

Understanding Boundary Work through Discourse Theory: Inter/disciplines and Interdisciplinarity

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Interdisciplinarity is usually described as different from disciplinarity: a discipline is said to generate distinct boundaries, separating it from the undisciplined, while interdisciplinarity connotes the crossing of such boundaries. Less attention is paid to how boundary crossing itself creates new boundaries. This article asks how boundary work can be understood in theory and what this understanding means to academic debate on interdisciplinarity. From this perspective, there is reason to talk of *interdisciplines* conducting boundary work distinguishable by the fundamental logic guiding boundary creation. In this new approach, disciplinary logic distinguishes itself by promoting the monopolization of knowledge, whereas interdisciplinarity logic fundamentally promotes plurality. As opposed to much use of the term "interdisciplinarity", this version would be conceptually meaningful in relation to "disciplinarity". Though boundary work following an anti-boundary logic might seem contradictory, this is not necessarily so: what is guarded in an interdiscipline could well be the possibility of permeability.

Keywords: boundary work; discourse; discipline; interdiscipline; interdisciplinarity

Disciplines and Interdisciplinarity

Today, many scientists wield the rhetoric of interdisciplinarity.¹ Almost all scientists want to be associated with boundary crossing and creating new knowledge (Frickel, 2004; Forstorp and Nissen, 2006; Schmidt, 2007, 2008). But what does interdisciplinarity connote? What is interdisciplinarity? To embark on this debate it seems one must start, as Judith Petts et al. (2008: 596) point out, with what interdisciplinarity is most often contrasted to: disciplinarity.

Interestingly, according to Elizabeth Bird (2001), the reverse also holds true: the identity of disciplines is rarely discussed without mentioning interdisciplinarity. Disciplinarity and interdisciplinarity define each other in a dichotomous relationship (Klein, 1990: 105; Becher and Trowler, 2001: 42; Petts et al., 2008: 596; Schmidt, 2008). On closer examination, I suggest that this is quite understandable although not always reasonable.

In discussing disciplinary identity in academic debate, the concept of "boundary work" is often used in

attempting to understand how this identity is created through exclusion and inclusion (Gieryn, 1983; Klein, 1996; Small, 1999; Bleiker, 2001; Joeres, 2003; Frickel, 2004; Forstorp and Nissen, 2006; Owens et al., 2006; Nielsen, 2008; Petts et al., 2008). Characteristically, the boundary work of a discipline encircles, in the words of Tony Becher and Paul R. Trowler (2001: 44), a region of “recognizable identities and particular cultural attributes”. Julie Thompson Klein (1990: 104) identifies a set of mechanisms enabling boundary work to create identity and cultural attributes, such as use of “tools, methods, procedures, exempla, concepts and theories” distinctive to the discipline. Through boundary work, the discipline comes to represent a certain world view in which “undisciplinary objects, methods and concepts are ruled out” (Barry et al., 2008: 21; cf. Fuller, 1991; Harris, 2002; Kargiotis, 2007).

While disciples of disciplines “fiercely defend their spaces, patrol boundaries, and regard those who either intrude or disrupt with suspicion” (Bird, 2001: 467), interdisciplinarity is always characterized by “a variety of boundary transgressions” (Barry et al., 2008: 21). Clifford Geertz (1980) singled out this latter aspect of interdisciplinarity as increasing the permeability of boundaries (Small, 1999). Interdisciplinary practitioners are described as challenging the boundaries of disciplines; they are transgressive and, to be truly interdisciplinary, must also *synthesize* disciplinary knowledge in new ways rather than simply adding supplementary perspectives (Gieryn, 1983; Klein, 1990; Nowotny et al., 2001; Forstorp and Nissen, 2006; Schmidt, 2007). Intrusion into defended space is usually justified by a need to address ever-increasing complexity and broader issues as well as to achieve unified

knowledge (Klein, 1990; Gibbons et al., 1994; François, 2006; Schmidt, 2007: 314; Öberg, 2008).

