

FOURTEEN

PROMOTING ONTOLOGICAL INSECURITY TO TRANSFORM THE GOVERNANCE OF SCIENCE

Elizabeth A. Pitts & Jessica Katz Jameson

*Transforming Conflict through Communication in Personal, Family, and Working
Relationships* (October 2016, Lexington Books)

Scholarship in organizational communication demonstrates that conflict is not only interpersonal, but institutional.¹ From this point of view, facilitating conflict transformation² requires moving away from “reliance on individual behaviors as the explanation and panacea for conflict based on human difference” towards “an understanding that acknowledges institutional influences and identifies possibilities for personal responses to those systems.”³ Put more simply, to transform conflicts that are embedded in established professional routines and identities, scholars must consider the interplay between individual action and organizational systems.

We explore opportunities for this type of transformation in the structuring of governance, which we define as “all processes of governing, whether undertaken by a government, market, or network, whether over a family, tribe, formal or informal organization, or territory, and whether through laws, norms, power, or language.”⁴ Specifically, we are interested in how, if at all, governance might be organized to intentionally disrupt the security of structured routines. The US National Science Foundation-funded program that we investigate seeks to infuse a broader variety of disciplinary perspectives into doctoral-level education in the sciences—in other words, to make the educational experience more participatory by expanding “the number of people and the types of interests, experiences, ideas, and opinions that are part of the execution of work . . .

beyond what has been traditionally thought of as necessary and sufficient to accomplish work goals.”⁵ Although it is well-documented that this type of institutionalized participation can paradoxically undermine the very goals that it was created to achieve,⁶ we hope to shed light on some qualities of those more elusive circumstances in which encountering conflict and difference can result in “the generation of radical syntheses of previously disparate ideas.”⁷

Ontological Security and Ontological Insecurity

Our explorations are framed by Giddens’ structuration theory, which highlights how actors continually produce and are constrained by structures.⁸ Communication scholarship has built upon this observation to show that communication is the medium through which organizing takes place.⁹ Thus, investigating micro-level communication processes can yield insights into the dynamic interplay of formal structures and more informal norms and routines.¹⁰ Giddens argues that routines instill “ontological security,” “a sense of trust [that] is sustained in the daily activities of social life” as individuals execute well-established routines.”¹¹ Critical research in organizational communication draws attention to the political implications of these routines, which can easily become naturalized and solidified into particular “subject engagements,” or ways of relating to difference. As Deetz notes,

“Subject engagements become routinized, sedimented, and institutionalized in practices, language, objects, and technologies. . . . When this occurs, new subject possibilities and the indeterminacy of the encountered may not arise. The contest of possibilities is lost to reproduction and conflict suppression. This gives the apparent stability of what we often call a community’s “culture.”¹²

From this perspective, the ontological security that routines instill can serve as a form of oppression by naturalizing unequal power relations and enabling them to become taken for

granted. We suggest that in some cases, disrupting day-to-day routines—an accomplishment that Giddens claims can result only from “radical disjuncture[s] of an unpredictable kind”¹³—can help to re-surface suppressed conflicts and in so doing, open up more generative ways of engaging with difference.

Although a significant amount of recent scholarship has drawn upon structuration theory, less attention has been devoted to ontological security than to other aspects of Giddens’ theories. Notable exceptions include work by Kinsella¹⁴ and Norton,¹⁵ who examine the organizing of institutional mechanisms that facilitate public participation in environmental policy-making. Both of these authors observe that to participate effectively, citizens must possess at least a minimum level of technical expertise—what Giddens calls ontological competence—and that determinations regarding what counts as competency are heavily influenced by existing power structures. Kinsella further argues that citizens “also require a broader and more critical understanding of the rhetoric and sociology of technical discourse,” and that “to achieve this goal citizens, technical specialists, and policy specialists must collaborate closely.”¹⁶

Rather than focusing on how to help citizens develop the ontological competencies needed to engage in organizing policies, we are interested here in exploring what competencies technical experts might need to engage in the types of collaboration that Kinsella proposes. We introduce the term *ontological insecurity* to describe a reflexive mode of navigating day-to-day activities that is cultivated through deliberate engagement with difference. A degree of ontological insecurity, we argue, enables individuals to critically evaluate the models of relating to difference that are being offered to them in their professional lives, and to begin envisioning how their own expertise might be complemented by alternate points of view. We demonstrate the

need for ontological insecurity by situating our research within the context of an ongoing effort to (re)organize the governance of genetic engineering.

Organizing Genetic Engineering

The organizing of genetic engineering offers a compelling case study, in part because calls for injecting greater reflexivity into processes of scientific inquiry originated with some of the same scientists who helped to launch the technology. In 1974, following a series of discussions that highlighted concerns within the molecular biology research community, a committee of leading scientists called for a moratorium on certain types of recombinant DNA experiments until further investigations could be made into “the possible unfortunate consequences of indiscriminate application of these techniques” for human and environmental health.¹⁷ Researchers around the world responded by halting their research until these risks could be considered at what is now known as the Asilomar conference, a three-and-a-half-day gathering in February 1975 that brought together elite researchers from the United States and twelve other countries.¹⁸

The Asilomar discussions were noteworthy not only for the initiative demonstrated by the conference’s organizers, but also for the ethical and procedural questions they raised with respect to conflict management and the organizing of difference. Although several conference planners were honored with the Scientific Freedom and Responsibility Award from the American Association for the Advancement of Science, more cynical observers saw Asilomar as

Not solely an instance of scientific responsibility but also of scientific autonomy, that is, as an attempt by scientific leaders to maintain control in the face of possible regulation.

