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A Case for Critical Interdisciplinarity:

Interdisciplinarity As Democratic Education

Aaron Stoller
Colorado College, CO, USA

Abstract: While the scholarship of interdisciplinarity has grown prolifically in the last thirty years, the discourse primarily frames interdisciplinarity as an instrumental research construct. In this article, I will argue that this framework should be expanded to consider how interdisciplinary engagement can support education for democracy. The article will begin by giving an account of the role that interdisciplinarity can play in the context of democratic education. I will then argue that a lesser-theorized form of interdisciplinarity called *critical interdisciplinarity* is uniquely situated to advance democratic aims in higher education. Finally, through the lens of a curricular project conducted on my campus, I will show how critical interdisciplinarity may be deployed to advance democratic aims in higher education. Ultimately, I will make a case for the significance of critical interdisciplinarity as a central form of democratic engagement in university life and call for the expansion of its discussion in the interdisciplinary literature.

Keywords: critical interdisciplinarity, general education, John Dewey, democratic education

Introduction

While the scholarship of interdisciplinarity has grown prolifically in the last thirty years, the discourse primarily frames interdisciplinarity as an instrumental research construct. Much of the interdisciplinary studies literature is focused on the refinement of interdisciplinary research programs and generating new forms of integrated problem-solutions. This framing of interdisciplinarity also grounds the literature on interdisciplinary pedagogy, which views the aim of teaching interdisciplinarity as preparing students either for research contexts or for deploying the skills of disciplinary synthesis and application.

In this article, I will argue that this framework should be expanded to consider how interdisciplinary engagement can support education for

democracy.[1] What I mean by *education for democracy* is the pursuit of the academy's obligation to orient and empower its students for public life, as well as its commitment to participate in deliberative, democratic processes itself.

The article will begin by giving an account of the role that interdisciplinarity can play in the context of democratic education. I will then argue that a lesser-theorized form of interdisciplinarity called *critical interdisciplinarity* is uniquely situated to advance democratic aims in higher education. Finally, through the lens of a curricular project conducted on my campus—Colorado College—I will show how critical interdisciplinarity may be a deployed to advance democratic aims. Ultimately, I will make a case for the significance of critical interdisciplinarity as a central form of democratic engagement in university life and call for expanding its discussion in the interdisciplinary literature.

Interdisciplinarity and the Democratic Aims of Education

Over the last twenty years, there have been increased calls for the involvement of American colleges and universities in promoting civic values and engaging students in democratic practices (Ravitch, 2000; McCormick Tribune Foundation, 2007; Levin & Greenwood, 2016). These calls are based on data showing that politics across the globe are becoming hyper-polarized, deliberative dialogue in public institutions and communities is eroding, and overall civic involvement in America is receding (London, 2010).

While there is increasing interest in promoting democratic education in higher education, there is much less agreement on the specific strategies that might achieve democratic aims. One argument consistently advanced is that democratic aims are met through reinvigorating and expanding the role of traditional liberal education (Noddings, 2013; Samuelson, 2014) and, more specifically, the humanities (Nussbaum, 2010, 2018). In this view, the humanities disciplines should occupy a central place in undergraduate curricula because of their direct engagement with what are seen as central components of democratic life: individual and community values, ethical decision-making, and enduring existential questions (Galindo, 2015; Musil, 2015). A second approach calls for all fields of study, regardless of their content, to advance and deploy forms of experiential, community-based pedagogies that would involve students in democratic situations and processes. For example, in a recent report, "A Crucible Moment," the Association of American Colleges and Universities (AAC&U) (National Task Force, 2012) argues that democratic aims can be achieved through embedding of civically engaged pedagogies within and across all academic majors (p. 32). In this

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1   There are a number of interdisciplinary scholars who have made similar claims (McClellan & Johnson, 2014; Rowland, 2002; Penny, 2009).

case, democratic education is conceptualized as being not a specific kind of academic *content*, but instead a point of pedagogical *contact* between traditional disciplines and the world at-large.

While both of these views have merit, I believe that neither is sufficient to educate for democracy. My argument takes cues from the one advanced by William H. Newell in his response to AAC&U's report (National Task Force, 2012). Newell argues that while it is clear that traditional disciplines can promote and enrich particular dimensions of civic learning, interdisciplinary studies remains "the only game in town" for understanding and addressing the complex issues facing citizens in the 21st century (Newell, 2013, p. 194; 2007). Newell (2013) argues that when understood as a vehicle for collective problem solving, interdisciplinary learning becomes a powerful curricular vehicle for advancing civic values, such as empathy, open-mindedness, and tolerance (p. 195). Interdisciplinarity also promotes "strong-sense" critical thinking, which is, as Newell argues, ideal preparation for democratic deliberation and engagement (p. 196). Lastly, and perhaps most importantly, Newell argues that interdisciplinarity supports what he calls the "skill of creating common ground," which goes beyond "mere discussion between people" and moves toward integration. This creates the common ground among conflicting perspectives that leads to democratic problem solving (p. 197).

Similarly, I believe that education for democracy demands significantly more than exposure to humanistic learning or applications of disciplinary and/or interdisciplinary ideas to real-world situations. Instead, it requires the creation of more frequent and more purposeful encounters that bring disciplinarians into critical dialogue with one another and with their students. As I will illustrate, it is through such encounters that we can prepare students for the kinds of live situations that require them to adjust their ideas about what counts as knowledge or what counts as successful solution-generation within the various social, cultural, and civic contexts in which they will find themselves after graduation. It is my contention that the kind of critical interdisciplinarity I discuss below is uniquely situated to achieve this aim. The reason why is found in the writings of one of the most forceful advocates for democratic education, John Dewey.

