

THE PROBLEM WITH PROBLEM SOLVING

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Abstract: Little has been written about the ontological nature of problems and problem solving in interdisciplinary studies, and yet problem solving is one of the central features of interdisciplinary theory and practice. This essay begins a discussion of how we might think about problems and how to solve them. Consideration is given to the objective, subjective, and constructed nature of problems, to Foucault's critique of problematization, Certeau's notion of everyday practices, and Deleuze's approach to problems, which involves the event. The problem with problem solving is its tendency not to wonder about what problem solving is, or what it might become if we just think about it.

Introduction

In my contribution here, I wish to address some theoretical issues at work in problem solving. Specifically, I wish to point out that the problem with problem solving is what I see to be insufficient understanding of the nature of problems. More accurately, I want to begin a discussion about how we regard ourselves as problem solvers. If we can entertain Popper's aphorism, "All life is problem solving" (1999, p. 100),¹ as ringing some truth, then as living people we ought to pay closer attention to the nature of problems and of problem solving. And if we might entertain another notion, that problem solving is not always what it is thought to be, whether simply or complexly, then we ought to consider that as well. In any case, these two possibilities should not be thought about separately.

Interdisciplinary thinking has traditionally been directly connected with problems and problem solving. Problem solving is part of most definitions of interdisciplinarity (Repko, 2008, pp. 11-12). And yet problem solving has

been discussed primarily as a *process*. This has been expressed by a number of scholars generally as the “interdisciplinary process,” or more specifically as the “interdisciplinary research process” (Repko, 2008), or as a “decision-making process” (Newell, 2007). Rick Szostak (2002) offers a good summary of the conversation on the interdisciplinary process, which began with William Newell’s review (2001) of Julie Thompson Klein’s (1990) original version of the interdisciplinary process. The process entails essentially a series of steps in matching disciplinary knowledge with a particular problem, and then deciding how to proceed through integrating potentially conflicting understandings of the problem and its possible solutions. It is, in its execution, a complex process, but little appears in these discussions that scrutinizes the status of the problem solver. In the discussion that follows from Newell’s (2001) contribution, Klein (2001) is concerned about Newell’s emphasis on complexity theory as a central feature of the interdisciplinary process. Agreeing with Newell to a point, she says, “All interdisciplinary work will be improved by more self-conscious focus on the process of integration” (p. 54). She adds, however, “The project of complexity, though, is already well underway in humanities, not in the name of complexity but the problematic of universality, objectivity, and mono-disciplinary solipsism” (p. 54). Richard Carp (2001) goes even further in his response. The problem with Newell’s approach is that it excludes the possibility of “integrative praxes” that are based upon “knowledge formations” that are not subject to dominant/Western disciplines. Carp’s response takes the discussion to another level, beyond the issue of objectivity that Klein mentions. It is cast, however, in terms of competing epistemologies, even though the effects are ontological—in Carp’s terms, they are about “living well.”

There remains a good deal to be said about the nature of problems and problem solving. Discussions generally proceed according to the epistemological divergences among disciplines, as they play out in an interdisciplinary process. As a way to approach the more fundamental issues of problems and their solvers, which have been covered in a perhaps more or less indirect way (Klein, 2005; Moran, 2002; Carp, 2001), I offer here something of a roadmap to several ways to understand problems and problem solving, some of which are not generally considered in the interdisciplinary literature. We move from fairly simple notions of objectivity to the more difficult ideas of the problem of thought itself. Along the way, I highlight the position of the problem solver and suggest that interdisciplinarians should take notice of the possibilities of these and other ideas about problems and problem solving that await them. Consideration of the nature of problems and how

they are solved can only enhance the interdisciplinary process, however it is conceived.