In this view, Asilomar was a peremptory strike aimed at shielding science from the public and its elected representatives.¹⁹

This observation suggests a tendency among scientific communities toward the paradox of homogeneity: circumstances in which “the very unity that helps to maintain a democratic organization or give life to democratic practices also may be its limiting factor.”²⁰ On one hand, this type of consensus can encourage productive collaboration within a shared paradigm. Yet at the same time, “it can effectively stifle voices of opposition and valuable pieces of information that ought to be part of an open discussion.”²¹ As early as 1935, physician and biologist Ludwik Fleck documented this type of stifling among his fellow scientists, whom he described as operating within “thought collectives,” intellectual communities that maintain fields of knowledge and inquiry.²² According to Fleck, scientific thought collectives can emphasize homogeneity to a degree that “constrains the individual by determining ‘what can be thought in no other way.’”²³ Similarly, in *The Structure of Scientific Revolutions*, Thomas Kuhn notes that although any given data set can be interpreted from multiple theoretical perspectives, scientists rarely formulate alternate frameworks because doing so is considered inefficient.²⁴ In this sense, the development of scientific expertise leads to what Fleck called the “closure of thought,”²⁵ a severe narrowing of possible research trajectories that resembles “discursive closure,” a process through which open or inquisitive discourse targeted at problems or conflicting ideas is suppressed.²⁶ Significantly, in Fleck’s view, requiring thought collectives to engage with differing perspectives ultimately benefits the collective itself, because it leads to the emergence of creative ideas, rather than to “conservatism and rigidity.”²⁷ Similarly, Weick and others argue that engaging with conflict results in “sensemaking that is more stable and more plausible and less subject to disconfirmation.”²⁸

In recent years, scientists, policymakers, and social scientists have experimented with organizational forms that aim to encourage a greater degree of engagement with conflict and

difference. In 1988, the US government launched the Ethical, Legal, and Social Implications (ELSI) program, the first federally funded ethics program that aimed “to be critical of the very scientific research it was part of.”²⁹ Founded at the suggestion of James Watson, who shared the 1962 Nobel Prize for discovering the double helix structure of DNA, ELSI aimed to “forestall adverse effects” associated with the Human Genome Project, an international research effort to map the structure, organization, and function of all human genes.³⁰ In addition to generating important moral and practical insights, ELSI research has yielded a variety of creative, productive models of overcoming ontological and disciplinary divides.³¹ At the same time, both the field of bioethics and the ELSI program, which have become nearly synonymous over time, have been criticized for their propensity to enable, rather than substantively challenge, assumptions underlying the work of the biosciences.³² For example, in his 2003 testimony to the US House Committee on Science, science and technology studies scholar Langdon Winner argued that “The professional field of bioethics. . . has a great deal to say about many fascinating things, but people in this profession rarely say ‘no.’”³³

A structural perspective suggests that this weakness is associated with how ELSI research is organized in relation to what counts as science. As Rabinow and Stavrianakis put it, “the critical limitation of ELSI was that the authority of the ethics and social science researchers was circumscribed by their position outside of the biological research.”³⁴ The very title of the program delineates science from the implications of science, assuming these are distinct objects to be managed separately. Notably, science comes first, while implications follow; thus, once differentiated in terms of content, science and its implications are further disconnected in terms of the timing at which they are addressed. This suggests that ELSI research is subject to the paradox of design:³⁵ by positioning ethical, legal and social issues as the purview of humanists

and social scientists, it diminishes the ability of broader publics to engage with the biosciences, as well as the opportunities that bioscientists have to engage with conflicting perspectives.

An alternate mode of governance brings together representatives with different political perspectives and forms of expertise to create forums for democratic deliberation. Many of these endeavors, which range from consensus conferences to deliberative polls, draw inspiration from Habermas's contention that "democratic will-formation does not draw its legitimating force from a previous convergence of settled ethical convictions, but from both the communicative presuppositions that allow the better arguments to come into play in various forms of deliberation, and from the procedures that secure fair bargaining processes."³⁶ Deliberative engagements can take place at multiple stages in the research and development process and can aim to inform policymaking³⁷ or facilitate transformative learning.³⁸ There is empirical evidence that deliberative dialogue can enable scientists and their fellow citizens to better understand one another.³⁹ However, proceduralist approaches often adjudicate conflict without addressing power imbalances.⁴⁰ As Seifert notes, "it remains to be seen whether public dialogues are capable of seriously challenging technology policies that are, first and foremost, geared to gain a competitive edge in the global high-tech race."⁴¹

Study Context: Integrative Graduate Education

While recognizing the value of deliberative approaches to democracy, we are primarily interested here in exploring possibilities for a more agonistic model of governance that would incorporate engaging conflict and difference as part of science itself.⁴² Unlike deliberative democratic theories that tend to privilege consensus, agonistic pluralism privileges conflict as a form of social change and suggests that "political practice in a democratic society does not consist in defending the rights of preconstituted identities, but rather in constituting those

identities themselves in a precarious and always vulnerable terrain.”⁴³ From this perspective, we consider the US National Science Foundation’s Integrative Graduate Education and Research Traineeship (IGERT) program, which was founded in 1998 on the premise that “Collaborative research that transcends traditional disciplinary boundaries and requires teamwork provides students with the tools to become leaders in the science and engineering of the future.”⁴⁴ In addition to facilitating interdisciplinary research, the program aims to “facilitate diversity in student participation and preparation, and to contribute to a world-class, broadly inclusive, and globally engaged science and engineering workforce.”⁴⁵ IGERT’s launch responded to public calls from the National Academy of Sciences and the National Science Foundation to: address overspecialization and encourage versatility in graduate training in the sciences and engineering, offer funding streams that enabled student research to be less dependent upon the immediate needs of their mentors’ laboratories, increase representation of women and minorities, and instill professional and ethical skills that would be useful to those pursuing research careers as well as the increasing number of individuals considering other forms of employment, as demand for researchers began to diminish following the end of the cold war.⁴⁶ The purpose of our exploratory study was to obtain practically-applicable insights into how IGERT participants experienced collaborative, interdisciplinary research, especially in relation to the above-stated program goals.

Method

Research Participants

From 1998 until its last grant competition in 2013, the IGERT program supported nearly 5,000 graduate students located at more than 100 universities in 43 states, the District of Columbia, and Puerto Rico.⁴⁷ Average student involvement spanned two full years—a

significantly longer duration than even the most intensive deliberative engagements. In the specific program that we study, funding is available for approximately half of students to remain involved for a full three years. Thus, our research offers an opportunity to investigate longer-term engagements with conflicting views that comprise a substantial portion of graduate-level training—not only in the sciences, but also in other fields. In addition, the program that we investigate is one of the most diverse in the IGERT program’s history. While most IGERTs support trainees in a variety of science and engineering fields, this one also includes students from a much broader array of disciplines. At the time our focus group was conducted in spring 2015, the program was supporting three separate cohorts of students. Each cohort united students from a variety of disciplines, who enrolled together in four core courses that explored technical, social, and regulatory aspects of emerging applications for genetic engineering technologies, including a summer course that required students and faculty to travel together for several weeks.

