

Hermeneutic Phenomenology as a basis for Ecological Critical Discourse Analysis

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Abstract

The focus of Critical Discourse Analysis (CDA) has typically been the human social world and how power and oppression are exercised through human language and communication. The CDA approach has more recently been suggested for analysis of discourses affecting the ecosystem or natural world. This raises the question of whether theoretical frameworks and methodologies inherent in CDA can be applied in ecological discourses. This paper introduces possible differences in the premises underlying social and ecological CDA by discussing the 'concept of discourse', the 'social nature of discourse' and 'object of critique'. Insights from the emerging field of ecosemiotics suggest the possibility for a concept of discourse that bridges the natural and social worlds. This, it is argued, entails a dialogue of experience, language and interpretation—themes characteristic of hermeneutic phenomenology associated with the philosophy of Martin Heidegger. Due to difficulties in applying Heidegger's work such as absence of an overt politics or ethics, others broadly in the tradition of hermeneutic phenomenology may be better suited to CDA in practice. The paper concludes with one such example drawing from the thought of Hannah Arendt in the analysis of discourse concerning genetically modified (GM) seed technology.

Keywords: *critical discourse analysis, language, ecology, hermeneutic phenomenology, ecosemiotics, Heidegger, Arendt*

1.0 Introduction

Emphasis on the social change has characterised critical discourse analysis (CDA) since its inception, but the approach has more recently been suggested for analysis of discourses affecting the ecosystem or natural world. Stibbe (2014), for instance, outlines an ecolinguistic approach to critical discourse analysis where "the focus is on discourses that have (or potentially have) a significant impact not only on how people treat other people, but also on how they treat the larger ecological systems that life depends on" (pg. 118).

This raises the question of whether discourses related to human-caused environmental issues (such as species loss, climate change, and pollution) can be understood and analysed in the same way as social issues (such as inequality, oppression, racism). To address this, an inquiry into the assumptions underlying critical discourse analysis is required. This is complicated by the fact that CDA has many definitions and applications. Rather than a specific theory or methodology, CDA has been called a “programme” (Wodak and Meyer 2008, pg. 3) as well as a “mode” or “perspective” (Van Dijk 2005, pg. 352). Despite the range of definitions and applications, there are commonalities among CDA approaches with respect to the *objects of critique* as well as the theoretical and methodological *framework*.

Common *objects of critique* in CDA are political, economic, and cultural ideologies and assumptions that result in injustices or inequality based on class, race, gender, and many other factors (Van Dijk 1993, pg. 250). Central to CDA approaches are explicit or implicit goals of social change, which presuppose certain shared notions of justice, equality and ‘the good’. A common *framework* of CDA draws from various branches of the critical tradition including Marxism, the Frankfurt School, postmodernism, poststructuralism, postcolonialism and feminist studies. CDA approaches are also commonly based on certain linguistic premises. For example, Jorgensen and Phillips (2002, pg. 61) describe a dialectical notion of discourse inherent to CDA, where discourse is seen as both shaping and reflecting social structures.

Ecological critical discourse analysis inherits many of the premises and aims of traditional CDA. The latter is concerned with the way discourse constructs ideologies and worldviews that create social power and hegemony (humans vis-a-vis other humans) and the former addresses how language use in practice can have ecological impacts (humans vis-a-vis other species and ecosystems). Overlap is certainly evident in the concept of environmental justice, which addresses environmental issues from a social justice perspective and vice versa.

Despite many commonalities in addressing social and ecological issues through CDA, distinct approaches may also be warranted. As Stibbe points out, the social aims of CDA are not necessarily sufficient in an ecological context: “freedom and democracy do not automatically lead to sustainable levels of consumption, and peace in a society that exceeds environmental limits will be short lived” (2014, pg. 120). One could also question the extent to which theory and methodology underlying CDA can be extended to scientific questions that are central to ecology, particularly given the disciplinary differences between CDA (which deliberately is not politically neutral) and the natural sciences (which aim to be value-free and objective).