I shall begin, rather simply, with the nature of problems as being objective, subjective, or constructed. Our relationship with the problem could be crucial inasmuch as we identify ourselves as problem solvers. Ontologically speaking, perhaps we might say that we are what (or whom) we solve. But this level of understanding takes us only so far, resting squarely as it does on the nature of our individual relationship with problems. These different views of the nature of a problem do not bring with them any sort of transformative understanding of our problem-solving enterprise. I wish, therefore, to cast a wider net into the greater social context of problem solving by turning to Michel Foucault's critique of problematization in which the nature of problem solving is made transparent in the constitutive elements that enable problem solving to proceed. This discussion is intended less as a corrective to what one might refer to as instrumentality via reflexivity,² and more an offering of depth and breadth that makes it more likely that we understand the importance of our ongoing struggle with an ethics of responsibility for ourselves and, of course, for the would-be benefactors of our problem-solving efforts. I then submit the critique of problematization itself to a critique, by way of Michel de Certeau, whose ideas about what he calls the "practices of everyday life" can revise our thinking about our relationship to life. In an odd sort of way, Certeau and Popper are on the same page here, although they are in profoundly different ontological waters. Finally, I turn to a brief word or two about the concept of the problem in the view of Gilles Deleuze. For Deleuze the solution to a problem is altogether off the point. Instead, the point of philosophy is the thinking itself of problems and their solutions as ongoing repetitions, and to try to insure that solutions are not in any case final. Deleuze wants to remind us that life is possible in the process of thinking difference rather than similarity. Creative problem solving, very roughly speaking, is less the point than is creative problem thinking.

I want to go through these theoretical moves in order to suggest that there are (and are potentially) many other ways of thinking and acting through the world we encounter. My brief engagement with the differences between Foucault and Certeau, and with Deleuze's thinking is meant as an illustration of what else we might wonder about as we think about our problems: about how we are tempted to overlook the problem with problem solving. In the end, I want to leave open the discussion to another day to others who would see the value of continuing this movement of thought, which is ironically at once at the edges and at the center of our general interdisciplinary problem-solving enterprise.

Given that much of what is about to appear here could be considered to be outside the normal discourse of problem solving, I want to offer a word or two in response to possible concerns. In her useful examination of the common distinction made between so-called instrumental and critical forms of interdisciplinarity, Klein (2005) explains that instrumental interdisciplinarians, as their critics often pointed out, were intent on solving problems in support of society. Critics argued that the enterprise was in fact uncritical in its support, and that what really ailed society, such as cultural and economic structures or systems of hegemony or oppression, was not at all addressed. Klein observes that this distinction is now much more tentative, 30 or 40 years on, when the social, economic, artistic, and political complexities of today have essentially mandated a more complex response. The uncertainties complicate interdisciplinary theory and practice, and the institutional presence of interdisciplinary studies research and teaching. The result is that there exists a greater plurality of thinking among interdisciplinarians, reflected in the changing Academy.

All the more reason, I would add, to notice that problem solving has become multiple in its forms. The interdisciplinarian sits uncomfortably at the center of these problems and their potential solutions. My purpose is not to return to earlier debates over the differences between critical and instrumental interdisciplinarity, nor to suggest that there is one or another better process of working through disciplinary or epistemological differences. Instead, I want to direct attention to the place of the interdisciplinary thinker who is faced with the very idea that there is a problem to solve, and to argue that the interdisciplinary thinker should take into account that there are alternatives. And more than this, my comments here are meant to suggest that a renewed conversation among scholars over problems and problem solving could refine our current understanding of existing approaches and perhaps even generate new ideas. The key, as I see it, is not simply to argue over what works best, but to understand more clearly where we fit in—our ontological status, if you like—in the interest of creating ways of meeting the challenges of our world.

The Objective/Subjective/Constructed Problem

Maurice Landry (1995) marks the distinction among three “views” of problems.³ We might see one kind of problem as being objective. The problem is the object itself, and we can refer to the problem in the passive voice. How, for example, can terrorism be ended? Here, the point of the project

would be that terror is a clearly definable entity over which the problem solvers would have control. There is no serious threat to anyone's subjectivity (such an assumption of subjectivity does not even exist). Neither the terrorists nor the people being terrorized, nor the problem solvers (we could assume they are among the terrorized) are involved. The project is a matter simply of organizing the problem in understandable terms and acting in a way commensurate with those terms. Such an approach tends to "control for" and "assume" plenty in its pursuit of a solution, regardless of how complex the issue would be seen to be.