Nevertheless, most of the above authors also problematize disciplinarity as opposed to interdisciplinarity. Klein (1996) maintains that disciplines are sometimes transgressive too (cf. Schmidt, 2007: 321), while Andrew Barry et al. (2008) point out that transgression is nothing new: transgression is and has always been part of science. Furthermore, while interdisciplinary practice crosses boundaries, it simultaneously creates new ones (Fish, 1994: 237; Klein, 1996: 22; Joeres, 2003; Frickel, 2004; Beier and Arnold, 2005). In fact, interdisciplinary knowledge is often regarded as giving birth to new disciplines (Klein, 1990; Fish, 1994: 238; Dogan, 1997; François, 2006: 619; Schmidt, 2008).

“Interdisciplinarity” is a rhetorically vague concept, in the sense of having little semantic content (Joeres, 2003; François, 2006: 621; Schmidt, 2008: 56). This creates an opportunity for vastly diverse operationalizations of the concept, and approaches to understanding interdisciplinarity have focused precisely on these operationalizations (cf. e.g. Klein, 1990; Schmidt, 2008). This has in fact meant that those using the term to characterize their practices have also, implicitly, defined it via those studying its meaning. Long lists of potential interdisciplinary boundary crossings have been proposed, with the result that the starting point, i.e. the semantic vagueness, has persisted. While the mechanisms of boundary work and crossing have been empirically identified, little attention has been devoted to theoretically investigating the boundary work and crossing of these alleged interdisciplinary practices that are said to differ from those of disciplines

(Frickel, 2004: 273 and 282). To sum up, interdisciplinarity has been recognized as under theorized (Fish, 1994; Frickel, 2004).

To address this deficit, the questions posed here concern precisely this theme: How can the concept of boundary work be understood in theory? What does this mean to the academic debate on interdisciplinarity? If scientists who use the rhetoric of interdisciplinarity truly wish to materialize their promises, exploring these questions should be of undeniable importance.

In this article, I first introduce the concept of boundary work and relate it to theory on discursive boundaries. This underscores the impossibility of escaping boundary work and confirms that interdisciplinarity cannot simply be distinguished as practices that cross boundaries, as interdisciplinarity inevitably creates new boundaries. The argument then proceeds to possibility of understanding reality, from a discursive perspective, and how this enables different logics to guide boundary work. These logics could be described as either disciplinary or interdisciplinary, creating disciplines and interdisciplines, respectively. This discussion finally enables a new and, to my mind at least, conceptually more meaningful understanding of interdisciplinarity.

Boundary Work and Discourse Theory

The literature describes boundary work as comprising the rhetorical strategies for creating social boundaries around certain scientific activities to distinguish them from others (Gieryn, 1983; Jasanoff, 1987; Small, 1999; Frickel, 2004). This understanding of boundary work points towards the literature on discourse and discursive boundaries (Maisonville, 2006;

Nielsen, 2008). From this perspective, the phenomenon of discussing disciplines in relation to interdisciplinarity, as acknowledged by Bird, Petts, and many others, is modestly surprising: boundaries are drawn between the positive and negative, between what something includes and excludes.

In what follows, I will attempt to recapture the essence of boundaries and boundary work from a discursive perspective. In doing so, I will refer to the so-called “third generation” of discourse theory, which grows out of the Essex School initiated by Ernesto Laclau and Chantal Mouffe (Winther Jørgensen and Phillips, 2000; Laclau and Mouffe, 2001; Townshend, 2003; Bergström and Boréus, 2005: 315).

Before proceeding to discuss this theoretical line of reasoning in more detail, a few notes on its’ general points of departure might be in order. Laclau and Mouffe (cf. e.g. 2001) normally focus their analyses on the political and on politics. However, Mouffe (1993: 3) maintains that “the political cannot be restricted to a certain type of institution, or envisaged as constituting a specific sphere or level of society”. This, as Torben Bech Dyrberg (2004: 253) puts it, “give[s] way for a more wide-ranging view of politics as types of practices that can take place everywhere”. In connection with this and contrary, for example, to Foucault, Laclau and Mouffe reject “the distinction between discursive and non-discursive practices” (2001: 107), a topic to which I shall return.