Dewey's Criteria for Deep Democracy

Dewey outlined two criteria for evaluating the democratic quality of any group, community, or society. These criteria become the basis upon which we might evaluate the success of democratic engagement and the principles that

might lead us toward the constitution of more democratic groups.[2]

In the first instance, Dewey argues that a democracy depends upon a mutual "reciprocity of interest" (Dewey, 1916/1980, p. 90) that balances "numerous and varied" interests of individuals with those that are "consciously shared" (Dewey, 1916/1980, p. 89). By this criterion, Dewey means that individuals in a democratic community understand their lives as being conjoined with one another, though they are also simultaneously engaged with and motivated by the diversity of interests in the group. This is a fundamental balance necessary in democratic contexts because, as he points out, "diversity of stimulation means novelty, and novelty means challenge to thought" (Dewey, 1916/1980, p. 90).

In the second instance, Dewey argues that democratic social arrangements depend upon free "interplay of experiences" among individuals and groups within a wider social network (Dewey, 1916/1980, p. 90). This criterion is aimed squarely at ensuring social barriers of all types do not hinder the mutual exchange of ideas or decision-making processes of groups. This is, in some measure, the flywheel on which Dewey's conception of democracy spins: Are social boundaries permeable and are people from all standpoints and positionalities able to engage in a cooperative way with other members of a group? It is only when both of these criteria are met that we reach what Judith Green (2009) calls "deep democracy," which demands "actual conversations, collaboratively aiming for mutual understanding about self and world, with others who are differently located" (p. 24).

Educating for Deep Democracy

One of the most significant problems with the K-16 system, as Dewey saw it, is that schools are not organized democratically and, therefore, are simply unequipped to educate in ways that prepare students for engagement in deep democratic social arrangements. Dewey argues that "if I were asked to name the most needed of all reforms in the spirit of education, I should say 'cease conceiving of education as mere preparation for later life, and make it the full meaning of the present life'" (Dewey, 1893/1971, p. 50). This is perhaps one of Dewey's most quoted sentences. It is also one of the most misunderstood and certainly the least acted upon. What Dewey means is that schools can only achieve democratic ends when they *directly embody* the kinds of intentional, deliberative processes that constitute deep democracy (Dewey, 1931/1985, p. 21). Stated another way, *democratic education* demands that students are educated through *democratic situations*.

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2   It is important to note that for Dewey "democracy" is not a form of government, but a mode of associated living between groups of persons. It includes political arrangements, but also extends to all other forms of institutional and social life: businesses, schools, and families, among others (Dewey, 1916/1980, pp. 91-92).

For Dewey, higher education plays a unique and specific role in demo-cratic societies. Colleges and universities, as Dewey saw them, are fundamentally reconstructive spaces: spaces where we go to reconstruct both *selves* (e.g., generations of students in our classes) and the *world* (e.g., wicked problems in our communities) (Dewey, 1899/1976, p. 48). Dewey writes, for example, that a fundamental aim of the academy "is to use the resources put at our disposal alike by humane literature, by science, by subjects that have a vocational bearing, so as to secure ability to appraise the needs and issues of the world in which we live'' (Dewey, 1944/1989, p. 280). Here Dewey agrees, in part, with both of the aforementioned strategies for the attainment of democratic education. On the one hand, democratic education demands connecting humanistic values to practices of inquiry. On the other, it also requires engaged and immersive teaching and learning practices that connect academic knowledge to real-world problems.

However, Dewey's view of education for democracy in the context of the academy leaps beyond both of these approaches by, first, reconceptualizing the role of disciplines in social life and, second, advocating for a wholesale reconstruction of education in order to empower students through disciplinary inquiry.[3] Dewey argues that inquiry, as it exists in everyday life, is much more than the application of specific methods to problems, but should instead be understood as a central vocation of social beings. Disciplines, as scaled-up forms of inquiry, are similarly *social enterprises* that engage the collaborative pursuit of meaning. For Dewey, disciplines are communities of practice that are fundamentally cultural and, therefore, ontological in the sense that they shape individual patterns of thinking and being. Stated another way, disciplines shape the way we frame situations *and* the way we inhabit our social and natural environments.

For Dewey, then, disciplines educate for democracy in two ways. First, they are cultural frameworks that orient us to the world as holistic, social, and political beings. Disciplines have an obligation to help students harness those orientations in self-conscious ways and in ways that connect to students' own public experiences. Second, disciplines are communities of inquiry that are situated within broader public domains (e.g., social and political context). However, in order to be educative for democracy, disciplines cannot be offered students as bounded enterprises that exist strictly to solve problems, but must engage students and communities in the same kinds of deliberative and dialogical encounters that exist within democratic life.

The problem, as I will argue, is that the structures of most colleges and universities simply do not have spaces in which such encounters might occur. The structures of most universities – including departments and

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3   In the limited space available here, I am unfortunately not able to give a full articulation of Dewey's theory of higher education. For further reading, see Stoller, 2018; Waks, 2019.

curricula—are organized in such a way that disciplinary work is largely self-contained and disciplinarians have no real incentive to engage the *disciplinary other*. By constructing intentional moments that disrupt institutional barriers and motivate critical interdisciplinary dialogue, we might begin to foster the kind of *democratic situations* that would lead to *democratic education*.

In the next section, I will introduce the concept of critical interdisciplinarity as a form of dialogue across difference that can be deployed in the service of enabling democratic encounters. In the final section, I will then link critical interdisciplinarity to deliberative, democratic applications through the lens of a curricular project (the critical inquiry project) undertaken at Colorado College.