Data Collection: Focus Group

We recruited graduate students ($n = 7$) and faculty ($n = 2$) to participate in a focus group interview to discuss their experience in the IGERT program. The second author, an experienced focus group facilitator, led the discussion using a brief interview guide. The conversation was guided by open-ended prompts such as “What is it like to participate in interdisciplinary research?”; “Has the experience been similar to what you expected it to be?”; and “What have you learned through this experience?”

The focus group was held in a seminar room where IGERT students typically meet, and representatives from all three cohorts participated. The first author participated in the focus group discussion as a member of the IGERT program. Graduate students self-identified with the following disciplines: Biology, Communication, Conservation, Entomology, Genetics and

Rhetoric. The faculty members represented the departments of Entomology and Biological Sciences. The focus group was audio recorded and transcribed by the first author, resulting in 9 single-spaced pages and 346 individual statements (defined as changes in speaker).

Data Analysis

Due to lack of affiliation with the IGERT program, the second author took the lead in analyzing the transcript to discover how participants defined and navigated problems in the everyday world.⁴⁸ Several steps were taken in the data analysis process beginning with a holistic read of the transcript to gain comfort with the data. Through multiple readings of the transcript, themes were generated under the broad categories of *impediments to* and *facilitators of* interdisciplinary collaboration. Themes that emerged under impediments, for example, included role conflict and geographical separation. Consistent with an inductive approach, the authors discussed the themes and refined them based on conversations about the IGERT context and previous research.⁴⁹ Final interpretations were shared with all focus group participants to provide a member check on whether the themes resonated with their experience and “to contribute to the social process in which the norms that govern the practice evolve.”⁵⁰ Participants often described natural sciences in comparison to social sciences and humanities when reflecting on their interdisciplinarity. This provided a useful context from which to identify participants’ ideas about how to engage with difference.

Results

The focus group interview revealed three barriers to and three facilitators of communication that spans disciplinary distinctions. Barriers were described as ambiguous roles and goals, conflict between connections to one’s home department versus IGERT cohort, and the geographic separation of disciplines on campus. Facilitators included the structure created by the

IGERT program and faculty, individual motivation and rewards, and the ultimate acceptance of ambiguity. The following analysis focuses primarily on themes related to how ambiguity initially served as an obstacle but ultimately opened participants to constructive engagement with conflict and difference.

Ambiguity as Challenge to Engaging Difference

Participants discussed the challenges of interdisciplinary work related to unclear goals, assumptions about others and lack of a clear identity. Participants were often unsure of the project outcome or ultimate goal:

when we first started our cohort project it was supposed to be a white paper. And then it turned into becoming the first chapter in a textbook on current, future and past methods for [disease] control. So even the product itself completely changed.

I mean we have a defining area of study that we all do. And we did, we've done neat projects together in different ways, but I'm not sure that I - know fundamentally what.

Like is there a purpose. Is there a goal that we're trying to achieve?

A second type of ambiguity was created around individual identity as IGERT participants had a hard time defining their role and where they fit in the academy:

Oftentimes you don't know what's going to be expected of you in the group until maybe, you're, not even at the first meeting, but a good ways into the project. People's roles are not clearly defined.

There are times when if you ask me to define myself I am technically a biologist but there are moments, and even chunks of time, where I feel more like an interdisciplinary scholar, but what does that even mean? When people outside of the university ask me,

you know, what do you do? I say well I study biology but it feels like such an incomplete answer. But I don't want to take the half hour it will take to actually explain it.

Participants described assumptions about other disciplines as an additional source of ambiguity:

we all had certain expectations about, oh, you study economics so you must do this, whatever that is. When actually through learning more about economics, from one of our colleagues, we learned that oh, economics is not actually what we thought it was. And I think the same is true for me, in our group, I think a lot of the other students had certain ideas about what it is that [I study].

I think as a scientist I saw this as a good opportunity on a very controversial issue to break that stereotype that scientists are only in the lab doing research.

Ambiguity also occurred due to disciplinary terminology and jargon. It took time for IGERT members to become comfortable enough to ask each other to define terms or ask other questions that enabled them to be collaborative.

If you're starting over with a new group, then you might have to redefine everything that you previously defined with a different interdisciplinary group.

If you have so many people who are so different, and if you can't coalesce around one topic or one whatever, I think it's harder to be, you know, productive enough, to be a properly functioning group.

You'll have all these discussions, you'll think you're on the same page... and I'll say something assuming that I'll get support for it, and then the person sitting next to me is like, 'oh well that's totally wrong, that's not how I feel at all.' And I feel like the rug is pulled out from under me a little. And it's like, we just talked about this two days ago,

and you felt this way and you felt this way...Whereas if I were within my own discipline I think there's a different sort of camaraderie.

There's a real lack of security. Not only, sometimes working in teams just for the same reasons that in any team that other person may not hold up their end of the bargain and you may not need things that -- it's comforting sometimes to have control.

As illustrated above, focus group participants identified the many ways in which the interdisciplinary requirements of IGERT created ambiguity that made their graduate work challenging. Yet they also described several ways the IGERT structure facilitated engagement with difference and helped students become more accepting of ambiguity. We describe these structures in greater detail below.

Transformational Organizing of Difference

Focus group participants described several ways that the IGERT program was intentionally designed to create a safe space for students to build a community and learn together. They sometimes contrasted this structure with other interdisciplinary experiences:

I knew I had the support of other interdisciplinary people, that there was that desire and that safe space to be. And to learn to be interdisciplinary. I'm taking another slightly interdisciplinary course right now - yeah, well it's interdisciplinary - it's been a lot harder because there wasn't this idea of building that tie.

One of the most important contributors to the connection among IGERT participants was their immersion into the program:

We took our trip out to California and . . . we were on the ground and we were talking to people that were on the ground and making these decisions, and I was like oh, this has value. This is actually making a change.

Somebody mentioned that we go on a trip at the beginning that helped a lot for me too. Because I mean, it was sort of like camp. You're hauling these big backpacks together, and I'm not hauling a backpack thinking about [our research focus], I'm thinking, I'm going to have to sit in a car with these people for several hours now, how are we going to do?

All participants agreed that this experience made it easier for them to ask questions:

We definitely had the working through vocabulary and that stuff, there were points -- and I can think of a couple fairly defined points where we had to do that -- but I felt like our shared experience was really the bigger, um, it was like once I, once there was a certain level of trust, it was like I feel comfortable bringing these things up or asking these questions.

