventional actions are included in what James means by action, it is a fundamental mistake to think that, for James, conventional interpretations are *all* of what is meant by action. Such a narrow view directly violates his principle of "action in the widest sense." For James, action is not the external movements of our bodies or the purely "practical" applications of our mind, pure and simple. James's sense of action is big and overflowing, full of imagination and potentiality.

Again in his *Talks to Teachers*, following the previously quoted passage on action, James (1912) blurs the line between action and inaction, between theory and practice. He writes, "As I talk here and you listen, it might seem as if no action followed. You might call it a purely theoretical process, with no practical result. But it *must* have a practical result. It cannot take place at all and leave your conduct unaffected" (p. 13). This apt description might give some pause to what is usually considered to be action-based and of practical worth.

In the same chapter, James (1912) makes a further distinction between "the practical" and "the theoretical ideal" (p. 11). James brings this up in order to discern which of the two functions of the child (practice or theory, action or knowledge) is "more essential" (p.11). James's response is a movement away from what philosophers have viewed as most important—that is, the use of the intellect in lofty, theoretical affairs—towards the popular view: the use of the mind to effect our practical lives (i.e., thinking as an ordinary occurrence in daily life).

His objection here is not an outright rejection of metaphysics or immateriality—after all, the final decade of his life is mostly spent teaching and writing on metaphysics, religious experience, and even human immortality. Instead, James argues that the theoretical disposition that values ideal knowledge above practical reasoning is just too narrow. According to James, a purely theoretical disposition is not wide enough to accommodate the "the incidental *excess of function* that necessarily accompanies the working of every complex machine" (p. 12). Ideal knowledge is a real thing, but it is much too narrow to account for the wide complexity of human experience that occurs and mediates at both the conceptual and the perceptual level. It violates the principle of wideness.

James does not discard the theoretical for the practical outright; he simply notes that one offers more space to accommodate the "excess of function" than the other, but both have their truth. This "excess" is the complexity of

consciousness and the pluralistic world that he repeatedly refers to as “the flux” throughout his oeuvre. It is the only scale that can capture everything that is simultaneously at stake in any given circumstance.

This “excess” is precisely what makes us “blind” according to James (1912). It is, “the blindness which we are all afflicted in regard to the feelings of creatures and people different to ourselves” (p. 113). Elsewhere, James (1917) calls this an “invincible blindness from which we suffer” (p. 48). James is simply noting that one does not see the full excess of things: one cannot presume to know, understand, or account for everything at once. What this leaves us with is a profound sense of the mystery within James’s sense of action. The necessary blindness human persons cannot overcome prevents us from narrow designations of action. “Action in the widest sense” cannot be narrowly invested in what is seen and done in the present; it must include all of the aspects of the flux. Action, then, is an activity of everything, a radical plurality of the universe, including the things of which one knows or feels nothing about. This is why when James (1987) asks us to “dive back into the flux” (p. 951), this request is neither a retreat into Platonic metaphysics nor a rejection of metaphysical curiosity outright. Instead, it is a call to a very real and aesthetic notion of action: to action wide enough to accommodate the flux in its totality that includes both theoretical ideals and practical reasoning as potent things that must have any whatsoever effect on our conduct. We must consider both the actual and the possible—and beyond.

The question that remains and lingers is whether this active call to face the flux is a worthwhile thing to do in education. If it is, as I think it is, then one might begin by reconsidering the popular distinction between theory and practice. Surely James would ask us to think of educational practice in its widest sense. What would that be like? What would it require? And how would anyone know? These questions take us from pragmatism and philosophy of education to epistemology and the philosophy of science. Kuhn’s (1996) work helps to address this leap, and so I turn now to consider theory and practice in light of Kuhn’s arguments about the nature of science and scientific thought.

Kuhn: What Does Science See/Know?