To continue the typology, we could also identify problems as being subjective. This view takes into account the subjectivities of people involved in the problem. Now, speaking in active rather than passive voice, the example might be put: how can we end terrorism? Of course, the key figures in the project are the problem solvers themselves, so they are more or less likely to consider their own subjectivity. They might be inclined only to worry about the subjectivity of the terrorists and perhaps also the victims of terrorism, and then perhaps even the relationships between them. There could also, however, be a reflective element in which the problem solvers regard their own subjectivity as important to their project. By considering these subjectivities as important aspects of the problem, the problem solvers enter new epistemological and ontological territory. They become themselves part of the problem, and their ideas, as irreducible from their being, also require solutions.

Finally, a problem could also be thought of as being constructed. Not content with mere consideration of multiple subjectivities, problem solvers would need to understand the dynamic relationships among those subjectivities. Whereas, for example, a subjectivist view would "take into consideration" the competing worldviews or psychologies, perhaps, of the terrorists, victims, and problem solvers and note how to solve the differences, a constructivist problem solver might go further and work to understand their *ongoing* relationships. For a constructivist, problems are never really finally resolved. In our example, terrorism could never be solved as a problem. Instead, the problem would require vigilance and ongoing management of the subjectivities involved. There is a relationship between the problem and the problem solver such that one solution is likely to lead to another problem. The discursive construction of a problem is a product of the dynamic interaction among multiple understandings, agendas, practices, and outcomes. Indeed, the problem solvers themselves, to an even greater degree, are an integral source of the problem to the extent that the complex relationships

become politically, socially, or economically differentiated. In this approach things are decidedly more complicated, but the subjectivities involved are in any case themselves subject to reason and certainty, however provisionally they might be explained.

This typology of various views of problems is potentially useful when applied to the multiple levels of complexity in the problems one encounters. It might be useful, for example, to just get the job done. In that case, damn the torpedoes, a bridge simply must be built, or a bomb must be dropped, and it matters not who is the agent of such an event. Such an attitude is no doubt sometimes necessary. The objective approach, however, might do more damage than the torpedoes ever could. At this point, one might refer to subjective problem solving as being “reflexive,” thoughtful, or wise. Perhaps given time and resources, such an approach is more possible or likely. If we would only consider, for example, that a technological solution to a medical problem might have an effect on the psychological well-being of a patient, we would be better off entertaining the subjectivity of a problem. Of course, building a bridge could just as easily have subjective elements, as in, for example, building one over the River Kwai. The forward (and historical) thinking of the constructivist view is perhaps the most indulgent of the three, requiring more time and intellectual resources. It is the most consequential approach, and demands much of the problem solver. It requires no less than an ability to understand one’s relationship with one’s problem, which is easier said than done, since it can impose upon the complexity of the problem solver’s identity in unexpected and unsettling ways. This approach might be intensely personal inasmuch the problem solver’s politics, social standing, and psychology, among other things, are likely to be involved. In ways far more profound than simply recognizing subjectivity in the subjectivist view, the constructivist is faced with networks of subjectivity that cross time and space. Indeed, as we progress from the objectivist to subjectivist to constructivist views of problem solving, we encounter ourselves, and sometime we don’t like what we see, which summarizes, in short, one view of the problem with problem solving.

Foucault’s Critique of Problematization

These three approaches take us quite some distance in seeing that the nature of a problem involves problem solvers in various ways. All of the approaches, however, seem content with the context of the problem. That is, one is so far unable to see the forest (the problematization) for the trees

(the problem, problem solving, and problem solvers). The forest here is the condition of problem solving that makes the problem, and indeed the whole question of the nature of the problem, possible. We seem to want to understand how we problem solvers regard our task and ourselves, but we are so caught up in the task and in ourselves that we are unable to do much beyond the level of the problem itself.