We did a lot of, please stop and define. So lots and lots of just defining terms, both how they're defined within our discipline, terms and also how are we personally defining them. And how are we collectively defining them. Yeah. Lots of defining.

As illustrated above, participants' ability to ask direct questions was facilitated by a structured activity that helped them become comfortable with each other. In addition to traveling together, students described the benefits of ongoing structured interaction:

It's also just experience with lots of different interdisciplinary activities, even just sitting in the room and not being a participant. Like at the colloquium, you may pick up you know one thing out of the 60 minutes that you'll remember, but just being in the space even if you're not actively participating, just experience over and over again.

Through repeated exposure and getting to know one another on personal levels, we were able to, at least for me, I was able to learn more about what is it that motivates these

individual people, to do the work and the research that they do. And so that was, that enabled me to get a better understanding of you know the kind of research questions that different disciplines are primed for answering. Once we got a better sense of what each of us was interested in specifically within our field, we did gain a greater respect for one another as we went along.

The faculty organizers described that they learned more each year about how to structure help for students. One described the recent addition of a monthly lunch gathering to encourage IGERT students to talk across cohorts:

Lots of people have ideas, and one of the things was that people talk to each other in the cohort more than they talk across cohorts. So we now have this lunch part . . .

There was concern about whether collaboration would continue when the funding ended, and a faculty member described how having a structure has kept another interdisciplinary program going:

people have monthly get-togethers. For twelve years after the funding expired so, so far so good. So it can happen.

One of the reasons having structured activities is important is that these interactions fulfill a need that IGERT participants expressed to examine phenomena in multiple ways. These students were highly motivated by tangible and intangible goals.

Participants were drawn to the program because of their personal and professional goals, for example:

I think the interdisciplinarity was one of the huge draws for me, I'm a former teacher, and in teaching high school everything's so -- you know, I never see anyone in the [other departments]. And yet we sometimes end up covering really similar and close things.

When I came to grad school I definitely wanted to focus on one specific thing—genetics—but having this liberal arts and then ecology background, it's I think much more natural to me to think of more than one subject at a time. And this provided the environment to do that.

Some participants also described being motivated by the desire to talk across disciplines and advocate for the value of interdisciplinarity:

I was drawn to it for practical reasons in some respects. I don't even know who said it, it comes to mind that classic expression that war is too important to be left to the generals. And I feel that these things are too important or too difficult to be left up to just the biologists.

I think like the role of scientists in policy is really undefined and like where we're responsible is very undefined, and social scientists disagree on where scientists are responsible and scientists disagree on where we're responsible. So I think that's a really important role, for there to be scientists in science policy and also social scientists—but I think those conversations are really difficult.

So I think for scientists to facilitate communication, I mean, that experience or training is this program. So if you want to do better communication and get better at it, trying to talk to other people that have no experience in it, you've been doing that for several years here. My communication has definitely, I hope, improved -- talking with other people, in other disciplines.

Maybe that's part of our job, is to teach people who are skeptical what the value [of collaboration with difference] is. And over time they'll loosen up and come to appreciate it more.

IGERT students recognized the value of engaging with difference for either personal or professional reasons. This helped them push through the challenges of interdisciplinary work and learn to accept ambiguity as a normal part of the process.

Ambiguity surrounding the goals of interdisciplinary projects, individual roles on those projects, and both academic and future professional identity were major challenges to interdisciplinary work. Interestingly, all participants agreed that the uncertainty and complexity was necessary, and many described how their goals changed as a result of the IGERT experience.

I actually had kind of a crisis last year around this time where I was really feeling a little lost with where did I fit in with this and was this living up to my expectations. And I felt very conflicted, and I think part of it was just not knowing the direction and where things were going. But then, I came to terms with that by realizing that, well everyone's in that same boat. You know this is interdisciplinary. There are not these clear defined. . .

I'm like starting dissertation writing and stuff, and I'm finding all these ways where like it's changed my—the kinds of research questions I would pose? And it's not like I can go, well I had this one conversation on this one day, with you, and as a result this is the paragraph . . . I remember I was frustrated a year ago too. And now I'm like, I have so much more Zen, and I'm like, oh I see the value of that now.

My ultimate career goals are a bit more amorphous than they used to be. Because, new ideas and kinds of thoughts of possibilities have been opened up.

I'd also like to reference social issues in recommendations. Like from research . . . instead of just, these are the facts from the experiment. These are the facts but if you implement this, what are the social implications?

I think I almost needed to feel frustrated because there's a lot of promise, in such a, um, such a huge endeavor, there's a lot of hope, and maybe when it's not reaching, meeting your expectations, you get a little nervous, of where the direction's moving. But I'm happy now.

Focus Group Summary

A significant theme throughout the focus group interview was that interdisciplinary communication is challenging, but important and worthwhile. The conversation led to practical solutions for facilitating communication such as holding conversations in small groups, providing multiple types of exposure to different views and ideas, and creating a sense of community by allowing participants to get to know each other outside the traditional classroom or work environment. Yet the focus group interview also made it clear that there will be ambiguity, discomfort and uncertainty no matter how much structure is created; and further, participants agreed this struggle was an important part of their ultimate ability to truly value interdisciplinary work. They further saw the IGERT experience as having prepared them to continue to communicate across difference regardless of which professional path they took. This apparent contradiction between ambiguity as both a barrier and a facilitator supports the idea that transformation requires a disruption, or creation of ontological insecurity. While our findings are limited by a small sample of individuals predisposed to engage with difference, they can nevertheless inform ongoing efforts to facilitate normative improvements in the professional practices of scientists. We conclude the chapter with a discussion of implications for addressing the suppressed conflicts that are embedded in routinized professional identities.

Conclusion and Implications for Engaging Difference

Our findings suggest that over time, IGERT participants learned to see the routines and ways of knowing associated with their home disciplines as representing one of many potentially fruitful ways of understanding the world. For example, in speaking, students and faculty explicitly noted that they were expressing their own opinions, frequently taking pains to describe how experiences had felt “at least for me,” rather than assuming they could speak on behalf of others. Similarly, they described IGERT as a process of gradually letting go of assumptions, to the point where their primary remaining assumption was that they could expect to be challenged by ambiguity and difference. Nevertheless, they were confident of their ability to navigate future ambiguous circumstances productively, and to draw on different perspectives to generate creative ways of thinking and acting.