A fundamental reason Kuhn (1996) finds no resolution to scientific paradigm disputes, through appeals to neutral observational evidence or otherwise, seems rooted in what he has to say about sensory perception and its epistemological consequences—what one sees and how that affects what one can know. I will describe this position as straightforwardly as I can and then offer my own thoughts on the matter. In the end, I hope to reach a point where this Kuhnian discussion about the paradigms of normal science melts away and

reveals what seems, at least to me, to be the simpler question, namely: How does one observe and know things? I begin with Kuhn on sensory experience.

While using the terms “structures” or “paradigms” of science rather interchangeably, Kuhn (1996) does not conceptually separate them from the agent of science, the scientist. This point is preliminarily important since it might seem a bit odd to devote time to questions of human perception and knowledge when, at first glance, it may seem that Kuhn is discussing *scientific* revolutions, not human ones. This purely scientific interpretation would be a misunderstanding of Kuhn. That is, it is not at all clear that Kuhn separates human experience from the experience of normal or revolutionary science. At the very least he is also, additionally, talking about the scientist. This convergence, even congruence, between scientific structures and scientists is most clear in his emphasis of a scientific community and human consensus during his consideration of Gestalt psychology experiments that are cases of human perception, pure and simple, and his argument over the death of a paradigm as the literal, physical death of the scientists who hold to it.

In the first paragraph of chapter ten there is a clear instance of Kuhn’s (1996) interchangeable use of science and the scientist. He writes:

Examining the record of past research from the vantage point of contemporary historiography, the historian of science may be tempted to exclaim that when paradigms change, the world itself changes with them. Led by a new paradigm, scientists adopt new instruments and look in new places. Even more important, during revolutions scientists see new and different things when looking with familiar instruments in places they have looked before. It is rather as if the professional community had been suddenly transported to another planet where familiar objects are seen in a different light and are joined by unfamiliar ones as well. Of course, nothing of quite that sort does occur: there is no geographical transplantation; outside the laboratory everyday affairs usually continue as before. Nevertheless, paradigm changes do cause scientists to see the world of their research-engagement differently. In so far as their only recourse to that world is through what they see and do, we may want to say that after a revolution, scientists are responding to a different world. (p. 111)

What is important in this passage is Kuhn’s progression from science to scientists, from a general conception of science to the agents of science that comprise it. This is a subtle move, but it is a crucial one for Kuhn. He does not fully or wholly separate the whole from the parts. It follows, then, to at least consider that when Kuhn refers to science, revolutions, paradigms, and so on, he is not so far from discussing basic human sensory experience. Taking up this point will be the primary basis for this move from science to the scientist, from the subject of science to the *subject* of science.

Furthermore, Kuhn certainly offers a fresh evaluation of widely held assumptions about the function and nature of science; however, he is rather ambivalent regarding the more basic and fundamental questions of sensory experience as they relate to the problems of scientific revolutions. A careful student of the intellectual history of science, Kuhn treads softly on one of the classic questions of modern philosophy: What is the nature of things we perceive and/or conceive? Do we observe something that is simply there (a la Plato et al.), or is the object that we perceive “there,” at least in part, as a function of our own perception (a la Kant et al.)? Kuhn is most explicit in this regard when he writes:

But is sensory experience fixed and neutral? Are theories simply man-made interpretations of given data? The epistemological viewpoint that has most often guided Western philosophy for three centuries dictates an immediate and unequivocal, Yes! In the absence of a developed alternative, I find it impossible to relinquish entirely that viewpoint. Yet, it no longer functions effectively, and attempts to make it do so through the introduction of neutral language of observations now seem to me hopeless. (p. 126)

What seems particularly notable in this passage is the rather agnostic stance that Kuhn (1996) takes regarding the traditional viewpoint held by empiricism and its application to the “paradigm-determined” experiences of the scientist. In other words, there is not a clear or certain departure from the traditional empiricism Kuhn sets out to trouble. Noting this ambivalence is not to emphasize anything other than the fact that Kuhn is being very careful about this important question in at least one clear respect.