This paper explores these and other questions that may arise when critical discourse analysis moves from social to ecological themes. By introducing the emerging discipline of ecosemiotics, a concept of discourse is developed which is not confined to the human social world, but part of a continuous process of direct experience, meaning and interpretation within and between natural and social worlds. A theoretical framework that may be consistent with this concept of discourse is *hermeneutic*

phenomenology associated with Martin Heidegger. Due to difficulties associated with Heidegger such as the absence of an ethics or political philosophy, others in the tradition of hermeneutic phenomenology may be more suited for discourse analysis in practice. The paper concludes with one such example, where concepts from Hannah Arendt's thought are employed in the analysis of discourses related to the use of genetically modified (GM) seed technology.

2.0 Three Elements of Discourse Analysis

Critical discourse analysis can be understood by separating it into Blommaert's three central elements: the concept of *discourse*; the *social nature* of discourse; and the *object of critique* (Blommaert 2005, pg. 2). The complex, interdisciplinary nature of CDA is apparent since each of these notions alone can be subject to much interpretation. In what follows, each of the three elements of critical discourse analysis is outlined, specifically with respect to how ecological systems and non-human life may influence each.

2.1 Concept of Discourse

As a linguistic concept, *discourse* refers to language-in-use, connected to action in a certain context. Objects of discourse analysis are forms of speech or text in larger units than single words and sentences. Discourse has also been extended to non-linguistic or multimodal communication and social semiotics, including gestures, film, media, art, sound, typography, and questions of colour (Wodak and Meyer 2008, pg. 2, 15). However, these non-linguistic systems are often analysed in relation to texts or as multimodal texts (Jorgensen and Philips 2002, pg. 61).

In extending CDA from social to the ecological questions, the concept of discourse has remained largely consistent to that in conventional CDA. For example, by introducing ecological discourse as an approach to ecolinguistics, Stibbe emphasises linguistic notions of discourse (language-in-use, text, speech). Stibbe's examples are primarily text-based and include advertisements, newspaper reports, industry journals (2014, pg. 122, 123) as well as literatures, stories, poetry (2014, pg. 123, 124). Mühlhäusler and Peace (2006) explicitly define environmental discourse as linguistic devices, citing examples of product slogans, public and commercial radio/television, corporate and political communications, vernacular used in protest movements, Environmental Impact Assessments, and literature.

Extending analysis from the social to the ecological could also lead to a broadening of the very concept of discourse. CDA, for example, can draw from social semiotics by examining several modes of signification and meaning (verbal, written, visual, gestural, aural, etc.). Likewise, in the analysis of natural or ecological realms, other branches of semiotics could also be considered, such as biosemiotics or zoosemiotics.

Particularly appropriate, although less established, is the emerging field of ecosemiotics, since it studies systems of signs and signification as part of both the human and non-human worlds (Maran and Kull, 2014).

A broadened concept of discourse could be interpreted from Timo Maran's (2007) proposed syntheses of linguistic (cultural) and prelinguistic (biological) semiotics. In cultural semiotics, the point of view remains within "the limits of human language and cultural system," while biological ecosemiotics lends itself to the natural sciences and is "mostly interested in theoretical descriptions of sign relations between living organisms and their environment" (Maran 2007 pg. 279). Maran proposes a methodology that synthesises both approaches:

For the practical research methodology such an approach would bring along the need to take into consideration changing viewpoints between culture and nonculture and different levels of semiotic description, to combine research methods of texts with those of natural science; but also to introduce a phenomenological perspective that allows the researcher to combine his/her participation as an intelligent being in the world of text and culture with his/her participation as a living being in the world of nature and its immediate perceptions and meanings. (2007, pg. 279-280)

From a CDA perspective, such a notion of ecosemiotics could imply different *objects of analysis*. For example, an ecological concept of discourse may encompass social-cultural as well as geographic space. Whereas conventional CDA analyses text, speech and multimodal communication, objects of analysis could also include scientific models, maps, built environment and landscapes. Humans read and interpret the natural world as text, and also write this world by building and shaping their environment. Geographic space could be imbued with sign systems and meaning, and thus be analysed as elements of discourse in dialogue with social worlds. Also, emphasis on natural science may differ from CDA. Scientific texts are certainly not excluded from conventional CDA, but in the critical tradition scientific discourses would likely be analysed insofar they were seen to purvey class interests, power, ideology, etc. An ecological approach, in contrast, could approach scientific discourses (theories, models and narratives) more as references or objective sources. However, in these cases, the orientation is still towards objects in domain of cultural semiotics—the researcher is "an intelligent being in the world of text and culture."