These findings are consistent with previous evaluations of the IGERT program commissioned by the National Science Foundation, which found that 99 percent of student trainees and 87 percent of principal investigators saw “the ability to understand both contributions and limitations of different disciplines” as “essential” in interdisciplinary settings.⁵¹ Like the individuals in our focus group, substantial majorities of other IGERT students and faculty also emphasized the importance of being able to communicate research in one discipline to colleagues in other fields, to work in diverse teams, to apply multidisciplinary frameworks and methods and to engage with non-academic audiences. In addition, principal investigators credited the IGERT program with helping to facilitate broader institutional change by fostering a diverse intellectual community for IGERT participants as well as non-affiliated students and faculty, generating new research directions for faculty and helping to re-organize long-established university structures—changes that were similarly referenced by our study participants.

In sum, participant comments suggested that their sense of security derived at least as much from the interdisciplinary colleagues who challenged their assumptions as from colleagues from their home disciplines who were more inclined to reify their assumptions. In the process, they began relating to one another not as representatives of one discipline or another, but as distinct individuals. We propose that this refusal to conflate a preferred way of seeing or knowing with a particular way of relating to others is indicative of ontological insecurity, a reflexive mode of navigating daily routines that involves conscious awareness that one's own conceptualization of things as they are represents only one of many possibilities. In introducing the concept of ontological security, Giddens drew on psychological research on the unconscious to suggest that developing routines and cultivating ontological security served as anxiety management mechanisms. By contrast, in proposing the notion of ontological insecurity, we apply a more communicative understanding of identity, which highlights that organizational members are "not only enmeshed within multiple ongoing conversations, they are also answerable to their various conversational partners" at work and at home, and accordingly, they are always navigating tensions between affiliations that pull them in different directions.⁵² As Hall puts it, identity is

the meeting point, the point of suture, between, on the one hand, the discourses and practices which attempt to 'interpellate', speak to us or hail us into place as the social subjects of particular discourses, and on the other hand, the processes which produce subjectivities, which construct us as subjects which can be 'spoken'. . . an effective suturing of the subject to a subject-position requires, not only that the subject is 'hailed', but that the subject invests in the position, means that suturing has to be thought of as an *articulation*, rather than a one-sided process.⁵³

This polyvocal conceptualization of identity is useful for our purposes because it emphasizes that individuals are capable of re-evaluating established ways of relating to difference, and formulating alternate forms of relationship. Deetz has noted that “for many scientists, a particular identity and form of knowledge have become conjoined”⁵⁴ or articulated, to use Hall’s term. This type of articulation can complicate efforts to engage with difference when people in the sciences or any other profession assume that the expertise they have developed requires them to embrace a particular way of relating to others. Because ontological insecurity involves the recognition that relational identities are contingent, rather than immutable, it helps to open up possibilities for alternate forms of engaging with difference. Transforming institutionalized routines helps to re-surface conflicts that have become suppressed and naturalized over time, enabling a broader array of ways of relating to others.

Bibliography

“About IGERT.” <http://www.igert.org/public/about>. (28 Feb. 2015).

Ashcraft, Karen. “Appreciating the ‘Work’ of Discourse: Occupational Identity and Difference as Organizing Mechanisms in the Case of Commercial Airline Pilots.” *Discourse & Communication* 1, no. 1 (February 2007): 9–36. doi:10.1177/1750481307071982.

Ashcraft, Karen, and Dennis K. Mumby. *Reworking Gender: A Feminist Communicology of Organization*. Thousand Oaks, California: Sage, 2003.

Barge, J. Kevin, and Martin Little. “Dialogical Wisdom, Communicative Practice, and Organizational Life.” *Communication Theory* 12, no. 4 (November 2002): 375–97. doi:10.1111/j.1468-2885.2002.tb00275.x.

- Berg, Paul, David Baltimore, Herbert W. Boyer, Stanley N. Cohen, Ronald W. Davis, David S. Hogness, Daniel Nathans, et al. "Potential Biohazards of Recombinant DNA Molecules." *Science* 185, no. 4148 (July 1974): 303.
- Bevir, Mark. *A Theory of Governance*. Berkeley, California: Global, Area, and International Archive, University of California Press, 2013.
- Callon, Michel, Pierre Lascoumes, and Yannick Barthe. *Acting in an Uncertain World: An Essay on Technical Democracy*. Translated by Graham Burchell. Cambridge, MA.: MIT Press, 2011.
- Canary, Heather. "Constructing Policy Knowledge: Contradictions, Communication, and Knowledge Frames." *Communication Monographs* 77, no. 2 (May 2010): 181–206. doi:10.1080/03637751003758185.
- Canary, Heather E., and Robert D. McPhee. "The Mediation of Policy Knowledge: An Interpretive Analysis of Intersecting Activity Systems." *Management Communication Quarterly* 23, no. 2 (November 2009): 147–87. doi:10.1177/0893318909341409.
- Capron, Alexander Morgan, and Renie Schapiro. "Remember Asilomar? Reexamining Science's Ethical and Social Responsibility." *Perspectives in Biology and Medicine* 44, no. 2 (2001):162–69. doi:10.1353/pbm.2001.0022.
- Corbin, Juliet, and Anselm Strauss. *Basics of Qualitative Research (3rd Ed.): Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA.: SAGE, 2008.
- Craig, Robert T., and Karen Tracy. "Grounded Practical Theory: The Case of Intellectual Discussion." *Communication Theory* 5, no. 3 (August 1, 1995): 248–72. doi:10.1111/j.1468-2885.1995.tb00108.x.