At the same time, however, Kuhn also seems to assume that the experience of the scientist is somewhat different from that of traditional human sensory experience, albeit for alternative reasons not given—or even, perhaps not realized. But these experiences that seem so bound up in whatever paradigm is en vogue at the time are still deeply sensory. We cannot avoid the ocular sense of Kuhn’s notion of science/scientist: “The scientist can have no recourse above or beyond what he sees with his eyes and instruments” (p. 126). These ocular, observational limits of the scientist are said to be just the reverse of the perceptive resources of the ordinary observer. Kuhn argues that in the case of seeing the classic duck/rabbit, the looked-at-thing (the rabbit/duck, or least the line, shape, and color) is just that: it is observed as a thing outside the senses (see Figure 1). It is the object of the subject’s gaze. What is crucial is to realize that, for Kuhn, there is something of a “transformation of vision” that occurs, a metamorphosis from ordinary observer to a scientific one. The entire passage reads as follows: “Only after a number of such transformations of vision does the student become an inhabitant of the scientist’s world, seeing what the scientist sees and responding as the scientist does” (p. 111).

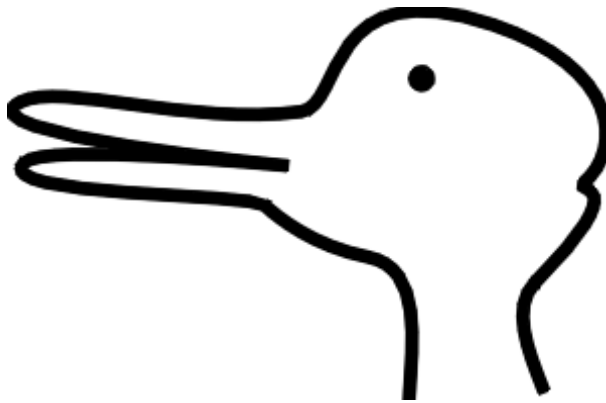


Figure 1. Duck/Rabbit Drawing.

These passages show that Kuhn not only seems to equate science with scientists and assign a visual priority in such a way as to beg the question of what scientists see as opposed to nonscientists, he also quite clearly makes a stronger claim: that the scientist inhabits a different world altogether.

In the world of the scientist, however, Kuhn's point is that there are not things to be looked at—no rabbits, ducks, nor what have you. In this case, the scientific gaze is entirely bound by the supreme authority of its sight: the seer, through a set of very nuanced anthropology of science, creates the things it sees. There is no recourse to an external object to be looked at. There is only the sovereignty of one's senses governed by the worldview of the paradigm. In other words, for Kuhn, in science, unlike ordinary observation, there are no neutral observable facts. This is what Kuhn means when he again speaks of differing worlds: "the proponents of competing paradigms practice their trades in different worlds" (p. 150). There are no "man-made interpretations of given data" (p. 126). This places an obvious tension between the eyes and instruments through which one sees things that are given and the view of the world articulated by the paradigm of science of the fully developed scientist.

For this reason, according to Kuhn, when disputes arise between scientific paradigms there can be no appeal to looked-at-things precisely because those kinds of things do not exist in the sensory experience of the scientist pure and simple. In taking this hard turn against what began as a hesitant statement about the validity of traditional empiricism, Kuhn distinguishes between the experience of the world in everyday life, on the one hand, and in the laboratory, on the other. What is troubling about this distinction is that it rests upon a self-admitted non-existent rebuttal of traditionally sensory account of empirical observation and, still, reverses or at least muddies the relation between the observer and the thing observed. We might finally also ask the most obvious reflexive question of how he came to observe these things.

Given Kuhn's (1996) approach to describing sensory experiences in the scientific worldview, it follows that the historical changes that do occur are not gradual or cumulative. In other words, knowledge does not build up and reconstruct itself into different ideas, theories, and movements. Instead, knowledge exists in a finite life cycle that is almost biologically replaced generationally as young people with new ideas replace the old ideas and antiquated knowledge with new ones.