The more fundamental shift is suggested when the researcher is a "living being in the world of nature." Beyond different objects of analysis, this presents the possibility that humans as living beings can draw "immediate perceptions and meanings" from phenomena. In other words, the researcher is part of (prelinguistic) semiotics that precedes and even shapes social-cultural (including scientific) representations. Maran presents this idea through the concept of nature-text. The idea of *text* is taken from the Tartu-Moscow semiotic school as something with specific meaning in the culture, and

could be extended to include aspects of nature (Maran 2007, pg. 283). But departing from the Tartu-Moscow tradition where language is the primary modelling system, Maran invokes the zoosemiotic modelling of Thomas A. Seobok where humans share common pre-linguistic modelling systems with non-human species. In proposing a phenomenological perspective, Maran is not only suggesting humans are part of a biosemiosis, but that through direct experience and perception humans can bridge bio- and cultural semiotic systems. Emphasis on understanding through direct experience is central to the phenomenological tradition. Phenomenology is therefore invoked as the method by which humans can understand and interpret natural experience.

Through ecosemiotics and phenomenology, discourse is conceived as part of a hermeneutic process of direct experience and interpretation. Themes of “prelinguistic understanding”, “interpretation,” “textual meaning” and “dialogue” are reminiscent of the phenomenological tradition, specifically the hermeneutic phenomenology associated with Martin Heidegger. This does not pretend to be any systematic interpretation of Heidegger’s philosophy, nor is it suggested that this is what Maran has in mind. However, Heidegger’s thinking may be a source of rich language and commentary from which to build on this idea. A preliminary concept of ecological discourse is now outlined as *language in use, connected with action and context, principally referring to speech and text, but also in relation to semiotics of nature and culture.*

Prior to discussing how this notion of ecological discourse may translate to the practice of critical analysis, an explanation of hermeneutic phenomenology is needed. Specifically, how the relation between human society and the natural world can be seen in light of a hermeneutic phenomenology. In order to remain on the topic of discourse analysis, this vast question is approached by examining the social nature of discourse.

2.2 *Social Nature of Discourse*

As with the *concept of discourse*, there are both resemblances and differences concerning the *social nature of discourse* in conventional CDA and ecological variants.

To explain the role of discourse in constituting the social world, Jorgensen and Philips (2002) place critical discourse analysis on a continuum between two opposing positions. One side, based on the theory of Laclau and Mouffe, is that discourse is fully constitutive of the social world. In this view, discourse is not only text and talk, but “discourse itself is material...entities such as the economy, infrastructure and institutions are also parts of discourse” (pg. 19). On the opposing end, discourse is fully constituted by the world. That is, “a mechanical reproduction of other social practices...fully determined by something else such as the economy” (pg.19). In this model, critical discourse analysis—specifically as defined by Norman Fairclough—stands between these opposites, in a dialectic relationship. Discourse shapes the social reality and is determined by it.

Blommaert (2005) begins an explanation of the social nature of discourse with the question of meaning. Blommaert claims “the use of language and other meaningful

symbols is probably what sets us apart from other species, and what accounts for the peculiar ways of living together we call society or community” (pg. 4).

In contrast, notions of ecosemiotics and prelinguistic understanding place discourse in relation to sign systems and meaning originating from both the natural and social worlds. Humans as living beings are embedded in the natural world and part of nonverbal modelling systems of the natural world (biosemiotics). But human communication still takes place within the social realm, primarily through language but also through other cultural semiotic modes.