Very late in his writing, Foucault began revising his approach to history, in which he had been attending to the history of ideas and “mentalities” (attitudes and actions). This approach was evident in his earlier work on, for example, the clinic, the prison, and knowledge. In his revised thinking he had intended to examine the history of *thought*, and to do so he would engage in a critique of what he called “problematizations.”⁴

For Foucault, the various responses to madness or discipline were simply various proposed solutions. To describe the history of thought one would need to do more. One would need to “rediscover at the root of these diverse solutions the general form of problemization that made them possible—even in their very opposition; or what has made possible the transformations of the difficulties and obstacles of a practice into a general problem for which one proposes diverse practical solutions” (Rabinow, 1984, p. 389).

This procedure is both distinct from, and constituted by, simply “defining one’s terms,” of “acknowledging one’s assumptions,” “holding factors constant,” or of “laying out the parameters” of a problem, perhaps in order to determine what sort of disciplines might best be able to respond to it. Performing such basic “preliminary” tasks might be construed as the element of problematization, but Foucault would say that they are only the result of problematization. He continues:

It is problematization that responds to these difficulties [of a practice], but by doing something quite other than expressing them or manifesting them: in connection with them it develops the conditions in which possible responses can be given; it defines the elements that will constitute what the different solutions attempt to respond to. This development of a given into a question, this transformation of a group of obstacles and difficulties into problems to which the diverse solutions will attempt to produce a response, this is what constitutes the point of problemization and the specific work of thought. (Foucault, interviewed by Rabinow, 1984, p. 389)

As a means for describing the history of thought (as opposed to ideas), for

Foucault, what is most important is that one sees problematizations not, as he had done in his previous work, as an “arrangement of representations” but as “a work of thought” (p. 390).

Soguk (1999) interprets Foucault’s intention in this way: “Problematization here, then, is a normalization—the conceptualization of difficulties as amenable and manageable problems (as in problem-solving theory) within a posited framework of practice” (p. 50). And yet at no time do the problem solvers show their hand. In fact, effective problematization (and hence problem solving) occurs when the problem itself (that is, the problem with problem solving) goes unstated. In Soguk’s discussion, for example, of refugees, problematization involves the discursive and non-discursive conditions upon which solving the problem of refugees depends. What can we (i.e., states) do about refugees? The variety of responses to this question emanates from numerous institutions, but it also emanates from a number of sometimes conflicting ideas and mentalities, as Foucault would call them.

To offer another example, the responses to Hurricane Katrina, which one would likely describe as attempts at problem solving, led to a questioning of the self-evident nature of solving the problem of natural disasters. In this example, there are a number of areas one might examine specifically but, for instance, to question the system of power between state and federal, and state and local levels is to make transparent the problem of problem solving. The “blame game” ensued and, apart from politics and polemics, that game illuminated the problematization that enabled problem solving. Problematization is about the history of thought. It is about the active performance of ideas and attitudes that establish what might otherwise be alterior, or extraordinary, to be, instead, normal and therefore within the realm of successful problem formation and solution. With Katrina, what might have been considered to be normal was suspended, made visible, and questioned.

Problem solvers might then reconsider themselves not simply (or perhaps so much) as subjects of their enterprise with varying degrees of relation between themselves and the objects or subjects of their practice, but more profoundly as one of the active participants in the production of, in Foucault’s terms, “a work of thought.” It is perhaps a very large concept to get one’s head around, given the invisibility of *this* problem with problem solving, but to do so might result in new ways of approaching the problems, large and small, that we encounter on a daily basis. The critique of problematization is, in fact, another way of viewing the problem with problem solving.