Critical Interdisciplinarity as a Form of Democratic Engagement

Direct discussion of critical interdisciplinarity in the literature is rare, and as a result, there is no firmly agreed upon definition of the concept. Welch (2011) argues that the origins of critical interdisciplinarity can be traced as far back as the early deconstructivist shifts ushered in by thinkers such as Nietzsche, Heidegger, and Derrida (pp. 4-19). These shifts are set in contrast to the reconstructive theories of the classical pragmatists, such as Peirce, James, and Dewey, whose views Welch identifies as the basis for integrative and applied forms of interdisciplinarity. Salter and Hearn (1997) link critical interdisciplinarity to more recent work conducted in the late 1970s and early 1980s by Birnbaum (1969), Gusdorf (1977), Kavaloski (1979), and Kroker (1980) (pp. 35-36). Salter and Hearn note that this body of literature provides a direct critique of the implicit assumptions of interdisciplinary projects, particularly the ways in which the emerging field of interdisciplinary studies brought forward and reified the central values of traditional disciplinary work, such as the notions of synthesis, unification, and progress.

In contemporary context, critical interdisciplinarity has been described in one of two ways. First, critical interdisciplinarity is imagined as a "phase" within traditional, instrumental interdisciplinary research processes. In this account, the work of interdisciplinarity generally follows this path in Figure 1:
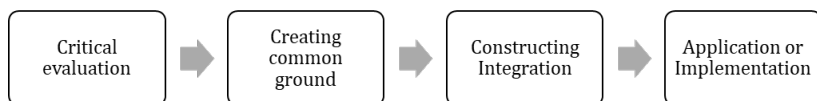

Critical evaluation → Creating common ground → Constructing Integration → Application or Implementation

Figure 1.

Here, critical interdisciplinarity is understood as being a moment in interdisciplinary work (i.e., "critical evaluation") where disciplinary techniques,

technologies, and methods are identified and evaluated in order to be later harvested, synthesized, and creatively applied to solve problems. This kind of intentional focus on critical engagement has proven itself to be an important tool in enriching and advancing interdisciplinary research programs (Jolly & Kavanagh, 2009; O'Rourke & Crowley, 2013). However, as Welch (2011) writes, "critical interdisciplinarity cannot be the sole basis for interdisciplinary theory, because there is another step beyond the metacognitive awareness of epistemic structures. This is integration" (p. 18). When understood as a phase of instrumental interdisciplinarity, as Welch argues, critical interdisciplinarity is not sufficient to produce novel research on its own and does not merit significant theoretical attention.

Second, critical interdisciplinarity is increasingly understood as a kind of separate and distinct twin to instrumentalist forms of interdisciplinarity. Repko and Szostak (2017), for example, argue that today there are "two dominant forms of interdisciplinarity: instrumental and critical" (p. 52). Instrumental interdisciplinarity is a problem-driven, "pragmatic approach that focuses on research, borrowing, and practical problem solving in response to the external demands of society" (Repko & Szostak, 2017, p. 52). Instrumental interdisciplinarity is defined not only by its aims, but also by its focus on integrative processes that are "indispensable" to its work (p. 52). In contrast, critical interdisciplinarity is seen as a form of social critique that, as Klein (2010) argues, is driven by critical interrogation of the "dominant structure of knowledge and education with the aim of transforming them, while raising epistemological and political questions of value and purpose" (p. 30). Rather than working to promote integration between disciplines, critical interdisciplinarians work to dismantle and transform epistemic, social, and political boundaries among and within disciplines (Klein, 2005, pp. 57–58).

Critical Interdisciplinarity as Democratic Dialogue

I would like to advance a third conceptualization of critical interdisciplinarity, which is as a form of *critical democratic dialogue.* My conceptualization of critical interdisciplinarity takes cues from the one advanced by Klein in the sense that I understand critical interdisciplinarity to be a form of engaged social critique that raises questions of value, purpose, meaning, and structure, as well as transforms understandings. However, I would also suggest that critical interdisciplinarity need not be aimed at dismantling disciplines, but might be aimed at understanding them as rich, epistemic cultures that must be placed into dialogue in order to advance new understandings and new modes of being and relating in public contexts.

In such a view, critical interdisciplinarity is a process of facilitating the kind of deliberative engagements that constitute democratic life. It can also advance democratic education insofar as it creates the conditions necessary

for democratic engagement within colleges and universities in spite of their traditionally undemocratic structures and cultures. In this conceptualization, critical interdisciplinarity yields encounters that can very well be the kinds of democratic situations that constitute democratic education, as suggested by Dewey.

Before turning to a more substantive account of how critical interdisciplinarity thus understood might work in practice, I will identify theoretical models that can serve to guide such dialogical encounters. Two models I would suggest are philosophical hermeneutics and intercultural dialogue. With limited space available, I am unfortunately only able to highlight how the literatures of these two fields can support and enrich the development of the theory of critical interdisciplinarity proposed by this article.

Hermeneutic Dialogue

The first theoretical model that might support critical interdisciplinarity as a form of dialogical encounter is philosophical hermeneutics. The modern conception of hermeneutic dialogue was developed by Hans-Georg Gadamer who was concerned with the ways in which understanding emerges in the course of human relationship. Gadamer argues that there is such a thing as objective understanding, but that dialogue is always interpretive and situated within the dynamic horizon of understanding of each person. Understanding is a dialogical struggle in which each interlocutor is also changed by becoming aware of new frameworks and new ways of understanding. Gadamer suggests that dialogue is circular and triadic, following this path (see Figure 2).
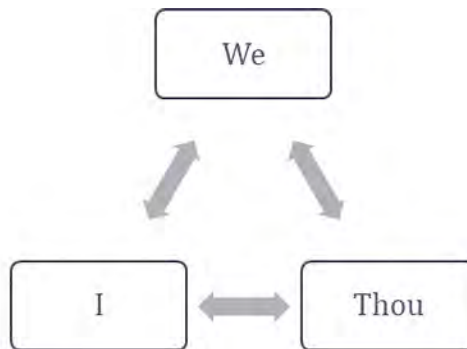

Figure 2.