Kuhn quotes from Max Planck's *Scientific Autobiography* to make his point. Planck is quoted as saying, "a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually dies, and a new generation grows up that is familiar with it" (Planck, as quoted in Kuhn, 1996, p. 151). This conception of epistemological change—that is, how knowledge is preserved and affected over time—is fixed within the idea that scientific observation has no objects to be seen, no looked-at-things, and, therefore, no preserved epistemologies, paradigms, or worldviews. This is the theory-laden world of science that the scientist creates and inhabits, a world set apart, so it would seem, from the other world of ordinary observations. The worlds are split along the divide of something like "theory" and "practice."

Having briefly described the empirical reversal that Kuhn employs to describe the difference between normal and scientific sensory experience and the even briefer hints at the epistemological consequences, consider the objections that follow.

First, it is important to wonder why Kuhn (1996) fails to reconcile the traditional "Yes" answer to the question "Are theories simply man-made interpretations of given data?" (p. 126.). Why does Kuhn, after the erudition and rigor of his study, remain an agnostic on the big, enduring question? This unsettled issue also warrants troubling his plunge to assert that, in science, things are not given to sight in the same way as they are given in other experiments of human sensory perception. And, again there is the reflexive consideration: how is one to know what kind of view Kuhn is employing and what world it belongs to? It seems that he has some kind of object to which he is referring. He does not seem to be forcing his own paradigmatic worldview upon the things he wants to manipulate. It is highly suspect when one puts Kuhn's own methodology into question to find any reversal of the traditional understanding, which is unsettling when considering his book at even greater length and depth. Where, I wonder, do the things the scientists "see" go if they are not given to the observer in some way? Here one begins to see the possible reversal of theory into practice: practice into theory. This reversal, of course, is not static, fixed, or permanent. It is cyclical, as Kuhn's key term 'revolution' reminds us. Nonetheless, practice also must be rendered into theory, into thoughts, concepts, and their governing assumptions and necessary and sufficient conditions.

At the same time, it is important to take Kuhn's point to a certain extent. What is troubling, and at the same time instructive, is that his point polarizes science from ordinary experience. One could certainly also argue in the opposite direction that the ordinary observer of a given thing is not seeing a completely fixed and neutral object. Yet, while one might refer to the prescriptive lines and things that "make-up" the object, one cannot distinguish between those things in order to understand how we humans perceive and experience the world without begging the question.

Second, while epistemological concerns in general are hard things to understand, historically or otherwise, it seems especially difficult to follow-through with problems of Kuhnian empiricism and apply them to a plausible epistemological continuum. The chief difficulty is metaphysical: when the world is split (or multiplied) in two, it becomes very difficult to comprehend. While the merits of his points are especially appealing to me in his emphasis of the human element, the aesthetics and sentiments that rule the day, nonetheless, from my view, the needs of what seems to be an overstated empirical distinction between science and ordinary observation are too much for any reasonable epistemology to sustain. And, of course, epistemological *predictions* are more properly magical than theoretical in real life. There is no causal connection that can be verified with certainty and the explicative order is always limited. This is why all positivistic claims are described using probabilities, not certainties.

At the center of these two issues, I think the greatest point is that Kuhn's project of describing historico-theoretical details of normal science and scientific revolutions is too set apart from the normal and the revolutionary. That is, while Kuhn is not speaking as a structuralist about science, pure and simple, he also does not consider the scientist to be an ordinary human being. Instead there is a kind of mutation between a structural account of historical genealogies and archaeologies (à la Michel Foucault, who himself was neither a structuralist nor a post-structuralist entirely) and the humanist account of the free, intentional, observing agent.

It is the mutant thing—the scientist as someone who is a free observing agent and an instrument of science—that I find most difficult to believe. After all, are not these scientists human, too? If so, then, how exactly do they shed skin so easily from one form of observation to another one? Kuhn (1996), in perhaps the most critical, yet erudite, account of science in the last century, suffers from a similar oversight that can be found in the common sense of "theory into practice": dividing knowledge into the two empirical worlds of the ordinary and the scientific. In other words, when theory is put into practice, what is lost is not only the theoretical, but also the practical world. The result is, at least in this analysis, a rather impractical metaphysical dualism, that creates the questionable problem

of putting theory into practice. In other words, one need not assume that theory and practice can ever be divided in the first and last place.