Certeau's Practices (Problems) of Everyday Life

Foucault's late self-critique is that he focused on, and described primarily, practices of power/resistance. Of course, his late self-critique was insufficient to the task, and the bulk of his work has been seen as essentialist, structural, and perhaps less than liberating from the disciplinary forces he took great pains to describe. In sum, his vision was ironically limited by the object of his research. *Foucault's* problem, in other words, is that he studied too closely the problem with problem solving. He was like Popper in this regard inasmuch as they both considered problem solving to be central, perhaps at the center, of life. Foucault was altogether critical of this notion, but as a product of his essentialization of structure on the point of problematization, problem solving became the key element in his attempt to begin a history of thought. For Popper, "All life is problem solving," and so, of course, he doesn't get past the point of the problem, but they are both worried about life in terms of problems and problem solving. In fact, Foucault's problem with problem solving is not quite this simple. I shall have more to say about this in a moment.

So far I have suggested that there are other ways of thinking about problems. We need not think of things as being part of some problem in need of a solution. Nor do things need to be conceived as being embedded within structures or systems of ideas and mentalities grounded upon problematizations. Among Foucault's critics is Michel de Certeau (1984) who counters Foucault's focus on power with, quite simply, *everyday living* that, again quite simply, cannot be consumed by power, since for such everyday life, power does not figure as being all-important.

Most of Foucault's work finds him stuck within the logic of power. Through his critique of problematization, however, his project was intended to recover the conditions upon which problem solving might proceed (the history of thought). These conditions, or foundations, are made visible, and are shown by Foucault to be uncertain and unstable. In fact, these foundations are radicalized by Foucault as being outside of logic. Understanding problematization, then, changes the entire ratio of logic. It disperses power beyond its own (modern) logic, undermining and negating it. It seems as if Foucault wants to undo everything he's been up to prior to offering his critique of problematization. Foucault wants both, it seems, to critique logic and to suggest its demise.

Certeau (et al., 1998) describes a world in which people engage in everyday practices. Among these are "walking the city," "inhabiting neighbor-

hoods,” reading, and cooking, that is, “women ‘making the earth livable.’” Rather than being done by reference to a system of power relations that, as in Foucault’s notion of panoptical logic, would be inescapable, everyday practice *moves* metaphorically. Claire Colebrooke (2001) makes this distinction. Whereas Foucault’s thinking is metonymic, Certeau’s is metaphoric. Colebrooke explains that for Certeau, the Panopticon is not simply a representation of disciplinarity, panoptical logic (indeed, the Panopticon itself) is a fundamental part of the system (structure) of discipline. For Certeau, Foucault’s analysis demonstrates networks of power relationships, which explains how Foucault argues the instability of the logic that foregrounds the system itself. On the other hand, Certeau’s everyday practices take place “in another register,”⁵ moving both with and against what one might designate as an existing dominant system of power.

I would describe the difference this way: Certeau’s practices of everyday life are movements that proceed neither simply inside nor outside the logic of any particular system, but rather as transformative of the logic itself. Foucault’s view posits a system of power as being determined by way of a logic that some would-be subjects would want to stabilize. Their performances are called practices of power. By way of problematization, they act this way precisely because they understand, often implicitly, that the system is altogether unstable. Others would want to destabilize the system in practices of resistance, for precisely the same reason. Certeau is not so sure about this. Rather than act out of concern for the system, people act poetically.

Colebrooke refers to Certeau’s metaphorical notion of “tactics.” Basically, tactics are everyday practices. Certeau differentiates tactics from “strategies,” which are at least analytically similar to Foucault’s practices of power—what is “proper” in Certeau’s explanation. Colebrooke distinguishes between literal metaphor and something more profound. Consider the literal connection between sunset and old age. One is able to make an immanent connection between the two. But more fundamentally there is the metaphor of metaphor itself. Linguistically, this means that any particular metaphor paradoxically depends generally upon the inherent instability of meaning. In terms of space and time, people are always moving. For Certeau, tactics occur in these ways. And they are, like the people who engage in them, always moving, never finally stable—tactics are practices that are transformative.