The triadic structure is a dialogical motion that takes place when two or more people (I and Thou) arrive at a third place (We): understanding. For Gadamer, this structure is not simply an abstracted philosophical model, but is a fundamental building block for all human relationship. He argues that "the

I-Thou-We relation, as it is called in modern thinking, is known in classical political philosophy by a quite different name: *friendship*" (Gadamer, 2004, p. 532). Understanding is, then, a relational and intentional act that emerges from within the context of a dialogic community.

Gadamer argues that hermeneutic dialogue aims at what he calls a *fusion of horizons*. Here, *fusion* is not understood as developing a unified or uniform understanding, but instead as developing a diverse, yet functional stance toward a situation. Gadamer (2004) writes that

> The horizon is the range of vision that includes everything that can be seen from a particular vantage point. Applying this to the thinking mind, we speak of narrowness of horizon, of the possible expansion of horizon, of the opening up of new horizons, and so forth . . . A person who has no horizon does not see far enough and hence over-values what is nearest to him . . . A person who has an [sic] horizon knows the relative significance of every-thing within his horizon . . . [W]orking out the hermeneutical situation means acquiring the right horizon of inquiry for the questions evoked by the encounter with tradition. (pp. 301–302)

In the Gadamerian sense, *to understand* includes the ability to imagine and articulate multiple standpoints on a single topic, with the potential to trans-form disparate understandings into an intersectional stance (Gadamer, 2004, p. 386). When dialogue is entered into as hermeneutic practice, participants are not focused on changing each other's minds, but are interested in gaining a better understanding of the self and the other, which might lead to a com-munal transformation (Ryan & Natalle, 2001, p. 78).

Intercultural Dialogue

A second model that can become a building block for the kind of theory of critical interdisciplinarity I am proposing is intercultural dialogue, which is similarly built on the notion of understanding as the result of a sustained encounter that is both culturally embedded and socially situated. There are three aspects of intercultural dialogue that I believe are particularly important within the context of critical interdisciplinary encounters.

First is the notion that culture is a dynamic construct, being both socially and materially situated, as well as expressed uniquely by people with distinct characteristics, values, and assumptions (Burbles, 2000, p. 262). As intercultural literatures suggest, there is significant danger in imagining cul-tures (including disciplinary cultures) as schematic formulations because it suggests that people's actions, opinions, and behaviors are reduced to simple outputs of communities and that their own, fluid identity options are shut down (Skrefsrud, 2018, p. 51). Instead, dialogue among persons is always a uniquely emergent event that develops from within the identities of individ-uals in communities.

Second, while cultures and persons are fluid, they also exist within the context of a shared world. Like hermeneutic dialogue, intercultural dialogue does not aim at strict consensus, but is an ongoing process of developing intersubjective understandings that open up the possibilities of increased collaboration, partnership, and inclusion within the cultural worlds of individuals (Ellinor & Gerard, 1998). As intercultural models suggest, shared worlds — including the shared institutional world of the university occupied by disciplines — require ongoing and difficult dialogical work to develop, advance, and sustain.

Third, dialogue is not a process of "bridge-building," which suggests that *difference* is an obstacle to be overcome on the way to consensus. As Skrefsrud (2018) argues, when dialogue is aimed at consensus it is fundamentally about *reconciling* difference. This phenomenon "can be illustrated by the common metaphorical expression, bridge-building. The function of the bridge is to overcome barriers that stand in the way of mobility and free passage" (p. 45). However, from within an intercultural framework, dialogue is not about reconciling difference, but about *situating and understanding* difference. As Skrefsrud (2018) writes,

> thinking of dialogue as a method to bridge, harmonize, and reconcile different viewpoints is not a neutral idea, even when it may present itself as such. Thus, such a concept needs to be critically assessed, as it misses deeper, more radical perceptions of difference. (pp. 45-6)[4]

This is a key distinction between instrumental interdisciplinarity and critical interdisciplinarity as I have defined it. A view of critical interdisciplinarity built on intercultural dialogue does not seek to build bridges, but seeks to enable understanding from within "a dynamic knot of contradictions, a ceaseless interplay between contrary or opposing tendencies" (Baxter & Montgomery, 1996, p. 3). Instead of lessening difference, communication weaves a social reality from the fabric of "an unfinished, ongoing dialogue in which a polyphony of dialectical voices struggle against one another to be heard" (Baxter & Montgomery, 1996, p. 4). Intercultural dialogue is a process of critical listening, of seeking understanding of the others involved in their own contexts, and establishing the conditions necessary for the kind of dialogical encounters that lead to insights and new understandings.

In the final account, the concept of critical interdisciplinarity I am proposing here should be understood as entailing dialogical encounter in the hermeneutic and intercultural sense. In this view, critical interdisciplinarity draws from both hermeneutic and intercultural theories in understanding dialogue as (a) aimed at the cultivation of intersectional understandings; (b) requiring the habits of democratic listening; (c) engaging our unique cultural

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4   For more on the social, political, and intercultural problems arising from the "dialogue as bridge-building" metaphor, see Burbules, 2000; Heimbrock, 2009; Skrefsrud, 2018.

identities in deep ontological collisions; (d) developing skills necessary to support and sustain activities in the public sphere; and (e) requiring informed and intentional effort on the part of all involved.