The role of discourse in the world can then be explained as a modification of the continuum presented by Jorgensen and Philips. In a tripartite continuum (Figure 1), discourse is in dialectical relation to both the social and natural worlds. On the cultural axis, discourse both constitutes the social world and is constituted by the social world, as in the Jorgensen and Philips model. Similarly, the natural world (through biosemiotics) constitutes the human social world and is constituted by human society. In other words, through discourse, prelinguistic (biosemiotics) models shape conceptual understanding, human culture and meaning. Likewise, through discourse human culture and society transforms and constitutes the environment.

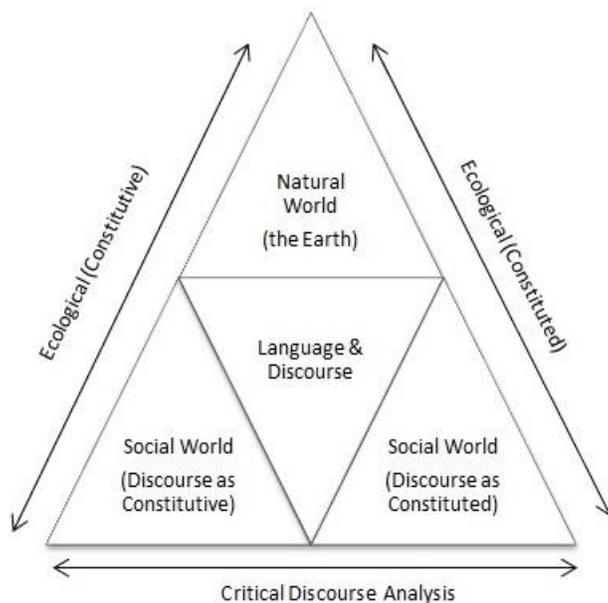


Figure 1: Discourse as constitutive of the social and natural worlds.

This model is not intended to give discourse an all-encompassing definition where it pervades both the natural and social worlds. Discourse remains a medium of shared meaning and communication within a society or community. But the natural world can reach into discourse through language. Language precedes discourse and is more than a medium for communicating current knowledge and worldviews. Language

performs this function through what Heidegger termed “projective saying”. This concept is explained in (Watts, 2014):

Language as “projective saying” predetermines the nature of what can and cannot be spoken in ordinary communication, and thus it founds the world in which we live.... (pg. 280)

This invokes Heidegger’s assertion that “language speaks” and speech is meaningful when it answers to language. The ecological connection here is made with caution since, for Heidegger, the human relationship with the natural world is ontological rather than ecological and the concept of discourse (*Rede*) in Heidegger’s thought is not easily discernable (Wheeler, 2015). Nonetheless, the point is that the human relation to the earth can be interpreted as essentially poetic rather than scientific—in Heidegger’s later thought the essence of “projective saying” is poetry, but is also embodied in other forms of artistic expression. This does not preclude scientific understanding, but implies that language precedes and sets a framework for science to take place. In *Being and Time* Heidegger writes “...the environment is a structure which even biology as a positive science can never find and can never define, but must presuppose and constantly employ” (pg. 84). Language as “the house of Being” (*Letter on Humanism*, pg. 217) has the capacity to open up human social and cultural worlds which are rendered intelligible in human society through discourse: “intelligibility of Being-in-the-world... expresses itself as discourse” (*Being and Time*, pg. 204). Just as the natural world can reach into discourse through language, discourse can reach into the natural world through building and dwelling (i.e. discourse constitutes the natural world). Modes of building and dwelling, in turn, can shape human understanding through the cultural and natural endowment (i.e. discourse is constituted by the natural world). This circular process of meaning and interpretation is hermeneutic.