If we consider for a moment the example of Katrina, Foucault might say that the disaster presented to the world image after image, often from above

the scene of victims stranded on rooftops, for example, whose suffering laid bare the power of the State, of race, and of economics. Giroux (2006) mentions this as a basic element of biopower. Certeau might argue that the image from above might only be an indication of strategic power, but it does not say anything about the tactics in which every person on the ground engaged in order to survive. Indeed, Tabor Fisher (2008) takes Certeau another step in arguing that each person on the ground was capable of being a “tactical theorist” inasmuch as the spaces that they create themselves become a “third space” in which resistance that is neither entirely tactical nor strategic could take place. This is an interesting notion, but Certeau is perhaps already beyond that notion. Tabor Fisher remains in a world of space, whereas Certeau sees the person as poetic in movement, without reference to space.

Colebrook argues that these differences between Foucault and Certeau on this point should not be taken too seriously. After all, Certeau’s heterological tactics occur “within strategy: as an idea, invention, metaphor, traversal, or phantasm of logic [and Foucault] attend[s] to the connections, movements, distributions, and dispersions of power” (p. 572). I would agree, but there is certainly something that Certeau does that Foucault, even in his critique of problematization, cannot. Jeremy Ahearn (1995, p. 192) explains that “Certeau directs us to the unending heterological work of introducing otherness into familiar space, and of uncovering the otherness which already inhabits that space.” Foucault and Certeau are both interested in making visible and audible the alterity of human existence, but Certeau recommends an approach that is more innovative. Whereas Foucault wants to be in two places at the same time: unwittingly perhaps within (panoptical) modern logic and outside that logic in the unstable foundations of problematization, Certeau is able, through the metaphor/*poiesis* of human existence, to be in both places at the same time. It is the necessary condition of metaphor understood in this way to be so, since unlike literal metaphor it is never settled, always in the act of creative movement.

This creative movement that Certeau recommends in the practices of everyday life offers us yet another view of the problem with problem solving. And it is decidedly interdisciplinary.⁶ Interdisciplinary understand how complex problems can be, but the moment they might want to attempt to discipline the sorts of practices that Certeau describes they might also consider that such practices are likely to elude any attempt to account for them, given their transitory and migratory nature. The question of whether one ought to account for such oversight is another (perhaps analytical, ethical, political, or ideological) issue.

Deleuze and the Problem-Event

Our discussion here about the problem with problem solving is enriched through the contribution of Gilles Deleuze who connects time and thought, making it easier to think more clearly about problems as being temporal phenomena. Others are less explicit on this point.

Although Deleuze's work is immensely diverse, it is possible to discern a central notion in his thinking about problems, and yet it requires a bit more effort. Deleuze advocates a philosophy of difference and becoming. One is able to see a problem by virtue of the solutions that follow from it. For Deleuze, an event is the complex network of thought and action involved in the problem and the attempts to solve it. The process occurs over time, and it involves both the transcendent and the immanent, that is, the problem and its solutions are both inside and outside the purview, thought, and action of the people whose lives are touched by the event.

Paul Patton (1997; 2000) offers a good and simple example of how this works.

[C]olonization may be understood as a recurrent encounter between European nations and aboriginal peoples in various parts of the world. It has given rise to a variety of solutions to the same underlying problem, namely the different forms of political and legal capture which characterize colonial societies. In these terms, contemporary efforts to de-colonize the law and political institutions of countries with large indigenous populations may be understood as attempts to return to the original conditions of the problem, to "problematize" existing solutions in order to arrive at new ones. ... The Deleuzian distinction between the event proper, the pure event, and its actualization in particular circumstances, also manifests itself in a difference between the time of the event and the time of historical events. (1997, pp. 7-8)

Imagine all the people involved in the event of colonialism, both colonized and colonizer, all of whom are connected in complex ways with similar people who came before them, and, importantly, people who will come after them. The problem of colonialism entails the pure event that encompasses all of that and the particular events of colonial experience at whatever level one might want to name: global, regional, state, local, individual. It is, in Deleuzian terms, a problem-event. The interdisciplinary problem solver would be

transformed in profound ways by such an understanding—transcending the notions of what a problem is that we have covered in this essay so far, and yet bringing the problem solver into the network more directly (more immanently) as a participant in the event, cutting across both time and space.⁷

Understanding problems this way is, indeed, potentially infinitely productive, but Deleuze also has in mind the problem of philosophy, which is both an example of what we've just explained and the source of thinking of such an example. In his book *What Is Philosophy?* co-written with Felix Guattari (1994), Deleuze explains the problem of philosophy by contrasting it with the problem of science.