But my description of the scientist is, at this point, too generic. The scientist I am trying to understand and interrogate is a *social* scientist. I now turn to Flyvbjerg (2001) for that, perhaps more articulate, investigation into this domain of *social* science, writ large.

Flyvbjerg: Social Science, Searching for Genealogy

There is an immediate objection to be acknowledged: thus far, my objections may, despite my introductory aim at social science writ large, appear to be leveled primarily at positivistic, quantitative social science research. Why, then, would I focus detailed attention to a theoretically informed study of social science that lends itself more properly to qualitative social science research? The answer is quite simple: the exercise of rendering ideas into statistical results is itself a very clear example of putting “theory into practice,” and the critiques of positivism are well known and widespread (see Phillips & Burbules, 2000). In cases of qualitative research, however, the example is not quite as clear. One might take this lack of clarity as reason to suspect that the issue is not as general as I have made it seem, that the social sciences are not quite as closed to theory as it may appear in a field dominated by quantitative methods and studies. By focusing on perhaps the most generally oriented and theory focused book published on the matter in the past twenty years, I will show that even when theory is engaged with rigorous primary sources, there is still an inertia that draws social science to instrumentalize theory for the sake of applications it was not originally intended. This same argument could be made by comparing the philosophical movement of logical positivism and the foundations of probability theory in the philosophy of mathematics, or by looking at differences between the phenomenological methods expressed by the philosophical tradition of phenomenology from Husserl to the present and its various applications in social scientific research. In this section, I will focus on one such example: genealogy, a representative sample of a theoretically rich research methodology employed in social scientific studies.

Flyvbjerg (2001) describes “genealogy”—a foundational part of qualitative and ethnographic social science research—as something that Michel Foucault took from Friedrich Nietzsche’s exhortations to carry out new histories that had yet to be written. Flyvbjerg writes: “It is one thing, however, [for Nietzsche] to point out that such work needs to be done; it is quite another [for Foucault] actually to carry it out” (p. 113, my enclosures). In other words, Foucault carried out the genealogical project that was pointed out by Nietzsche. This is, presumably, because Foucault gives attention to particulars: the

psychological ward, the construction of knowledge, and sexuality. However, when one reads Nietzsche's own description of genealogy in *Genealogy of Morals* (1992), one realizes that the project is not simply a matter of particulars or even one of "pure" genealogy. Nietzsche writes of the particular as "something detached, an isolated question mark" that for the person who attends to it with time and effort, "a tremendous new prospect opens up for him, a new possibility comes over him like a vertigo... finally a new demand becomes audible" (1992, p. 457). In other words, the particular is not important for its own sake and indeed, without the proper ascetic dispositions and practices, is quite unrewarding, even frustrating. What particularities yield is not an expression from, or of, their own concreteness. The particular moves our own general beliefs and understanding. In other words, there is not a necessarily clear connection between particularity and practice.

What Nietzsche (1992) is driving at here, that both Flyvbjerg and Foucault seem to miss, is not some kind of methodological key or map or compass for doing history or what have you. It is a principally a form of art and a deeply personal one at that. This art, however, is not a purely particular or concrete form of questioning. Nothing could be clearer than this. Nietzsche offers a genealogy of "morals" (as opposed to more "particular" topics) not, as Flyvbjerg (2001) suggests, because of Nietzsche's own limitations as a historian. To the contrary, Nietzsche seems to think that genealogy must always bring to mind the values, desires, goods, and evils of morality that become the limits of knowledge. Read Nietzsche's "new demand" for genealogy carefully:

Let us articulate this *new demand*: we need a *critique* of moral values, *the value of these values themselves must first be called into question*—and for that there is need of a knowledge of the conditions and circumstances in which they grew, under which they evolved and changed a knowledge of a kind that has never yet existed or even been desired. (p. 457, emphasis in original)

Nietzsche's call is hardly some kind of concrete or particular methodology, much less a call for new social science methods outright. At the heart of his critical exhortation is the need to uncover the (im)possible by calling the value of values into question. For example, we cannot solve problems until they have been sufficiently vetted as problems. This essay is largely motivated by the genealogical sentiment that the problem that "theory into practice" is set out to address may not be a problem at all, that we has misidentified the problem and misvalued the value of social science. In other words, Nietzsche's call is not to question a particular significance here or there but, more radically, to call the very notion of significance into question and remain open to the insignificance of the "significant." Furthermore, something that does not yet exist or even become

desired is not a concrete, particular thing that one can use, as Flyvbjerg (2001) puts it, to “locate history” (p. 115).