A similar concept to “projective saying” is found in ecolinguistic literature. Quoting Halliday, Alexander and Stibbe (2014, pg. 105) note that cultural semiotic linguistic structures shape what human communities ‘attend to’ (Halliday 1978, 198; Halliday’s emphasis), but humans can also change and mold these structures through ‘semiotic reconstruction’ (1978, 140). Alexander and Stibbe (2014) proceed to invoke Halliday’s concept of ‘semiodiversity’ or the diversity of meanings (pg. 105). The modern point of departure for human understanding of (and relation to) the earth is natural science, specifically the cybernetic science of ecology (Foltz 1984, pg. 324). But among the ‘diversity of meanings’ this is only one way in which language reveals the earth. An aim of critical discourse analysis could be to uncover how the cultural world which language has opened up in the modern era—that of technology, instrumentality, mastery—is problematic in relation to the natural world.

As an alternative to the prevailing scientific understanding and relation to the earth, phenomenology begins with ordinary experience to determine the preconditions of that experience. In other words, a phenomenological perspective can open up the

diversity of meanings language conveys. Alf Hornborg (2001) describes ecosemiotics as “the contention that ecosystems are constituted no less by flows of signs than flows of matter and energy” (pg. 122). In a phenomenological approach, flows of signs and meaning (semiotics) are conceptually prior to flows of material and energy (science). In contrast to science where the question of meaning is secondary if not absent, meaning and signification become primary. For Heidegger, phenomenal experience is prior to detached theoretical study, previous interpretations, or even subject-object distinctions. Phenomenological analysis is attendant to the human not as a detached subject, but embedded in experience with sensations, moods, and meaning. The task is one of interpreting meaning from nature; letting meaning speak through language and permeate into social and cultural worlds through discourse.

What may seem to be an elusive task, can perhaps be understood through its antithesis. It is conceivable that humans misinterpret meaning or even fail to listen altogether. Discourse that is uprooted from the primal meaning of language in its original context will lead to ruptures in the human relation to the earth. In this sense, there is a symbiosis between preservation of language and conservation of the ecosystem. With respect to ecological critical discourse analysis, it is appropriate to speak of “environmental crisis” as a *krisis* in the Ancient Greek sense of a judgement or decision (Foltz 1984, pg. 324). Critical *kritikós* comes from the same Greek root and refers to something for judging, able to be discerned. Critical analysis *análusis* of discourse is then an unraveling or investigation of communication in the context of a decision to be made about the human relation to the natural world. To determine on what basis discourse can be judged or discerned, the next element of CDA can be considered: the *object of critique*.

2.3 *Object of Critique*

What is to be critiqued will depend on the framework or basis for the critical enterprise. Stibbe refers to this as “a normative ecological framework for judging discourses against (2014, pg. 117). Stibbe introduces Naess’s term ‘ecosophy’, or a “philosophy of ecological harmony or equilibrium....concerning not only the ‘facts’ of pollution, resources, population, etc. but also value priorities” (Stibbe pg. 120; Naess pg. 8). Stibbe then suggests the diversity of conceivable ecosophies can be the basis for critique:

Analysis proceeds by showing how clusters of linguistic features come together in discourses to present a particular worldview, then judging the worldview against the ecosophy. Discourses can fall along a spectrum in terms of their ‘fit’ with the ecosophy. (pg. 121)

A possible challenge for critical discourse analysis, then, is the range of ecosophies against which discourse is judged. The analysis only goes as far as the ecosophy in question. Consider, for instance, discourses about the ecological impacts of

genetically modified organisms (GMO). An ecosophy based on technological optimism or the positive potential of biotechnology will inevitably lead to different conclusions than an ecosophy hostile to human gene manipulation on cultural or even scientific grounds. Indeed it could be argued that science alone can resolve such issues. Accordingly, scientific conclusions are often the de facto normative basis for the critique of ecological discourse. If there are no definitive scientific conclusions, there is no firm basis on which to judge discourse and action. A similar impasse could be described even in the cases where the science is relatively definitive (eg. climate change). This has the effect of default, incomplete ecosophies that, in Naess's terms, addresses "the 'facts' of pollution, resources, population, etc." but has nothing to say about value priorities. This is not to suggest various ecosophies do not answer such questions. But the lack of an explicit normative ecological framework may be a challenge to CDA. Nonetheless, even in the absence of a shared ecosophy, CDA still has much to offer in exposing power relations, ideologies, worldviews and assumptions that may underlie environmental discourses.