Scientific practices are no exception; researchers engage in political acts when articulating discourse (cf. e.g. Butler, 2000a: 164-65; cf. e.g. Laclau and Mouffe, 2001: 109-10). Broadening the traditional conception of the political does not, however, “mean that politics have to be caught up in strategies of control,

domination, hierarchy, and the like” (Dyrberg, 2004: 253). Science is marked by a genre, highly distinct from traditional politics yet no less political. It is this distinct genre that makes it conceptually meaningful to speak of science as different from other social practices, as a signifier referring to a particular type of meaning.

In line with the rejection of extra-discursive practices and the recognition of the political as inherent to all societal practices, this theory lends itself to understanding more than just traditional politics. On the contrary, politics suffuses society. Boundary work is part and parcel of these practices. Although Laclau and Mouffe focus mainly on traditional political discourse and social movements, they provide an accurate model for analyzing theoretical aspects of boundary work and the academic debate on processes of making, breaking, and crossing disciplinary boundaries in science. In short, their model helps us theoretically understand the concept of boundary work and what this means to the possibility of discussing interdisciplinarity.

Laclau and Mouffe’s (2001) discourse theory is especially useful, considering that it is the *processes* of boundary work that are the focus, whereas the content contained within the boundaries can assume countless guises. The present article, therefore, does not investigate various scientific practices as such; instead, it focuses on the academic literature on inter/disciplinarity. Most often, as mentioned in the introduction, the concept of interdisciplinarity is empirically defined through looking at how boundary *crossing* creates new scientific fields. Time and again, this is done without expanding the discussion to see whether there are

theoretical arguments for considering interdisciplinary boundary *work* distinct from disciplinary boundary work. I focus on the latter (theoretically understanding boundary work) and what it means to the former (the debate on interdisciplinarity).

To do so, I start with a simple but sufficient interpretation of this discourse theoretical tradition, a tradition that pinpoints how the interiority and exteriority of discourse can be understood, i.e. how the positive relies on and defines the negative, and vice versa (Laclau and Mouffe, 2001). I believe this theoretical focus can resolve some of what Klein (1990: 11 and 13) has described as the “wide confusion” that prefigures “any attempt to define the concept of interdisciplinarity”.

According to the perspective of Laclau and Mouffe (2001), language consists of *elements* with no inherently clear meaning. For example, the element “climate” could mean virtually anything depending on its structural context. Putting an element into a structure imbues it with a more precise meaning, making it more closed to alternative interpretations. The element “climate” could be made more closed by simply adding a few additional contextual elements to form various structures, such as change of climate, climate of opinion, or climate change.

Elements locked into structures are distinguished by being called *moments*. The combinations of such locked-in elements are theoretically endless. Laclau and Mouffe (2001) call this endlessness of flux and possibility, of difference, the *field of discursivity* (Butler, 2000b; Winther Jørgensen and Phillips, 2000).

A discourse consists of inherently indefinite elements locked into a certain language structure that gives them the character of moments (Laclau

and Mouffe, 2001). It is often agreed in such discourse theory that the centre of discourse is more closed than its periphery (cf. e.g. Foucault, 1972 (1969), 1993 (1971); Hedrén, 1994; Hajer, 1995; Laclau and Mouffe, 2001). The existence of the discursive field, however, always potentially challenges the interpretations constructed in the discursive centre, and a discourse cannot ever be totally rid of this antagonism (Laclau and Mouffe, 2001; Maisonville, 2006). In fact, Laclau and Mouffe maintain that an element theoretically cannot ever become a pure and persistent moment, not even at the centre of discourse. The meaning of a moment always relies on its alternatives. A phenomenon depicted in language, such as “climate”, cannot ever only be defined by what it is; rather, its’ positive meaning relies on the negative. Similarly, the totality of the negative cannot ever be comprehended because its flux depends on structures. Antagonism becomes a central theme in the theory. Even if a discourse is nearly completely closed, it is never robust over time and place (Laclau and Mouffe, 2001).