For Nietzsche (1992), genealogy begins with exegesis—reading as art—as opposed to a more scientific reading and deciphering (p. 459), kin to Kuhn’s distinction between scientific and non-scientific forms of observation. Not only this, but Nietzsche also exhorts the reader not to neglect Zarathustra and the most basic need he recalls from that book: “rumination.” Books cannot be simply mined or fracked for content, they must be carefully cultivated and assimilated, like eating. He writes:

To be sure, one thing is necessary above all if one is to practice reading as an art this way, something that has been unlearned most thoroughly nowadays—and therefore it will be some time before my writings are “readable”—something for which one has almost to be a cow and in any case not a “modern man”: rumination. (p. 459)

It should be clear that what Nietzsche meant by “genealogy” was not a simple historiographic concern for particulars; it was a much deeper sense of how to read or ruminate and, from that point, the ascetic process to fulfill the “new demand” (p. 457). How this happens was never carried out in any systematic or methodical way, largely because that would undermine the “new demand.” Nietzsche intentionally posits this new demand as a tension between thinking and reading deeply into a text and resisting any effort to systematize over operationalize that reading in repeatable concrete ways. What Flyvbjerg and most social scientists conducting genealogy seem to forget is this: Nietzsche was perhaps the greatest *critic* of modernity and, with it, modern science—the precise historical progression that motivates Kuhn. It should bring some pause to those who would easily adapt his original programme into a method for fulfilling the modern project par excellence, science. Genealogy, for Nietzsche, was surely not a qualitative or social science research method. If anything Nietzsche saw genealogy as an art.

Flyvbjerg (2001) might agree with all these points and still argue that, in Foucault, one finds the particular method and the research that Nietzsche’s earlier version lacked. However, anyone relatively familiar with Foucault’s body of work knows that his interests were not simple, particular, or concrete either. For example, in *Genealogy of Morals*, Nietzsche gives a (if not *the*) classic genealogy of what he calls *ressentiment*: the psychological state that accompanies the inversion of real value in Christian morality (e.g., poor over rich, last over first, weak over strong). In the same way, Foucault’s genealogies of madness, knowledge, sexuality, and discipline were not purely historical accounts either.

In the preface to the English edition of *The Order of Things*, Foucault (1994) mentions the need for human science to use “different levels and different

methods” (p. xiv). Even when he concludes the book by generalizing on the basis of what he calls a “relatively short chronological sample within a restricted geographical area – European culture since the sixteenth century...” (p. 386), his point is not to study these things genealogically or historically in a strict or linear sense. Foucault’s point was to offer the reader something to ruminate on and, from there, begin to fulfill the “new demand.” That is why both Nietzsche and Foucault not only offer sweeping details of history, but also give exegetical readings of literature, philosophy, current events, political circumstances, and more.

The very idea that Nietzsche or Foucault were “researchers” in the way that term is used today in social science is inappropriate if reduced to too narrow an interpretation. These were metaphysicians railing against metaphysics; Nietzsche and Foucault were not racing for applications of their genealogy. While social science that is attentive to theory seems quite invested in converting their work into practice, one might wonder whether they saw this conversion as a proper or possible end of their work. They both seemed quite satisfied with the work itself of trying to get to the bottom of things. So, one finds that Flyvbjerg’s (2001) account is mistaken, or at least underdeveloped, on genealogy insofar as it ultimately is more interested in the instrumental, derivative use of it as “science” than in its original conception and purpose.

Interstices: Deschooling Science?