Hermeneutic phenomenology is an approach that could establish normative ecological frameworks. Even if empirical science provides no firm conclusions, value priorities can be constituted through intersubjective meaning. Culture, tradition and language are themselves frameworks for ecological understanding. An example from ecolinguistics is the apparent connection between linguistic and ecological diversity, and biological knowledge that may be embedded in indigenous languages. Maran (2007) draws analogy between ecosemiotic meaning and intercultural understanding, noting "natural environment is similar to foreign cultural texts, which are imported or carried over from another culture, or to historical texts, which have been long forgotten and then retrieved" (pg. 284). This does not imply blind acceptance of culture or, in Halliday's words, remaining "prisoners of the cultural semiotic" (Alexander and Stibbe 2014, pg. 105; quotation from Halliday 1978). Rather, a task of critical discourse analysis is the understanding and preservation of meaning. This could entail identification of ways common discourse conceals or betrays what may be elusive, pre-discursive meaning; uncovering ways in which discourse does not remain faithful to the contextual source of language. The method is one of careful examination of direct experience (phenomenology) and continuous interpretation and revision (hermeneutics).

Such critique may be guided by what Maran and Kull (2014) describe as the relation between human symbolic semiosis and environmental degradation (pg. 45). This refers to the difficulty (even inability) in separating cultural semiotic symbols from the original context:

Symbolic categorization in human language of environmental elements and objects leads to: opposition, reduction and the creation of binary oppositions that have a tendency to replace the importance of the whole by the importance of particular parts); understanding and devaluation (understanding the mechanism of a phenomenon has a tendency to remove the value previously attributed to this phenomenon); and selfing and valuation (incorporating a phenomenon into

the self has a tendency to assign value to this phenomenon). These cognitive manipulations of the environment are followed by its physical manipulation, leading to the culturization of nature (the creation of second nature). (Maran and Kull, pg. 45)

There is much overlap here with ecolinguistic approaches to studying how the structure and mechanisms of language shape how humans relate to the natural environment. In fact, Maran and Kull (2014) quote Selvamony's (2007, p. xxiii) assertion that "ecolinguistics could also be regarded as a branch of ecosemiotics." However, based on Jacob von Uexküll's concept of *umwelten* as subjective, species-specific perceptions or models of the world, a semiotic (as opposed to linguistic) approach has the potential to establish a more explicit intersubjective framework between natural and social worlds.

The extent to which ecosemiotics can provide a basis for an explicit ecosophy is inconspicuous. A framework for understanding and communicating intersubjective meaning between human and non-human species remains a fundamental challenge for ecosemiotics. Nonetheless, if the task of critical discourse analysis is to identify "discourses, frames, metaphors" (Stibbe, pg. 117) or "stories to live by" (Stibbe, pg. 123), the creative arts become central. For example, Maran (2001) introduces the concept of nature-text, in which nature writing becomes of a framework for integration of biological and cultural semiotics. Poetry in particular, in conveying truth and meaning through language, has the capacity for 'projective saying' and 'semiotic reconstruction' and thus the ability to reconstitute human discourse. Heidegger's thought gives this centrality to poetry and concepts from Heidegger's later philosophy could provide a lexicon and theoretical basis for a type of ecosophy rooted in hermeneutic phenomenology. For instance, Heidegger's critique of technology could be interpreted in this light as the analysis (or questioning) of language from its source and drawing out implications for humans and the natural world.

The limitations in referring to Heidegger's philosophy are acknowledged. These include philosophical issues such as the absence of an explicit ethics or politics in Heidegger's corpus, as well as the difficulty of the texts, opacity of the writings in translation, and controversy surrounding Heidegger's work. In this respect, other theorists that broadly fall within the tradition of hermeneutic phenomenology are perhaps more fruitful sources. Examples are Merleau-Ponty and ecophenomenology (Brown & Toadvine 2003) or Gadamer and the concept of ecological hermeneutics. Hannah Arendt's work may be interpreted as a hermeneutic phenomenology of the political (Borren, 2013) and is therefore particularly relevant to critical discourse. As an example, the following is an analysis of prevailing discourse surrounding genetically modified (GM) seed with reference to Arendt's method and thought.