The reason for this is quite plain: if the meanings of elements were positive only, speech would simply repeat a predetermined structure. In line with early structuralist thought, language would consist of a grand structure guided by rules to be explored and understood. Poststructuralists have indeed convincingly argued that this is simply not the case (cf. Kjørup, 1999; Alvesson, 2003). On the contrary, if the meaning of elements is only negatively determined, structure would cease to exist and society would be impossible. Both the positive and the negative are, in this interpretation of Laclau and Mouffe (2001), necessary to boundary work.

Conducting boundary work, in this view, entails constantly producing

and reproducing elements in certain orders to achieve closure to alternative interpretations. This can be both a reflexive and a routine process. In any case, discourse theory acknowledges that boundary work is unavoidable in all articulation (Winther Jørgensen and Phillips, 2000; Laclau and Mouffe, 2001; Bergström and Boréus, 2005); interdisciplinary science is no exception to this (Fish, 1994: 238; Klein, 1996: 56; Frickel, 2004: 273; Beier and Arnold, 2005; Maisonville, 2006).

The Inevitability of Inter/disciplines

If a discipline is defined by its drawing of “recognizable identities and particular cultural attributes”, discourse theory underscores the reality that interdisciplinary science will, through boundary work, always assume a disciplinary character. This is a first logical consequence of understanding boundary work through discourse theory. It also takes us one step towards a new definition of what is sometimes called an *interdiscipline* (Frickel, 2004). An interdiscipline, then, could admittedly come up with new knowledge by synthesizing disciplinary perspectives. Yet, it would not appear as more than disciplinary—hence, *interdiscipline*. In other words, the knowledge produced by interdisciplines could be distinguished by its content, as is also the case in all types of disciplinary knowledge, although the form of the boundary work need not differ. If one stops at this, the “inter” in interdisciplines would become obsolete. Stanley Fish (1994) represents those who are of this opinion: since no one can escape boundary work—no one can internalize an infinite and paradoxical totality in a single identity—interdisciplinarity is theoretically impossible.

With few exceptions (cf. e.g. Beier and Arnold, 2005; Maisonville, 2006), interdisciplinary science is constructed as either the opposite of disciplinary science or as drawing new boundaries and therefore equivalent to disciplinary science. The second description seems to underscore the theoretical impossibility of the first.

A danger lurks in this debate: excluding discussion of the transgression of traditional boundaries by referring to the inevitable drawing of new ones risks dismissing other potential benefits of interdisciplinarity. This leads to a second important question in understanding boundary work through discourse theory: Are there theoretical grounds for interdisciplinary science, or does the inevitable boundary work mark, in the words of Fish, “the impossibility of the interdisciplinary project” (1994: 242)? In other words, can *interdisciplines* be something different from disciplines?

In approaching this question, it is helpful to consider a second consequence of Laclau and Mouffe’s view of language structures.

Discourse Theory, Boundaries, and the Essential Absence of Essence

The understanding of language as lacking any inherent grand structure not only highlights the interiority—exteriority of all boundary work, but also leads to a second unavoidable conclusion: any essence is unattainable outside discourse (Laclau, 2000a: 49). An element does not acquire meaning through what it is but through how it is construed in structures that always are and will be unstable. Furthermore, successful boundary work has always excluded difference, i.e. it is defined by and defines unaccepted discursive content.

It must be this that Steve Fuller is connoting when talking of science *in* the world: just as interdisciplinary science, seeking boundaries to cross, will always create new boundaries, it will always, from the perspective of an infinite discursive field, be theoretically possible to shift the boundaries of traditional disciplines. Just as the first, the last can never be freed from discursive struggle. This means that “facts” or certain perspectives always are negotiated and can be renegotiated; as the now oft-accepted truism has it, facts are always historically situated. Boundary work in disciplines, then, is used to create meaning about the world while simultaneously being in this world (cf. Fuller, 1991; Laclau and Mouffe, 2001; Maisonville, 2006; Schmidt, 2007: 314; Nielsen, 2008).