So we return to where we began, with the notion of theory into practice. It is characteristic in discussions of schooling, business, and politics to hear this truism, and nowhere is this more prevalent than in schools of education, teacher education programs, and the institutional teaching and learning efforts of higher education. The ubiquity of putting theory into practice seems to be approaching self-evidence. It has become common sense, which also means that it no longer needs to voice its own defense. Theory into practice as a concept has no recent detractors in educational literature; it has become its own hegemonic ideal.

This saying yields a soft hammer, a gentle reminder that theory must always be “grounded in practice” in order to be worthwhile—and profitable. It seems harmless enough at first glance; however, those who work in an academic institution probably know that this is more than a harmless attitude. It has teeth. I will not try and argue that the *saying* is harmful. I want to take issue with what the slogan ultimately *shows*: the way theory into practice has evolved into a powerful modern ideology, with devastating and widespread consequences in and out of the academy.

The common sense of theory into practice is a powerful and dogmatic position that distorts both theory and practice. On the one hand, theory is elevated

above the practical and becomes an inflated, empty routine of intellectual self-aggrandizement. On the other, practice is externalized and becomes the end for all thinking: the redeeming anchor that grounds (and disenchant) the imagination. In short, the ideology of theory into practice draws and quarters the world into a binary.

The hegemony of practice has infected the groupthink of many places that directly affect our lives in and out of academia. The effects are not just mental or psychological. They are also emotional, cultural, and spiritual. The ideological commitment to subordinate thinking to practice not only devalues thought; it also affects our valuation of feeling, becoming, and transcendence. In misplacing the head under the authority of the hand, the heart, the public square, and the soul are forgotten. This is the inversion that Nietzsche, and by extension Foucault and Flyvberg, was working against. An incessant focus on practice strips theory of its fundamental power to enlighten and extend thinking and knowledge to new forms of awareness.

For example, the quiet, but altogether well-known and ongoing, loss of the fine arts in schools and society-at-large is a cultural torture that is not unrelated to the tyranny of practice in our lives. The practice of art is not what is at issue here, it is, rather, the dignity of that practice: the practice of the imagination, of thinking, of theorizing—the practice of theory. These contemplative pursuits and indulgences are unlikely to buy us groceries, create more miserable jobs, or increase standardized test scores or performance measures. At least not in a way that would satisfy the “practitioners.”

The tyranny of practice has become a major occupational hazard for academics whose scholarship primarily engages intellectual activity within others. This kind of scholarship does not produce concrete intellectual objects such as statistical models or descriptive summaries of human behavior. Philosophical and other humanistic approaches to education are being rapidly displaced (Arcilla, 2002; Bredo, 2005) within schools of education and even more so in the influence of educational policy. In the US, there is no elementary or secondary curriculum that teaches philosophy. Instead there are social-scientific approaches more suited to feeding the theory into practice machine, such as the growing emphasis on STEM as a defining boundary of meaningful knowledge. In colleges and universities, one sees more and more business students while enrollment in the arts and humanities dwindles, the most radical case being the recent consideration of charging humanities majors higher tuition in the state of Florida, prompted by governor Rick Scott. *The New Times* put it most directly: “The message from Tallahassee could not be blunter: Give us engineers, scientists, health care specialists and technology experts. Do not worry so much about historians, philosophers, anthropologists and English majors” (Alvarez, 2012, December 10).

This emphasis on “concrete” educational outcomes occurs in profound ways. Consider the role of statistics in the study of education. The reasons are not so different from the popular peddling of research on the news and elsewhere. Another example in education has been the development of the assumption that educational policy and curricula ought to be “data driven” and “research based” in order to be serious, valid, and worthwhile (Stanovich & Stanovich, 2003). This focus on data as the basis for educational policy speaks to the scientific dogmatism that has brought humanistic, theoretical, artistic, and other non-social scientific approaches to the study of education to the very brink of extinction. Many qualitative social science researchers feel this pinch too, especially when they apply for funding, but their losses seem minimal compared to the absence of the foundations of education in schools and departments of education, especially the history and philosophy of education (Kerr, Mandzuk, & Raptis, 2011).