The problem of philosophy is to acquire a consistency without losing the infinite into which thought plunges. ... *To give consistency without losing anything of the infinite* is very different from the problem of science, which seeks to provide chaos with reference points. ... The... relative horizon is primary in science. Philosophy, on the other hand, proceeds by presupposing or by instituting the plane of immanence; it is the plane's variable *curves* that retain the infinite movements that turn back on themselves in incessant exchange, but which also continually free other movements which are retained. (Deleuze & Guattari, 1994, p. 42, italics in the original)

In this, one might think of everything since Galileo: the *raison d'être* of science being motion—understanding and organizing it. The scientist regards motion as the problem to be solved. Deleuze is happy to work with the scientist on that quest, but sees the project as finite, likely to dissolve into repetition. Deleuze sees the problem of philosophy as one of inventing new concepts that, ironically, makes the movement of thought possible. It is a philosophy of difference.

The interdisciplinarity of this point becomes clear later in the book when one understands more broadly the problem of thought. Here, in a nutshell, is what's going on in a problem-event. Thought proceeds according to three planes and their elements:

Plane of immanence of philosophy, plane of composition of art, plane of reference or coordination of science; form of concept, force of sensation, function of knowledge; concepts and conceptual personae, sensations and aesthetic figures, figures and partial observer. Analogous problems are posed for each plane. (p. 216, italics in the original)

And yet each plane remains distinct due to “extrinsic interferences” that proceed “because each discipline remains on its own plane and utilizes its own elements” (p. 217).

What happens though, Deleuze continues, when “intrinsic interferences” occur, when, for example, “concepts and conceptual personae seem to leave a plane of immanence that would correspond to them[?]” (p. 217). Planes become mixed, less easy to recognize as being separate. One might even say that interdisciplinary thinking occurs. The planes of immanence can be seen in the way they are, in fact, superimposed, and this vision/realization brings to light the chaos that separates the planes.

But the most interesting thought occurs when “there are interferences that cannot be localized” (p. 217). Deleuze says that philosophy, art, and science each have a “nonphilosophy” or “nonart” or “nonscience” that

echoes its effects. ... It is not just a question of saying that art must form those of us who are not artists, that it must awaken us and teach us to feel, and that philosophy must teach us to conceive, or that science must teach us to know. Such pedagogies are only possible if each of the disciplines is, on its own behalf, in an essential relationship with the No that concerns it. ... Now, if the three Nos are still distinct in relation to the cerebral plane, they are no longer distinct in relation to the chaos into which the brain plunges. (p. 218)

The problem of thought, then, is to create new concepts, feelings, and knowledge, either separately for each discipline, or in a unity of thought that crosses the disciplines, or perhaps more interestingly that regards the disciplines themselves as events, or even as part of an event (either abstractly in terms of thought itself, or more concretely within an event of life—colonialism, say, or Katrina, or terrorism, and so on), and then recognizes and works with the difference that is otherwise impossible to recognize. Such creation is not possible if we remain at the first or second type of “interference.” Essentially, we plunge into the chaos without disciplinary thought. What happens, then, is remarkable:

In this submersion it seems that there is extracted from chaos the shadow of the “people to come” in the form that art, but also philosophy and science, summon forth: mass-people, world-people, brain-people, chaos-people—nonthinking thought that lodges in the three, like Klee’s nonconceptual concept or Kandinsky’s internal silence. It is here that concepts, sensations, and functions become undecidable,

at the same time that philosophy, art, and science become indiscernible, as if they shared the same shadow that extends itself across their different nature and constantly accompanies them. (p. 218)