3.0 In Practice

Arendt's hermeneutic method is indebted to Heidegger's deconstructive reinterpretation of Western thought in order to recover original and forgotten meaning (*Urphaenomene*). Arendt's examination is also phenomenological in that it aims to arrive at understanding through human experience in the world (*Lebenswelt*) and being-in-the-world as opposed to empiricism or subject-object distinctions. However, Arendt's approach is distinct from that of Heidegger and others in the phenomenological tradition. In light of the crisis of modernity, particularly the experience of totalitarianism of the 20th Century, Arendt's approach takes a turn towards the public realm or *polis*, which is a break from Heidegger's philosophy. Marieke Borren (2013) describes "Arendt's method as a hermeneutic phenomenology of the political" adding that "[Arendt] analyzed the intersubjective nature of our being-in-the-world" (pg. 232).

The following example aims to analyse contemporary ecological discourse in light of Arendt's hermeneutic phenomenology. Referring to Arendt's distinction between observer and spectator, Borren points out that in this phenomenological approach, the investigator obtains knowledge not as "an external observer that takes a third-person position over and against the perceived or the epistemological object" (pg. 235). Rather, the relation is "a more situated mode of validity that is predicated on a second-person perspective" (ibid). The aim therefore is to approach discourse from a second-person perspective and critique how theoretical and empirical-scientific claims contrast with the first-person *Lebenswelt* perspective of certain actors. As with the preceding discussion of Heidegger, this is not intended as an application or systematic interpretation of Arendt's thought. The intent, rather, is to sketch possible insights (and limitations) a hermeneutic phenomenological approach may entail in the analysis of contemporary ecological discourse. The method is based on Fairclough's three dimensional model of critical discourse analysis, which considers discursive practice, text and social practice (Jorgensen and Phillips, 2002, pg. 68).

The discourse in question concerns the topic of genetically modified (GM) seed by referencing to two separate texts (referred to as *first* and *second text* respectively). The research problem for discourse analysis relates to understanding disparate views concerning the use of GMO technology.

3.1 First Text

The first text is a brief passage (118 words from a 3,500 word article) and is not selected as a representation of the entire article, and certainly not the broader GM seed debate. The selection is merely one example of prevailing assumptions inherent in GM seed discourse in the public sphere. The article "The Truth about Genetically Modified Food" by David H. Freedman is from an August, 2013 article in the popular (non-specialist) *Scientific American*. The quotes contained in the passage are from plant molecular

biologist Robert Goldberg based at the University of California and British environmental journalist Mark Lynas:

Some scientists say the objections to GM food stem from politics rather than science—that they are motivated by an objection to large multinational corporations having enormous influence over the food supply; invoking risks from genetic modification just provides a convenient way of whipping up the masses against industrial agriculture. “This has nothing to do with science,” Goldberg says. “It’s about ideology.” Former anti-GM activist Lynas agrees. He recently went as far as labeling the anti-GM crowd “explicitly an antiscience movement.”

...It is also true that many pro-GM scientists in the field are unduly harsh—even unscientific—in their treatment of critics. GM proponents sometimes lump every scientist who raises safety questions together with activists and discredited researchers.... Most of them are nonscientists, or retired researchers from obscure institutions, or nonbiologist scientists.... (Freedman, 2013)