This has, as Jules Townshend (2003) points out, led Simon Critchley and Slavoj Žižek to self-reflexively criticize discourse theory for an inherent “normative deficit” (also cf. Žižek, 2000a; Critchley, 2004). Townshend (2003: 140) critically calls this outcome of Laclau and Mouffe’s theory *discourse relativism*. What arguments are there, these critics typically claim, for preferring one discourse to another, one set of values to another?

Laclau and Mouffe (2001) must hold, to my understanding, that if there are such arguments, at least they are not essentially or by virtue of inherent logic better than any others. If one wants to judge an accepted discourse, this must be done against a norm of “good” and “bad”. This in turn leads to the possibility of questioning the norm against which one measures, and so on, ad infinitum. Given that the discursive struggle can never have a definite outcome and can never end, one must live with the potential volatility of all boundaries. Following this discourse-theoretical tradition, the

seemingly essential truth—although from the same perspective is inarguably discursive—is that there is no essence. Any distinction between objective discourse analysis and discourse relativism is therefore, according to the discourse theory Townshend reviews, invalid (cf. Laclau, 2000b: 200). I will soon return to how this relates to the possibility of articulating interdisciplinarity with a new meaning. Before doing so, I would like to expand a little on the potential of Laclau's and Mouffe's theories to make the point somewhat clearer.

Laclau willingly acknowledges the inability to access the objective outside discourse. But to avoid “anything goes”, he instead proposes an ethics that itself is free of normative operationalizations. As such, he maintains that his argument essentially does not propose specific normative action (Laclau, 2000a: 81, 2002). In contrast, Critchley (2004) argues that holding such a position is counter-productive, that Laclau should not strive to escape being normative, and that ethics ought to always be connected to normative decisions in order to be meaningful. The normative deficit recognized by Critchley and others, if accepted, is somewhat adjusted by Mouffe, who adds to the theory her notion of agonistic pluralism (Mouffe, 2000, 2005). Implementing the agonistic model proposed by Mouffe could well constitute the normative operationalization of Laclau's ethics. In other words, Laclau and Mouffe strive for a universal framework for emancipation, making the acceptance of pluralism more than “anything goes” —a universality, an ethics, directed towards criticizing its own excluding logic, having the potential to be a universal antithesis to universality. In short, it is a logic safeguarding the norms of adversary conversations (Laclau, 2000b: 204 and 208).²

To understand boundary work from a discursive perspective associated with the above debate of discourse theoretical scholars, a discipline could help preserve the authority of already clearly established discourse, while an interdiscipline would bolster more radical debate. Interdisciplinarity, according to this understanding of the concept, could assume the form of organizational leadership, guiding researchers to criticize the basis of its own truth claims and acknowledge or include other groups' perspectives.

In this discursive understanding of boundary work lies the possibility of distinguishing transgression from fortification, of making interdisciplines meaningful in relation to disciplines, despite accepting that both must surrender to the practice of boundary work.

Towards a New Anatomy of Interdisciplines: Interdisciplinary Logic of Boundary Work

In this light, I would like to return to the question of whether or not there are theoretical grounds for interdisciplinary science. The usual approach to encircling disciplinarity (through mechanisms of boundary work) and interdisciplinarity (through crossings) makes the concept of interdisciplinarity quite meaningless. In this I agree with Fish (1994: 242): new disciplinary knowledge created through boundary crossing could be extremely valuable, but it is not per se any more open than other knowledge. But I hesitate to stop at that. Instead, it is useful to gaze towards the centre of how inter/disciplines are discursively created, at the often tacit bases or metalanguage of the mechanisms that create boundaries (Bourdieu, 1981; Joeres, 2003).