The results also extend well beyond the academy. School textbooks, curricula, and policies are justified on the same, scientivistic logic. Social science by and large drives the engine of educational curriculum and policy, from K-12 to higher education. The rise and dominance of educational psychology—an applied sub-discipline of social psychology, the field once referred to as “child study”—in education is a key sign of this trend, as it relies almost entirely upon quantitative social scientific statistical metrics.

The Atlantic recently ran a story by Christopher Shea (2012) about Uri Simonsohn, a social psychologist at University of Pennsylvania who questioned certain methods and findings coming from his field’s top journals. His work was described as form of academic vigilantism and it got two people fired at. The original [article](#) (Simmons, Nelson, & Simonsohn, 2011) argued that “false-positives” are abundant to a degree that threatens the integrity of social psychology as a discipline of academic study. The authors stated outright, “it is unacceptably easy to publish ‘statistically significant’ evidence consistent with any hypothesis” (p. 1). The original article went on to consider objections and provides a list of [tips](#) for improving and safeguarding the research of their field, but the educational implications remain unstated and unexamined. As I read it, I was struck by how many well-known practices in educational research were included in his study: sample size shortcuts, data doctoring after the fact, and anything else that will yield an effect that meets the P-value criteria of the journal in which you want to publish.

There is also the usual case that different journals and fields follow different standards of rigor for P-values and replication and so on, extending into theoretical rigor and thorny politics of what constituted a rigor in the first place. It is well known among educational psychologists that journals in social psychology have relatively higher standards for statistical significance than their educational counterparts, even if, unsurprisingly, there is a haunting silence about

it. If the credibility of social psychology is in such dire straights, as the authors argue (Simmons et al., 2011), what does one make of educational psychology and the entire field of educational social science for that matter? Considering the hegemonic influence of this research in schooling policies and curricula, this should be very alarming to some, but perhaps it is a blessing in disguise? Perhaps it is something of a phenomenological invitation to return to the things in questions, without the fear tactics of scientivism lurking. Perhaps we can all admit to “making things up,” with better and worse reasons and arguments and data and (non)sense and pleasure and beauty and life.

Some parting thoughts, some theorizing

THINKING, thought, contemplation, creative imagination—all of these words that describe the same reality—are wildly active. That is what having an active mind is all about. Thinking is dynamic and deeply practical (if by ‘practical’ one means the usual sense of the term, related to action). PRACTICE, praxis, action, and practicality are not thoughtless. Nor are they final. Practice is surely not an end in itself.

In many ways, practice is a tool for theorizing. Action sometimes stimulates thought just as thought occasionally informs action. Or, to put it normatively: action *ought* to stimulate thought just as thought ought to inform action. Perhaps more.

At the very least, one should also be asking how practice meets the standards of imagination, vision, dreams, and other beautifully creative ways of thinking. How does practice conform to and ground itself in theory? Are theory and practice real things that one could point to here and over there as one would point to bananas and oranges in a fruit bowl? Do they even exist?

Things have not always been this way. Not only is schooling-as-we-know-it a historically recent, modern invention, but even more so is today’s obsession over the constitutive role of science in pedagogy. In 1899, James (1912) wrote these words:

I say moreover that you make a great, a very great mistake, if you think that psychology, being the science of the mind’s laws, is something you can deduce definite programmes and schemes and methods of instruction for immediate school-room use. Psychology is a science, and teaching is an art; and the sciences have never generated arts directly out of themselves. (p. 6)

The fact that the fundamental assumptions of social science has called, can, and must call itself into question is, hopefully, encouraging. Especially when it occurs in a publication that primarily relies in social scientific research. But in the end it is only circumstantial. The more serious and grave problem we are

facing is that the art and craft of teaching and the mystery of education have been replaced by fragmented and institutionalized sciences of schooling. This fundamentally aesthetic problem cannot be ignored or allowed to go unnoticed. This essay is, first and foremost, a plea and an invitation to attend to this shared predicament we face.

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