Understood in this way, critical interdisciplinarity can be fundamental to the constitution of the academy as a democratic space because it is a central way in which the disciplinary cultures of the academy can be put into dialogue in all domains of academic life. In the next section, I will link this reconstructed view of critical interdisciplinarity to one instance of its practical application through the lens of a curricular project undertaken at Colorado College.

The Critical Inquiry Project

For the last three years, my department at Colorado College has developed a pilot in our first-year seminar program based on the concept of critical interdisciplinarity, as I have defined it here. Our pilot program is contained in a group of courses we call *the critical inquiry seminars*.[5] Critical inquiry is an application of critical interdisciplinarity as both a conceptual framework and a pedagogical strategy. The seminars are intended to use the moment of student transition to our college to engage our students in critical, deliberative encounters about the nature of disciplines, as well as the cultures of the institution in which their education will be enacted (Stoller, 2017).

Institutional Context

Colorado College (CC) is a small, private, highly selective liberal arts college located in Colorado Springs, Colorado, in the United States, on the front range of the Rocky Mountain West. Our total student population is slightly more than 2,000, with an average incoming class of around 500-550 students.

As part of our General Education program, all students are required to take a first-year seminar, which is capped at 16 students. Each year, we run approximately 37 total sections of our first-year seminar. The courses in our pilot program have totaled six per year, in each of the last three years. In the next academic year (2020-2021), the critical inquiry courses will be scaled up and required for all students. To ensure the effectiveness of these courses, it will also be essential that our first-year seminars are representative of all the disciplinary divisions at our College. Our expanded first-year program will draw faculty from all divisions and at all levels in their careers.

One of the unique features of Colorado College is that all classes are taught in a compressed format—the Block Plan—in which students take and

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5   The courses were originally a pilot that we called "the critical inquiry seminars", but they have now become the curricular entry point for all students and the basis of our General Education plan.

faculty teach one course at a time for a total of eight Blocks per academic year. Each Block lasts exactly 3.5 weeks, and all classes on campus are taught from 9:00 a.m.–12:00 p.m., excluding labs and other field experiences. The total classroom hours are thus comparable to those of a typical class in a regular semester system. The critical inquiry seminars will be installed as a requirement on the 50th anniversary of the Block Plan at Colorado College (2020-2021).

Course Structure

The Block affords CC unique pedagogical opportunities, including time for deep dialogue, extended field experiences, and other immersive learning components. When developing the concept for the critical inquiry seminars, we also identified the fact that all classes on campus are taught simultaneously (from 9:00 a.m. – 12:00 p.m.) as a unique affordance of the Block Plan. This feature of the schedule means that all faculty and students are available for cross-course dialogues and immersive learning at the same time with no scheduling conflicts.

Rather than having the critical inquiry seminars be team-taught, we designed them as inquiry- and problem-driven seminars taught around the unique scholarly interests of the individual instructor. Some of our course topics, for example, have included "Slow Food in a Fast Food Nation," "Markets and Morality," "Monsters, Robots, and Cyborgs," and "Sustainability in the Anthropocene." In each of these courses, we asked the faculty to treat the course topics like a case study. The students should both experience (through modeling) some aspects of disciplinary problem-solving, but also engage in critical dialogue and reflection on the processes and paradigms of the discipline itself. More importantly, courses will be grouped into thematic clusters. These clusters are required to have several "convergence days" in which the students and faculty in several classes engage in a range of activities emphasizing disciplinary differences (e.g., case studies, inquiry-based work, interviews, and participant-observation). These activities provide a platform on which cross-disciplinary dialogue and critical reflection between students and faculty can be developed.

To teach in our pilot program, faculty had to opt into an intensive course design workshop that took place the Spring prior to the Fall in which the course would be taught. In the first iteration, we held four semi-structured meetings that lasted approximately two hours each. In the second iteration, we held four highly-structured meetings of approximately three hours each. In the third iteration, we held two separate single-day workshops. Faculty were supported through a modest course redesign grant. In total, 20 faculty participated in the workshops over three years. The workshops were organized and facilitated by my office (the Office of Academic Programs), which is responsible for oversight of this aspect of the core curriculum on our campus.

Faculty Development: Critical Interdisciplinary Dialogues[6]

Most faculty who opted to teach in the critical inquiry pilot found themselves immediately confronted with the problem that in order to develop courses that engage students in investigating their disciplinary frameworks and cultures, the faculty themselves had to hold a clear understanding of those frameworks and cultures. A primary goal of our faculty development workshops, therefore, was helping faculty identify, conceptualize, and critique their own disciplinary paradigms through critical interdisciplinary encounters.

One core exercise that took place during our workshops was what we called "the critical inquiry" interview, which was used to facilitate deliberative dialogue among faculty. This exercise was modeled on the "decoding the disciplines" model of interviewing developed by Pace and Middendorf (Pace, 2017; Middendorf & Pace, 2004). The exercise required teams of three faculty to interview each other about their most recent research project. Their goal was for each to describe, in the most concrete terms possible, how they (individually and as a representative from their discipline) engaged in a process of inquiry.

In each group, faculty took turns playing the role of the interviewee (once) and serving on the team of two interviewers (twice). I provided instructions on these two roles, including the kinds of questions to ask (and expect), prior to the activity, and the faculty were given ample time to discuss the interview process prior to engaging in it.