Let me briefly expand on this. In seeking to understand boundary work through the lens of discourse theory, I have outlined how boundary work is inherent to both disciplines and interdisciplines. I have also, like Fuller, outlined that both are simultaneously about and in the world. The boundary work of inter/disciplines is rendered impossible as anything more than constructs, even if they take on a more material nature (Laclau and Mouffe, 2001: 108). As Marshall Beier and Samantha Arnold (2005: 46) have it, this constitutes “an approach to disciplinarity capable of perceiving disciplines as *practices* rather than as *things*”. In other words, it is time to open the already unlocked door to perceiving disciplines in a more Foucauldian sense: as disciplining processes (Hoskin and Macve, 1986; Maisonville, 2006; Kargiotis, 2007). When looking at the centre of discourse, one could locate possible differences in the logics of boundary work, logics that guide the process of the constant production and reproduction of inter/disciplines. It is these disciplining logics to which I referred to above when paraphrasing Pierre Bourdieu (tacit foundations) and Ruth-Ellen B. Joeres (metalanguage). When talking of the logics of disciplines and interdisciplines below, I will continue along this path, i.e. in what follows, any references to different boundary work logics connote the process of discursive creation, the disciplining metalanguage or tacit bases on which that they rest.

What, then, could be recognized as the logic of disciplines? If interdisciplines are to be meaningfully distinguished from disciplines, there must be more to a discipline than simply recognizable identities and particular cultural attributes. These identities and cultural attributes must be specified, but not through identifying their discursive

content, since in such a case the understanding of interdisciplinarity, as discussed above, would again bypass the origin of possible differences in the logics guiding boundary work. Much of the literature, as also pointed out, describes the logic of disciplines as guarding truth or certain perspectives from the incursions of untruthful or corrupt invaders (Klein, 1996; Bird, 2001; Frickel, 2004; Kargiotis, 2007). This leads to one possible characterization of disciplinary logic: Disciples of a discipline are disciplined to imply or suggest that the best way of understanding the world, or at least certain fields of the world, is through the specific discipline that they obey (cf. François, 2006). Their boundary work rests on the traditional assumption of there being *a* best knowledge of something (cf. Bourdieu, 1981; Oreskes, 2004; Sarewitz, 2004; Beier and Arnold, 2005). Such monotheistic knowledge claims, I suggest, are the most important criteria distinguishing the logic of disciplines.

What, then, of the logic of interdisciplines? Is it, or could it be, any different from the logic of disciplines? As Klein, and many others, points out, striving for transgression implies that there is something useful in creating new knowledge that goes beyond traditional disciplinary knowledge (Klein, 1996; Frickel, 2004; Beier and Arnold, 2005; Schmidt, 2007; Öberg, 2008). This new knowledge is often justified by its proponents as better than its disciplinary counterpart and necessitated by the increasing complexity of the world, which demands new and better science (Klein, 1990; Klein, 2001; Beier and Arnold, 2005; Schmidt, 2007; Barry et al., 2008). Charles François (2006: 618) puts it this way: “no specialized [i.e. disciplinary] knowledge fits the needs, because none

contains information about the interplay of numerous different elements, factors and functions". François even adds that interdisciplinarity too will always be too narrow: it will always form new disciplines and is therefore, he suggests, inadequate. Instead, he proposes that what is needed is transdisciplinary systems theory (2006). However, the boundary work, as described by François, for example, still rests on the same tacit foundations as described in the paragraph above: the assumption of there being *a* true, best, or at least better knowledge of something. This way of describing the unity of knowledge, or of striving for more complete and more complex knowledge than that of its disciplinary counterparts, has sometimes been termed "strong interdisciplinarity" (Schmidt, 2008: 58). In its construction and due to the infinite extent of the discursive field, strong interdisciplinarity too must be bounded. Claiming better, more accurate or more complete knowledge, it follows the same logic as that of disciplinary knowledge.

Yet, interdisciplinarity is not solely confined to such activity, and most commentators agree that it is a nuanced project (Klein, 1996; Schmidt, 2007; Barry et al., 2008). Other disciplining logics than those of disciplines could be in play; striving for transgression could also imply that there is something useful in the varieties of knowledge, in plurality, and in combinations that go beyond the traditional disciplinary focus of there being a privileged knowledge in a certain subject area (cf. Kleiber, 2001; Barry et al., 2008; Schmidt, 2008). As Scott Frickel (2004: 273) has noted, "for interdisciplines, key boundary problems involve perforating existing boundaries and/or inventing porous ones". Inventing porous boundaries is something radically different from striving for a better

knowledge; it is striving for plurality of knowledge and consistently for the empowerment of alternative knowledge claims differing from those of established traditions.