- Deetz, Stanley. "Power and the Possibility of Generative Community Dialogue." *The Coordinated Management of Meaning: A Festschrift in Honor of W. Barnett Pearce*. Edited by Stephen W. Littlejohn and Sheila McNamee. Lanham, MD.: Fairleigh Dickinson University Press, 2014, 217-34.
- . *Democracy in an Age of Corporate Colonization: Developments in Communication and the Politics of Everyday Life*. Albany: State University of New York, 1992.
- Fiorino, Daniel J. "Citizen Participation and Environmental Risk: A Survey of Institutional Mechanisms." *Science, Technology, & Human Values* 15, no. 2 (April 1990): 226–43.
- Fischer, Frank. *Democracy and Expertise: Reorienting Policy Inquiry*. Oxford: Oxford University Press, 2009.
- Fisher, Erik. "Lessons Learned from the Ethical, Legal and Social Implications Program (ELSI): Planning Societal Implications Research for the National Nanotechnology Program." *Technology in Society* 27, no. 3 (2005): 321–28. doi:10.1016/j.techsoc.2005.04.006.
- Fisher, Erik, Roop L. Mahajan, and Carl Mitcham. "Midstream Modulation of Technology: Governance From Within." *Bulletin of Science, Technology & Society* 26, no. 6 (December 2006): 485–96. doi:10.1177/0270467606295402.
- Fleck, Ludwik. 1981. *Genesis and Development of a Scientific Fact*. Phoenix ed. Chicago: University of Chicago Press.
- "For Prospective Students." <http://www.igert.org/public/about/for-prospective-students> (28 Feb. 2015).
- Frederickson, Donald S. "Asilomar and Recombinant DNA: The End of the Beginning." Pp. 360 in *Biomedical Politics*, edited by Kathi E. Hanna. Washington, D.C.: National Academies Press, 1991. <http://www.ncbi.nlm.nih.gov/books/NBK234217/>. (28 Feb. 2015).

- Galtung, Johann. 1996. *Peace by Peaceful Means: Peace and Conflict Development and Civilization*. Thousand Oaks, CA: Sage.
- Gamse, Beth, Lorelle Espinosa, and Radha Roy. *Essential Competencies for Interdisciplinary Graduate Training in IGERT*. Prepared for the US National Science Foundation. Abt Associates Inc., 2013. <http://www.igert.org/documents/546>. (28 Feb. 2015).
- Ganesh, Shiv, and Heather M. Zoller. "Dialogue, Activism, and Democratic Social Change." *Communication Theory* 22, no. 1 (2012): 66–91. doi:10.1111/j.1468-2885.2011.01396.x.
- Giddens, Anthony. *The Constitution of Society: Outline of the Theory of Structuration*. Berkeley: University of California Press, 1984.
- Habermas, Jürgen. "Three Normative Models of Democracy." *Constellations* 1, no. 1 (December 1994): 1–10. doi:10.1111/j.1467-8675.1994.tb00001.x.
- Hall, Stuart. "Who Needs 'Identity'?" Pp. 15-30 in *Identity: A Reader*, edited by Paul Du Gay, Jessica Evans and Peter Redman. Thousand Oaks, CA.: SAGE Publications in association with the Open University, 2000.
- Hurlbut, J. Benjamin. "Reimagining Responsibility in Synthetic Biology." *Journal of Responsible Innovation* 2, no. 1 (January 2015): 113–16.
doi:10.1080/23299460.2015.1010770.
- "IGERT Mission and History." <http://www.igert.org/public/about/history-and-mission>. (28 Feb. 2015).
- Jasanoff, Sheila. "Constitutional Moments in Governing Science and Technology." *Science and Engineering Ethics* 17, no. 4 (2011): 621–38. doi:10.1007/s11948-011-9302-2.
- . *Designs on Nature: Science and Democracy in Europe and the United States*. Princeton, N.J.: Princeton University Press, 2005.

- Kinsella, William. "Public Expertise: A Foundation for Citizen Participation in Energy and Environmental Decisions." Pp. 83-95 in *Communication and Public Participation in Environmental Decision Making*, edited by Stephen P. Depoe, John W. Delicath and Marie-France Aepli Elsenbeer. Albany: State University of New York Press, 2004.
- Kirby, Erika, and Kathleen Krone. "'The Policy Exists but You Can't Really Use It': Communication and the Structuration of Work-family Policies." *Journal of Applied Communication Research* 30, no. 1 (January 2002): 50–77.
doi:10.1080/00909880216577.
- Kuhn, Thomas S. *The Structure of Scientific Revolutions*. 50th Anniversary ed. Chicago: The University of Chicago Press, 2012.
- Mease, Jennifer. "Teaching Difference as Institutional and Making It Personal: Moving Among Personal, Interpersonal, and Institutional Constructions of Difference." Pp. 151-71 in *Reframing Difference in Organizational Communication Studies: Research, Pedagogy, Practice*, edited by Dennis K. Mumby. Los Angeles: SAGE, 2011.
- Mouffe, Chantal. "Deliberative Democracy or Agonistic Pluralism?" *Social Research* 66, no. 3 (Fall 1999): 745–58.
- . *The Democratic Paradox*. London; New York: Verso, 2000.
- Mumby, Dennis K., ed. *Reframing Difference in Organizational Communication Studies: Research, Pedagogy, Practice*. Los Angeles: SAGE, 2011.
- Myskja, Bjørn Kåre, Rune Nydal, and Anne Ingeborg Myhr. "We Have Never Been ELSI Researchers – There Is No Need for a Post-ELSI Shift." *Life Sciences, Society and Policy* 10, no. 1 (April 2014): 1–17. doi:10.1186/s40504-014-0009-4.

“National Science Foundation Research Traineeship (NRT) Program (nsf14548).”

<http://www.nsf.gov/pubs/2014/nsf14548/nsf14548.htm>. (27 Feb. 2015).

Norton, Todd. “The Structuration of Public Participation: Organizing Environmental Control.”

Environmental Communication: A Journal of Nature and Culture 1, no. 2 (October 2007): 146–70. doi:10.1080/17524030701642546.

Olufowote, James Olumide. “A Structural Analysis of Informed Consent to Treatment:

Societal Evolution, Contradiction, and Reproductions in Medical Practice.” *Health Communication* 23, no. 3 (June 2008): 292–303. doi:10.1080/10410230802056404.

Rabinow, Paul, and Gaymon Bennett. “Human Practices: Interfacing Three Modes of

Collaboration.” Pp. 263-90 in *The Ethics of Protocells*, edited by Mark A. Bedau and Emily C. Parke. The MIT Press, 2009.

<http://mitpress.universitypressscholarship.com/view/10.7551/mitpress/9780262012621.001.0001/upso-9780262012621-chapter-14>. (28 Feb. 2015).

Rabinow, Paul, and Anthony Stavrianakis. *Demands of the Day: On the Logic of*

Anthropological Inquiry. London: University of Chicago Press, 2013.

Reshaping the Graduate Education of Scientists and Engineers. National Academy of Sciences,

National Academy of Engineering, Institute of Medicine, 1995.

<http://www.nap.edu/catalog/4935.html>. (28 Feb. 2015).