When playing the role of an interviewer, faculty were instructed to push the interviewee to (a) describe his or her experiences of inquiry in embodied and experiential terms; (b) identify the mental or technical "black boxes" that appear to be central to an interviewee's work as a researcher (Pace, 2017); and (c) subject those "black boxes" to critical interrogation. By "black boxes," I mean the taken-for-granted aspects of a discipline that emerge in practice (e.g., "interpret," "justify," "conclude"), but that are only occasionally

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6   In the remainder of this section, I am choosing to describe the faculty development supporting these courses rather than the course convergences themselves. The reason, as will be discussed, is that i3n preparing our first pilot, we discovered that faculty were largely unprepared for engaging in the kind of critical interdisciplinary encounters required by the convergence days. Many faculty simply had no experience engaging across disciplinary difference in the rich way demanded by these seminars. Therefore we designed a number of faculty development exercises to foster critical interdisciplinary encounters among the faculty to prepare them for this aspect of teaching. It was during these earlier experiences (described here) that we discovered critical interdisciplinarity is valuable not only for what it delivers to students, but also (and significantly) for what it promotes within the institution. That discovery is illustrated here. As will be described in this section, we found that these kinds of critical interdisciplinary encounters began to move the institution closer to the kind of democratic community described by Dewey in ways that are simply not possible otherwise, due to traditional institutional structures and cultural constraints (e.g., departmental divisions, tracked curricula, etc.). An article focusing on the course convergences themselves is in preparation.

referenced and almost never explained. These "black boxes" hold great potential as subjects for critical interdisciplinary encounters because they are sites where the paradigms, cultures, and practices of disciplines have become a kind of tacit knowledge that is invisible to the researchers themselves.[7]

When playing the role of the interviewer, faculty were asked to identify and excavate these "black boxes" by repeatedly asking their interviewee the question "But *how* do you do that?" In practice, the work of the interviewer was considerably more demanding because the centering question ("But *how* do you do that?") morphed and changed into many forms to match the context of the interviewee's response (Pace, 2017). It also demanded that interviewees held a sense of humor and humility as they often found themselves unable to explain the things they "just know how to do." Follow-up questions that an interviewer might ask included some of the following:

- Why did you ask this research question? What were you doing when it occurred to you?
- How did you know what you needed to do to answer the question? How did you know which element of the problem to focus on first?
- What was your plan to begin to answer this question? How did you get access to the materials needed to support your investigation?
- What were you feeling when you started this phase of the project? Did you know it was going to turn out the way it did? What else might have happened?
- What kinds of details did you notice at this phase? What drew your attention to them? How do you distinguish between essential elements and less important elements? Did you make any mistakes? How did you know when you hit a dead end?
- How did you know what method or technique to apply at this phase? How did you know how to apply this method? What did you physically do to apply this method? How did it make you feel?
- Why did you stop the inquiry? How did you know it was finished? What steps did you take to draw your inquiry to a conclusion?

7   In using the phrase tacit knowledge, I am drawing on Collins' framing of the term (2010). Collins argues that "tacit knowledge" is traditionally understood as a strictly localized, embodied form of knowing, such as in Polanyi's example of learning to ride a bicycle (Polanyi, 1962). However, Collins (2010) shows how tacit knowledge is a much wider form of knowing, containing both somatic knowledge (knowledge embodied in the body and brain) and collective knowledge (knowledge "embodied" in a culture or society). Somatic knowledge includes things like disciplinary habits of mind and patterns of inquiry deployed in a research project. Collective knowledge includes assumptions about the nature of disciplinary modes of inquiry, as well as beliefs about the value and purpose of the discipline itself. These operational "black boxes" encode both of the domains of tacit knowledge and were critically interrogated through our interviews in order to help instructors understand disciplinary paradigms at work.

A Sample Dialogue

One interviewee in Literature shared the story behind a paper he recently delivered at an academic conference. The interviewers—one in the social sciences and one in the environmental sciences—began asking him to articulate the concepts he was frequently deploying but not explaining: *developing an argument*, *conducting a reading*, or *interrogating a text*. The interviewers pressed for details regarding what he *physically* did during these processes, the heuristics guiding his practice, the kinds of judgments he was making, and how he knew this process was building toward a coherent interpretation. The interviewers also asked a number of contextual questions, such as what texts he used, why he chose them, and how he knew they were more valuable than other possible options. They also asked him questions regarding the validity of evidence and how his conceptualizations of evidence were related to his processes of inquiry.

After about 60 minutes, the questions deepened. One of the interviewers finally mustered the courage to ask what appeared to have been on his mind for quite some time: "I'm having trouble understanding why this [research] question is worth asking. Can you explain *that* to me?" The other interviewer followed up with a question to the interviewee: "How do you know that your interpretation is producing legitimate knowledge [about this question]?" The interviewee began to laugh and was unsure how to respond. At this point the tone of the exchange shifted. The roles of interviewer and interviewee began to break down and the three began a lengthy debate regarding the very nature of scholarly inquiry.

Every inquiry dialogue we have conducted has followed a similar path to the one just described. In attempting to offer a seemingly straightforward description of their research practice, faculty find themselves surprisingly uncertain about what they believe about the nature of their work. Rather than describe their practices *as practices*, interviewees are forced to articulate their own disciplinary foundations, particularly the cultural assumptions driving their work. In almost every case, it takes very little time before the groups begin deliberating about their epistemic frameworks, the cultures of practice in their fields, as well as engaging questions about the very meaning of academic work. In fact, most faculty find that the more they try to describe the design and discovery processes within their research, the more deeply they encounter the cultural contexts that frame and shape their disciplinary identities. What appears to be a simple discussion about a current research project morphs into a deliberation about how individual disciplinary identities constitute a way of being in the world.