Frickel (2004: 282) continues: "Extant research on boundary work has difficulty explaining the strength of these ostensibly 'weak' boundaries, raising questions of how permeable boundaries are created and maintained over time". The discursive approach to boundary work could help explain this: being a member of a discourse entails—getting back to Stanley Fish (1994: 241)—having forgotten that self-reflexive, peripheral, and distancing questions are questions one can seriously ask. However, the centre of the discourse, the guiding logic of boundary work, can be constructed so as to constantly ask precisely those questions that Fish assumes the subjects of a discourse cannot ask. This could be the core foundation of the logic of interdisciplines. An interdiscipline cannot escape disciplining boundary work, yet the boundary work of such knowledge production could rest on an assumption of the legitimacy of various perspectives. The truth, in such a discourse, is that any monopolized knowledge area will always hide alternate and potentially valuable approaches. And such boundary work can indeed be strong.

To continue characterizing these logics: Disciplinary logic, then, would construct power relationships that subordinate alternate knowledge claims, i.e. boundary work that obstructs boundary crossing. On the other hand, the logic of interdisciplines would help to bring to the fore, in the words of Foucault, the figures of thought in play in the normative field of rights and wrongs in seemingly objective discourses (Foucault, 1972 (1969), 1993 (1971); Hedrén, 1994:31). This logic

would encourage the permeability of boundaries other than precisely those that encourage permeability; to use Kristian H. Nilsen's (2008: 175) words, it could be characterized as a boundary work of "anti-boundary work".

Again, this logic would be based on the assumption of an essentially absent essence. As such, all knowledge of the world is also part of the discursive struggle in the world. This logic, therefore, underscores the multitude of legitimate perspectives and the importance of the critical examination and normative motivation of all science.

When understanding boundary work through discourse theory, the traditional logic of disciplines—constructing knowledge as merely being *about* but not *in* the world—becomes invalid. Again, but worth stressing, this perspective also underscores the inevitably disciplining nature of an interdiscipline. It could still serve, however, to distinguish different logics of boundary work according to their core ontological assumptions. From the perspective of the logic of interdisciplines, the normative but seemingly apolitical products of disciplinary knowledge production lend themselves to ideological struggle. The claims of those incapable of partaking in this game, according to the rules of disciplinary logic at hand, are automatically devalued by deferral to illreputed domains.

From the discursive perspective, the danger arising from excluding potential benefits of interdisciplines, by referring to their inevitable engendering of new ones, is pressing. If the possible distinction suggested here were accepted, I believe it would resolve some of the confusion concerning definitions of inter/disciplines in the ongoing debate.

On the Impossible Task of Maintaining Disciplines and Interdisciplines

Understanding boundary work through discourse theory and attempting to make interdisciplinarity meaningful in relation to disciplinarity also underscores: that what might at first sight seem a traditional discipline could in fact be an interdiscipline, and vice versa.

According to the perspective advanced here, however, there is more to understanding the logic of inter/disciplinarity in the boundary work of inter/disciplines. This discourse theory, as mentioned, goes beyond assuming that boundaries are simply drawn by symbolic difference between the positive and the negative, between what it is and is not (cf. Žižek, 2000b: 215; Bishop, 2004). The impossibility of fully identifying, say, a completely closed discipline, opens up the possibility of understanding disciplines as carrying strains of what they cannot be: interdisciplines.

The contingency of researchers' academic practices also can hardly be locked into one or the other of these abstractions. Researchers, in everyday practice, ought to shift between logics; they ought to be both inter- and disciplined at the same time, at different levels, in different arguments, or at different stages in the work process. My hope, however, is that the concept of interdisciplines and its connection to more distinct interdisciplinary boundary work can help solve confusion in this debate and help researchers reflect on their practices.