This rather extravagant plunge into the depths of Deleuzian thought was necessary to notice yet another way of thinking about problems, and solving them. Among the several approaches to problems it is perhaps the most difficult to grasp, probably because we are so deeply embedded within our various disciplines (philosophy, art, and science, to be sure, but also the specific disciplines within each of those general fields). We are simply too safe and comfortable, resting in our disciplinary easy chairs, that we resist the notion that there might be more furniture in the room—or that there might be interesting and fruitful things to do other than thinking while sitting down. Or, to paraphrase Dr. Seuss: “Oh, the thoughts we could think!”—if we could just get *moving!*

Final Thoughts

These several views of what I have been calling “the problem with problem solving” should suggest to the interdisciplinarian (teacher/researcher/writer) that there are (*and ought to be*) various ways of thinking about problems and problem solving.⁸ My purpose here has been to inspire further thinking about ways to consider one of the central projects of interdisciplinarity. Our choice of approach (or approaches) speaks to the way we understand our role as an interdisciplinarian. Beyond method, however, our choice rests upon the ontological status as problem solvers and as people who strive to understand problems.

I hope my comments here add up to an argument against the potential for complacency in our thinking. One might be objective, subjective, or perhaps a constructivist. One could alternatively entertain the possibility that such approaches are embedded within a larger framework, and that such a framework is altogether problematic. Or perhaps one might want to be more creative, and perform work that, as everyday practice or as transformative of thinking and of living, is itself unexpected and innovative beyond what the limitations of our academic enterprise can permit. Or perhaps one might even see through both the spatial and temporal boundaries of our own making into what we are disciplined into believing to be an abyss, and discover possibilities that have been until now beyond our ability to imagine, yet enabling of new and different ways of thinking and becoming. These options

are by no means exhaustive of what interdisciplinarians might do. Indeed, the way we think about problems, about how we solve them, and about how we think about how we do these things, about the problem of problem solving—indeed the problem *with* problem solving, ought never be beyond our ability to imagine the importance of our responsibility in transforming ourselves and our world.

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Notes

¹ Popper's brief chapter is a lecture he gave in 1991, a defense of technology against the Green Party. Popper's epithet flawlessly describes his thinking. It stands in complete opposition to Wittgenstein's thinking, for whom, one might say, *Popper* was the problem.

² In other words, this essay should not be taken to be a part of a debate over what does or does not count as one or another kind of interdisciplinary thinking. I might be thought at once to be conventional, pragmatic, modern, and postmodern—and none of these—because my understanding of these distinctions among approaches to interdisciplinarity is that they are sometimes useful but at other times merely discursive artifacts that might hinder productive knowledge and action.

³ My discussion here draws from Landry but recasts the ideas somewhat for clarity and in order to lay the groundwork for the next section on Foucault. Of course, the general literature on the object/subject dichotomy is immense, and there is a quickly growing literature on constructivism.

⁴ The term also appears as "problemization," but is most often referred to as problematization. See the interview conducted with Foucault by Paul Rabinow, May 1984, just a month before his death, in Paul Rabinow (1984).

⁵ Certeau (1984, p. 32, quoted in Colebrook, p. 556).

⁶ Moran (2002) explains that both Foucault and Certeau are interdisciplinary, Foucault for his examination of disciplining practice, and Certeau for uncovering the connections between systems of thought.

⁷ Rowland Curtis (2008, p. 123) quotes Deleuze and Guattari (1987, p. 387) as describing the sea as a "very special problem" whose solution is seen by the State to be its "striation." Of course, striating the "smooth" sea becomes a problem for the State as well. The endless process of State solutions is indicative of the more general State response to the movements of people. As an example of a "war machine," Hurricane Katrina introduces both kinds of problems for the State to cope with.

⁸ See also, for example, Thomas Osborne (2003). In what he calls “problematology,” Osborne moves into the realm of ethics. Larry Laudan (1996) casts his arguments about the possibility of scientific progress in terms of problems and problem solving.

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