Seifert, Franz. “Diffusion and Policy Learning in the Nanotechnology Field: Movement Actors

and Public Dialogues in Germany and France.” Pp. 67-82 in *Shaping Emerging*

Technologies: Governance, Innovation, Discourse, edited by Kornelia Konrad,

Christopher Coenen, Anne M. Dijkstra, Colin Milburn and Harro van Lente. Studies of

New and Emerging Technologies/S.NET. Amsterdam: IOS Press BV, 2013.

- Stohl, Cynthia, and George Cheney. "Participatory Processes/Paradoxical Practices." *Management Communication Quarterly: McQ* 14, no. 3 (February 2001): 349–407.
doi:10.1177/0893318901143001.
- Taylor, James, and Elizabeth Van Emery. *The Emergent Organization: Communication as Its Site and Surface*. Mahwah, N.J.: Lawrence Erlbaum Associates, 2000.
- Weick, Karl E. *Sensemaking in Organizations*. Thousand Oaks: Sage Publications, 1995.
- Zorn, Theodore E., Juliet Roper, Kirsten Broadfoot, and C. Kay Weaver. "Focus Groups as Sites of Influential Interaction: Building Communicative Self-Efficacy and Effecting Attitudinal Change in Discussing Controversial Topics." *Journal of Applied Communication Research* 34, no. 2 (May 2006): 115–40.
doi:10.1080/00909880600573965.
- Zorn, Theodore E., Juliet Roper, C. Kay Weaver, and Colleen Rigby. "Influence in Science Dialogue: Individual Attitude Changes as a Result of Dialogue between Laypersons and Scientists." *Public Understanding of Science* 21, no. 7 (October 2012): 848–64.
doi:10.1177/0963662510386292.

Notes

1. Karen Ashcraft, "Appreciating the 'work' of Discourse; Occupational Identity and Difference as Organizing Mechanisms in the Case of Commercial Airline Pilots," *Discourse & Communication* 1, no. 1 (February 2007): 9–36; Karen Ashcraft and Dennis K. Mumby, *Reworking Gender: A Feminist Communicology of Organization* (Thousand Oaks, California, Sage, 2003). Dennis K. Mumby, ed., *Reframing Difference in Organizational Communication Studies* (Los Angeles: SAGE, 2011).

2. Johann Galtung, *Peace by Peaceful Means: Peace and Conflict Development and Civilization* (Thousand Oaks, CA.: Sage, 1996).
3. Jennifer Mease, "Teaching Difference as Institutional and Making It Personal: Moving Among Personal, Interpersonal, and Institutional Constructions of Difference" in *Reframing Difference in Organizational Communication Studies: Research, Pedagogy, Practice*, ed. Dennis K. Mumby (Los Angeles: Sage, 2011), 151-71.
4. Mark A. Bevir, *A Theory of Governance* (Berkeley, California: Global, Area, and International Archive, University of California Press, 2013), 1.
5. Cynthia Stohl and George Cheney, "Participatory Processes/Paradoxical Practices," *Management Communication Quarterly: McQ* 4, no. 3 (February 2001): 357-8.
6. Stohl and Cheney, "Participatory Processes".
7. Stohl and Cheney, "Participatory Processes", 356.
8. Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (Berkeley: University of California Press, 1984).
9. James Taylor and Elizabeth Van Emery, *The Emergent Organization: Communication as Its Site and Surface* (Mahwah, N.J.: Lawrence Erlbaum Associates, 2000).
10. Heather Canary, "Constructing Policy Knowledge: Contradictions, Communication and Knowledge Frames, *Communication Monographs* 77, no 2 (May 2010): 181-206;" Heather Canary and Robert D. McPhee, "The Mediation of Policy Knowledge: An Interpretative Analysis of Intersecting Activity Systems," *Management Communication Quarterly* 23, no. 2 (November 2009);" Erika Kirby and Kathleen Krone, "The Policy Exists but You Can't Really Use It: Communication and the Structuration of Work-family Policies," *Journal of Applied Communication Research* 30 no. 1 (January 2002);" James O. Olufowote, "A Structuralist

Analysis of Informed Consent to Treatment: Societal Evolution, Contradiction, and Reproductions in Medical Practice,” *Health Communication* 23, no. 3 (June 2008).

11. Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (Berkeley: University of California Press, 1984), 280-281.

12. Stanley Deetz, “Power and the Possibility of Generative Community Dialogue,” *The Coordinated Management of Meaning: A Festschrift in Honor of W. Barnett Pearce*, Lanham, MD.: Fairleigh Dickinson University Press, 2014, 223.

13. Giddens, *The Constitution of Society*, 1658-59.

14. William J. Kinsella, “Public Expertise: A Foundation for Citizen Participation in Energy and Environmental Decisions,” in *Communication and Public Participation in Environmental Decision Making*, ed. Stephen P. Depoe, John W. Delicath and Marie-France Aepli Elsenbeer (Albany: State University of New York Press, 2004), 83-95.

15. Todd Norton, “The Structuration of Public Participation: Organizing Environmental Control,” *Environmental Communication: A Journal of Nature and Culture* 1, no. 2 (October 16, 2007): 146–70, doi:10.1080/17524030701642546.

16. Kinsella, “Public Expertise,” 94.

17. Paul Berg, David Baltimore, Herbert W. Boyer, Stanley N. Cohen, Ronald W. Davis, David S. Hogness, Daniel Nathans, et al., “Potential Biohazards of Recombinant DNA Molecules,” *Science* 185, no. 4148 (July 1974): 303.

18. Donald S. Frederickson, “Asilomar and Recombinant DNA: The End of the Beginning,” in *Biomedical Politics*, ed. Kathi E. Hanna (Washington, D.C.: National Academies Press, 1991). <http://www.ncbi.nlm.nih.gov/books/NBK234217/>. (28 Feb. 2015).