Conclusions

A discipline is often described as conducting boundary work to close

its knowledge claims to alternate interpretations; its disciples guard its boundaries and the disciplining logic underpinning this boundary work rests on the assumption that the specific discipline offers the best way to understand a specific subject area.

When examining the concept of boundary work through the lens of discourse theory, it becomes obvious that boundary work is inherent to all attempts to make sense of a paradoxical and theoretically infinite totality. Interdisciplinarity is no exception to this. When conducting boundary work, knowledge production described as interdisciplinary often appropriates the same strategies as used to defend disciplines. Disciples might well cross boundaries seeking other knowledge fields, but justify doing so by claiming that the results constitute better knowledge. One example could be the argument that a complex world demands new and more complex (i.e. better adjusted) science. They then try to construct and guard the boundaries of new disciplines. Although boundary crossing that creates new disciplines can still be extremely fertile and hugely important, it renders all talk of interdisciplinarity as opposed to disciplinarity beside the point.

However, stopping here, risks throwing the baby out with the bathwater. Some boundary work is guided by a logic that differs fundamentally from that implied by disciplinary logic. It could be described as an interdisciplinary logic of ontology that makes it possible to talk of interdisciplines (cf. Barry et al., 2008). An interdiscipline is no less bounded, but the form of the boundary work is different in that it is open to boundary crossing and alternative framings of specific issues. It does not guard its content; rather, it guards the boundaries around the anti-disciplinary logic that guide articulations.

Essentially, this also assumes an absent essence and the volatility of all facts, and thus the importance of the critical examination and normative motivation of all science. The logic of interdisciplines can form boundaries that undermine the possibility of monopolizing knowledge claims; it can also undermine the use of so-called objective science in ideological struggles as well as bolstering more radical scientific debate.

To be meaningful, interdisciplinarity logic must assume different characteristics from those of disciplinary logic. Knowledge production guided by interdisciplinary logic, as understood here, constitutes the basis for *interdisciplines*. Yet, this logic distinguishes itself from disciplinary logic by encouraging the permeability of the boundaries confining knowledge claims. As such, it is truly the basis for *interdisciplines*.

Notes

¹ The process of boundary work to demarcate science from policy as well as processes aiming to transgress such science–policy boundaries has much in common with the debate on interdisciplinarity. Therefore, transdisciplinarity in the sense of both unity of knowledge and transgression of the science–policy divide ought to be equally relevant to this article. However, with few exceptions, I stay with the case of interdisciplinarity. For discussion of science versus non-science, see, for example, Nowotny et al. (2001), Bourdieu (1981), Gieryn (1983), and Fuller (1991); for cultures in science, see, for example, Eldelin (2006), Snow (1964), and Wallerstein et al. (1998); for disciplines within academia, see references in the present text, such as Kargiotis (2007), Becher and Trowler (2001), and Small (1999).

² Some critics, such as Gulshan Ara Kahn, are less than accepting of the full potential of ethics of emancipation. Laclau's universal ethics has, without going into detail here, been criticized for implying a logic that is worryingly near an antidote to pluralism. Laclau claims that oneness must represent the wholeness of difference to provide an effective counter-balance. Again, the aim of such practice could be the hegemony of radically pluralistic democracy (cf. Wenman, 2008). Kahn has suggested just such a solution, yet has not accepted that such proposals could well be in line with Laclau's theory (for such a suggestion, see Howarth, 2008). Yet, the failure to acknowledge this potential is not so surprising given that, as some seem to suggest (Žižek, 2006), Laclau himself was reluctant to agree to this possibility. Still, Laclau opens the way for such a possibility by discussing organizational leadership as clearly opposed to despotic leadership (Laclau, 2006; Khan, 2008). Nonetheless, to be clear, my point is that hegemony, on accepting difference and plurality, need not be self-contradictory, yet it will always struggle with the impossibility of ever achieving its own fullness, a struggle that in turn could well be a precondition for its success.

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