Three Impacts of Critical Interdisciplinarity

As previously articulated, the critical inquiry courses are designed to introduce students to the very idea that disciplines are communities of inquiry and cultures of practice organized around the production of knowledge. In order to support these courses, the intent of our faculty development workshops (driven by the inquiry interviews) was to help faculty create pedagogies that aligned with the goals of these courses.[8] However, we found that these workshops achieved significantly more than improving various aspects of our teaching. The inquiry interviews created the kind of intentional and central institutional space that allowed us to engage in deep democratic dialogue in the Deweyan sense. These kinds of opportunities for interdisciplinary dialogue typically only manifest during moments in which departmental territories are renegotiated, such as during central hiring decisions or curricular decisions. However, even in these moments of renegotiation, interdisciplinary conflict is more common than dialogue in the hermeneutic or intercultural sense, and such moments are often understood more as an embarrassment to move past than an opportunity to gain understanding (Graff, 1990, 26). In the next section, I will outline three positive impacts of holding intentional critical interdisciplinary dialogues such as our workshops provided, impacts that helped us avoid such all-too-common territorial conflict while enhancing our efforts to advance the democratic aims of education.

Critical Interdisciplinarity as a Form of Democratic Engagement

For most of our faculty, the workshops were unsettling. Interviews typically started with polite questioning about disciplinary practices and assumptions, but as interview teams gained more trust they moved slowly toward engaging deeper questions about the legitimacy and value of the knowledge being produced in one another's fields. They shifted from surface-level discourse into a dialogue (i.e., dialogue intentionally crossing disciplinary boundaries) in an otherwise anti-dialogic environment.

As articulated earlier, Dewey argues that in order for universities to achieve democratic aims, they must mirror democratic processes in institutional structures and cultures, as well as in the classroom. A thin view understands democracy as a simple political arrangement, such as the shared voting mechanism of the traditional model of faculty governance. However, a more

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8   As noted earlier, with limited time available I am unable to describe the convergence experiences that took place in these courses. The aim of this article is, instead, to introduce a new way of framing critical interdisciplinarity. Additionally, one of the major insights of our faculty development workshops was that critical interdisciplinarity (when framed as a dialogical encounter) establishes the institutional conditions necessary to begin to enact more democratic pedagogies. These insights relating to changing institutional conditions through critical interdisciplinary dialogue are described in the remainder of this article.

robust understanding sees democratic culture as one in which major issues are always being contested and negotiated among competing groups with the discussion not foreclosed by authority (Graff, 1990, p. 24). A participatory democracy places conflict in which participants confront unequal power relations at the very center of organizations and institutional relationships (Whipple, 2005, p. 168). Without it, as Mouffe (2000) argues, any appearance of consensus is little more than an ''expression of a hegemony and the crystallization of power relations'' (p. 49).

Our critical interdisciplinary workshops revealed, in part, the ways in which the traditional structures of the academy often suppress legitimate, deliberative institutional dialogue. At the same time, the interviews also made visible the deeply political and contested nature of disciplinary knowledge that exists under the veneer of polite consensus. Our interviews revealed that even though the academy views critical discourse as a central value, in practice the everyday life of academic work does not include deep critical dialogue with the disciplinary other.

There has been a great deal written about how the academy is heavily balkanized in everything from its departmental and divisional structures to its distributed curricular models. These structures are, in effect, an elaborate armistice that serves to protect disciplinary territories and allow self-contained work to continue without faculty intentionally engaging the disciplinary other. In our workshops, it became clear that such territorialism results in faculty who are not only ill-prepared to deal with ideological conflict, but who also view such conflict as an embarrassment instead of an opportunity for learning (Graff, 1990, p. 26). Taken in this context, critical interdisciplinary engagements can become a significant mechanism for combating the anti-democratic structures of the academy, by offering opportunities for direct, deliberative encounter with the other. In our case, such encounters occurred during course development sessions, but they might also occur as an ongoing organizational practice or during moments when central institutional decisions are being made. In our case, deployed as an intentional moment for dialogical encounter, critical interdisciplinarity provided a structural antidote for the anti-dialogical structures of the academy, enabling two other important effects: greater self-understanding among the faculty and the development of more democratic pedagogies.

Critical Interdisciplinarity as a Form of Self-Understanding

Gadamer argues that hermeneutic dialogue is aimed not only at the construction of intersectional public meanings, but also at the creation of richer and transformative self-understandings. This is because dialogic questioning of some subject matter or problem is always simultaneously a process of self-questioning (Gallagher, 1992, p. 157). As Gadamer argues, "a person who

thinks must ask himself questions" (Gadamer, 2004, p. 368). These questions are not simply about the subject-at-hand, but also about the ways in which we encounter the subject *through the context of our horizon*. Gadamer argues, therefore, that "a person who understands, understands himself, projecting himself upon his possibilities" (Gadamer, 2004, p. 251). Similarly, Ricoeur argues that "it is thus the growth of [the interpreter's] own understanding of himself that he pursues through his understanding of the other. Every hermeneutic [encounter] is thus, explicitly or implicitly, self-understanding by means of understanding others" (Ricoeur, 1978, p. 101). Critical interdisciplinarity as deployed in our workshops became a process of deepening and enriching faculty understandings about the disciplines *and* themselves as disciplinary beings.