19. Alexander Capron and Renie Schapiro, "Remember Asilomar? Reexamining Science's Ethical and Social Responsibility," *Perspectives in Biology and Medicine* 44, no. 2 (2001):163.
20. Stohl and Cheney, "Participatory Processes/Paradoxical Practices," 389.
21. Stohl and Cheney, "Participatory Processes/Paradoxical Practices," 389.
22. Ludwik Fleck, *Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press, 1981).
23. Ludwik Fleck, *Genesis*, 99.
24. Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 50th Anniversary ed. (Chicago: The University of Chicago Press, 2012), 76.
25. Kuhn, *Scientific Revolutions*, 104.
26. Stanley Deetz, *Democracy in an Age of Corporate Colonization: Developments in Communication and the Politics of Everyday Life* (Albany: State University of New York, 1992).
27. Fleck, *Genesis and Development*, 106.
28. Karl E. Weick, *Sensemaking in Organizations* (Thousand Oaks: Sage Publications, 1995), 141.
29. Erik Fisher, "Lessons Learned from the Ethical, Legal and Social Implications Program (ELSI): Planning Societal Implications Research for the National Nanotechnology Program," *Technology in Society* 27, no. 3 (2005): 323.
30. Fisher, "Lessons Learned," 323.
31. Bjørn Kåre Myskja, Rune Nydal and Ingeborg Myhr, "We Have Never Been ELSI Researchers – There Is No Need for a Post-ELSI Shift," *Life Sciences, Society and Policy* 10, no. 1 (April 2014).

32. Fisher, “Lessons Learned;” Sheila Jasanoff, “Constitutional Moments in Governing Science and Technology,” *Science and Engineering Ethics* 17, no. 4 (20211); Benjamin J. Hurlbut, “Reimagining Responsibility in Synthetic Biology,” *Journal of Responsible Innovation* 2, no. 1 (January 2015): 113–16.
33. Fisher, “Lessons Learned,” 324.
34. Paul Rabinow and Anthony Stavrianakis. *Demands of the Day: On the Logic of Anthropological Inquiry* (London: University of Chicago Press, 2013), 1.
35. Stohl and Cheney, “Participatory Processes/Paradoxical Practices.”
36. Jurgen Habermas, “Three Normative Models of Democracy,” *Constellations* 1, no. 1 (December 1994): 4.
37. Erik Fisher, Roop L. Mahajan and Carl Mitcham, “Midstream Modulation of Technology: Governance from Within,” *Bulletin of Science, Technology & Society* 26, no. 6 (December 2006): 485–96.
38. Sheila Jasanoff, *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton, N.J.: Princeton University Press, 2005); Michel Callon, Pierre Lascoumes and Yannick Barthe, *Acting in an Uncertain World: An Essay on Technical Democracy*, trans. Graham Burchell (Cambridge, MA.: MIT Press, 2011); Frank Fischer, *Democracy and Expertise: Reorienting Policy Inquiry* (Oxford: Oxford University Press, 2009).
39. Theodore E. Zorn, Juliet Roper, Kirsten Broadfoot and C. Kay Weaver et al., “Focus Groups as Sites of Influential Interaction: Building Communicative Self-Efficacy and Effecting Attitudinal Change in Discussing Controversial Topics,” *Journal of Applied Communication Research* 34, no. 2 (May 2006): 115–40;” Theodore E. Zorn, Juliet Roper, C. Kay Weaver and Colleen Rigby, “Influence in Science Dialogue: Individual Attitude Changes as a Result of

Dialogue between Laypersons and Scientists,” *Public Understanding of Science* 21, no. 7 (October 2012): 848–64.

40. Daniel J. Fiorino, “Citizen Participation and Environmental Risk: A Survey of Institutional Mechanisms,” *Science, Technology, & Human Values* 15, no. 2 (April 1990): 226–43; Paul Rabinow and Gaymon Bennett, *Human Practices: Interfacing Three Modes of Collaboration*,” ed. Mark A. Bedau and Emily C. Parke, The MIT Press, 2009, <http://mitpress.universitypressscholarship.com/view/10.7551/mitpress/9780262012621.001.0001/upso-9780262012621-chapter-14>. (28 Feb. 2015).

41. Franz Seifert, “Diffusion and Policy Learning in the Nanotechnology Field: Movement Actors and Public Dialogues in Germany and France,” in *Shaping Emerging Technologies: Governance, Innovation, Discourse* ed. Kornelia Konrad, Christopher Coenen, Anne M. Dijkstra, Colin Milburn and Harro van Lente, Studies of New and Emerging Technologies/S.NET. (Amsterdam: IOS Press BV, 2013), 79; Fiorino, “Citizen Participation,” 226–43.

42. Chantal Mouffe, “Deliberative Democracy or Agonistic Pluralism?” *Social Research* 66, no. 3 (Fall 1999): 745–58; Chantal Mouffe, *The Democratic Paradox* (London; New York: Verso, 2000); Shiv Ganesh and Heather M. Zoller, “Dialogue, Activism, and Democratic Social Change,” *Communication Theory* 22, no. 1 (2012): 66–91.

43. Mouffe, “Deliberative Democracy,” 753.

44. “About IGERT,” <http://www.igert.org/public/about>; “IGERT Mission and History,” <http://www.igert.org/public/about/history-and-mission>.

45. “IGERT Mission and History,”

<http://www.igert.org/public/about/history-and-mission>.

46. Beth Gamse, Lorelle Espinosa and Radha Roy, *Essential Competencies for Interdisciplinary Graduate Training in IGERT* (prepared for the US National Science Foundation, Abt Associates Inc., 2013) <http://www.igert.org/documents/546>. (28 Feb. 2015).

47. “National Science Foundation Research Traineeship,” <http://www.nsf.gov/pubs/2014/nsf14548/nsf14548.htm>; “For Prospective Students,” <http://www.igert.org/public/about/for-prospective-students>.

48. Craig, Robert T., and Karen Tracy. “Grounded Practical Theory: The Case of Intellectual Discussion.” *Communication Theory* 5, no. 3 (August 1, 1995): 248–72. doi:10.1111/j.1468-2885.1995.tb00108.x.

49. Corbin, Juliet, and Anselm Strauss. *Basics of Qualitative Research (3rd Ed.): Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA: SAGE, 2008.

50. Craig and Tracy, “Grounded Practical Theory,” 265.

51. Gamse, Espinosa and Roy, *Essential Competencies*, 2.

52. Kevin J. Barge and Martin Little, “Dialogical Wisdom, Communicative Practice, and Organizational Life,” *Communication Theory* 12, no. 4 (November 2002): 386.

53. Stuart Hall, “Who Needs ‘Identity’?” in *Identity: A Reader*, ed. Paul Du Gay, Jessica Evans and Peter Redman (Thousand Oaks, CA: SAGE Publications in association with the Open University, 2000), 19.

54. Deetz, “Power and the Possibility,” 225.