One of the most significant challenges to generating interdisciplinary forms of teaching and research is that the *disciplinary other* is largely erased from day-to-day academic life, meaning that opportunities for interdisciplinary dialogue are erased as well. It should come as no surprise, then, that many faculty do not hold a rich conception of the disciplinary matrices in which their research programs, teaching practices, and, in fact, their very scholarly identities are situated (Frodeman, 2014, p. 18). In order to reach the level of depth demanded by critical interdisciplinary dialogues, our interviews were guided by two principles. The first was that faculty were not to speak *about* their disciplines, but instead *about their experiences* as disciplinarians. Having faculty narrate their embodied experiences of inquiry was perhaps the most difficult element of our critical interdisciplinary interview process because most of our faculty were far more comfortable giving an overview of their disciplinary canon or history. Many faculty would become frustrated when told that this kind of explanation was not part of the exercise and that instead they should *directly describe* their embodied research experiences. One of our faculty, for example, began by offering her interviewers a history of the discipline and comments about her graduate school mentor. It took approximately 45 minutes of redirecting before she finally began to tell us *the story* of her research practices. It was only when she started to narrate her experience of the time when she found herself riding in the back of a pickup truck crossing the Arizona border on a dusty dirt road that the interview team knew the work of the interview had finally begun. This focus on the articulation of experience demanded both the kind of situated reflexivity and the personal vulnerability necessary for fostering dialogue in the hermeneutic and intercultural senses.

The second principle governing the interviews was that interviewers had to understand that their primary role was as dialogic listeners (Garrison, 1996). The interviewers' job was not to seek out points of convergence vis-à-vis bridge building, but instead to seek an interwoven, yet distinct understanding of the interviewee's disciplinary mode of being and operating in the world. The practice of dialogic listening became most evident when

irreconcilable disciplinary differences were identified in the interview. For example, in the face of questions from one of our humanist faculty, one of our social science faculty stated that in order to do his work he had to accept the premise of the world as having an objective reality. There was simply no other way for him to be in the world as a disciplinarian. The humanist faculty accepted this as a condition of his disciplinary culture and sought to help develop an understanding of *why* this belief was central to the work and *how it affected* the work of the discipline, rather than trying to build bridges over this point of divergence. This encounter became a significant point of consciousness-raising for both of these faculty members, as they gained a deeper sense of their own horizons of understanding and the ways they are situated in the context of other disciplinary horizons at the institution.

Critical Interdisciplinarity as a Foundation for Democratic Pedagogies

A third effect of our workshops was that critical interdisciplinarity as practiced in our workshops became a way of helping faculty more clearly understand the classroom as a constructed environment that is both value- and power-laden, as well as shaped by the disciplinary beliefs of the instructor. Coming to greater awareness about this fact enabled faculty to think more intentionally about the ways their teaching practices socialized students into disciplinary ways of being and behaving.

Traditional pedagogies are based largely on the belief that teaching is a process of transmitting knowledge from an expert to a novice. Paulo Freire (1970/2000) calls this view the "banking model" of education, and it occurs whenever teaching is conceived as a form of telling: a simple distribution of content. Within the banking model, learning becomes a process of assimilating students into the existing cultures, practices, and values of an institution or group. There are a number of problems with this view of education, but among the most significant is that it yields a learning environment that is anti-democratic: learning as a process of uncritical socialization, rather than learning as empowering intellectual agency. Empowering students requires significantly more than teaching students the tools of a particular disciplinary framework, but must also involve them in critical deliberation about disciplinary frameworks as well as interrogation of the ways that such frameworks shape the construction of society itself (Stoller, 2017).

By engaging the critique that emerges as faculty contest each other's frameworks in the convergence experiences planned as part of our critical inquiry seminars (Graff, 1990), students begin to conceptualize disciplines not as collections of facts or as theoretical templates to be applied, but instead as robust artifacts in their own evolving conceptualizations of and capacities for inquiry (Bentley, et al., 2007, p. 4). In this way, critical interdisciplinarity

can serve as an educational intervention that unmasks the value- and power-ladenness of the disciplines while working to establish a dialogical (i.e., democratic) rather than monological (i.e., assimilative) relationship between students and the disciplines. Through critical self-reflexivity on disciplinary paradigms students can be positioned not as mere recipients of knowledge, but as critical agents in the act of knowing (Shor, 1987, p. 33), a kind of agency that will stand them (and our society) in good stead as they assume citizenship in the world beyond the academy.

Conclusion

In this article, I have argued that critical interdisciplinarity of the sort we have introduced at Colorado College can be a powerful tool to advance education for democracy. It fosters the kind of dialogue that supports and sustains healthy public life, both inside and outside the academy. Of course, other institutions may find alternative ways to deploy critical interdisciplinary dialogues as interventions that similarly disrupt the largely anti-dialogic structure of the academy—to similarly beneficial effect. And they may be helped to do so by a more theoretically robust account of critical interdisciplinarity as a form of critical, democratic dialogue than I have offered here. I have suggested philosophical hermeneutics and intercultural dialogue theory as two resources for further developing such theory. It is my belief that, in the final account, critical interdisciplinarity can move the academy closer to the kind of democratic culture suggested by Dewey and, thereby, also move it closer to realizing the potential of our institutions of higher education to truly educate for deep democracy.

Biographical Notes

Aaron Stoller, PhD, is a philosopher and educational theorist whose work contributes to the field of critical university studies. He is the author of *Knowing and Learning as Creative Action* (Palgrave MacMillan 2014) and co-editor, with Eli Kramer, of *Contemporary Philosophical Proposals for the University* (Palgrave MacMillan 2018). He lives in Colorado Springs, CO, where he teaches and serves as director of academic programs at Colorado College. He can be reached at astoller@coloradocollege.edu.

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