In terms of discursive practice, these passages (and the article as a whole) display a low degree of interdiscursivity. The article focuses almost exclusively on whether GM food is safe from a human health standpoint. The dominant discourse is that of empirical science; specifically peer reviewed research in a setting of certain prestige Anglo-American institutions. Alternate social and institutional meanings are secondary, if at all considered. The article does raise the concern of perceived influence of industry funding on research perspectives. Also, possible unknowns inherent in the scientific research are pointed out. However, there is an ordering of discourses below the scientific. In an apparent representation of both sides of the debate, the possible flawed (“unduly harsh—even unscientific”) position of some GM proponents is not a result of their failure to consider alternate discourses, but that they “lump” otherwise objective scientific concerns together with non-scientific perspectives of “activists and discredited researchers.” In other words, the pro-GM argument would be even stronger if they ignored non-scientific discourses all together. These non-scientific perspectives include those related to politics, corporate influence, industrial agriculture; those advanced by activists, nonbiologist scientists, or researchers at “obscure institutions”. Intertextual meaning could be interpreted from Lynas’ quotation, in that it invokes evolution from an activist to scientific perspective, suggesting the latter as a progression of knowledge. (Lynas is a former anti-GM activist who later apologised for his earlier protest and conceded to never having read a peer-reviewed article on the topic.) Transitivity and the metaphor of “whipping up the masses” suggest GM critics are part of a cohesive, organised and influential misinformation campaign. Identity construction and word choice (“masses”, “crowd”, “activists”, “obscure”, “retired”, “ideology”, “discredited”) are

used pejoratively in contrast to seven instances where “science” has an unreservedly positive connotation.

Through transitivity, word choice and intertextuality, the above passage suggests an ordering of discourses below a specific, specialised branch of institutional biological research. The extent of this ordering is open to interpretation depending on possible modalities. For example, rather than a truth modality where the author is expressing affinity with the statements, the passages can be read as a form of permission on behalf of the author to represent rather extreme perspectives on both sides of the debate. Nonetheless, a low degree of interdiscursivity is still displayed in the context of an article that frames the issue around whether GM food is safe from a health standpoint.

Claims of ‘low interdiscursivity’ or the ‘ordering of discourses’ are not criticism of this particular article. That empirical science is the dominant discourse is a consequence of conceiving the essence of GM seed as biological. This seemingly obvious conception pervades discourse on the subject and is the logical result of a conceptual approach that presupposes a human as subject and the genetically altered organism as object. As such, discursive truth claims ultimately rest with those who possess specialised knowledge of this object relation (i.e. molecular biologists); those who in Borren’s terms have “a third-person position over and against the perceived or the epistemological object” (pg. 235). In contrast, a hermeneutic phenomenological approach begins in the *Lebenswelt* of human experience and confronts how GM technology is embedded in a plurality of contexts. As opposed to a strictly material relation to objects, Arendt distinguished between earth and world, regarding “the world as the material and immaterial dwelling place for human beings on earth” (Borren, pg. 236). In the world, intersubjective meaning, context and perspective precede empiricism and rationalism. For Arendt, a plurality of perspectives emerges from the radical finitude of each human having been born into a unique place and time. Being-in-the-world is characterised by this plurality in a “web” of human relationships (Human Condition, pg. 175; 183). “Plurality is a blessing in that the perspective of the others not only defines and stabilizes one’s own perspective...but also puts it in relation with the world” (Gambetti, 2005, pg. 443). Plurality is also the condition of all political life “because we are all the same, that is, human, in such a way that nobody is ever the same as anyone else who ever lived, lives, or will live ” (Human Condition, pg. 7–8). The political or public sphere has the capacity to unite humans in meaningful action while preserving their freedom and plurality through communicative interaction. As with Heidegger, analysis of language and communication is central to understanding modernity and recovering meaning “...where words are not empty and deeds not brutal, where words are not used to veil intentions but to disclose realities....” (Human Condition, 200)

How such insights translate to the analysis of contemporary GM seed discourse may be inconspicuous. If nothing else, Arendt’s thought highlights the importance of paying close attention to discourses in the public sphere; to be wary of reductionist tendencies or the privileging of technical or bureaucratic language. However, this is not the extent of the relevance of Arendt’s thought to the topic at hand. It is clear from her

prologue to *The Human Condition* that Arendt, like Heidegger, saw technology (or more precisely technicity) as the decisive feature of the modern age leading to uprootedness and alienation from the earth. Modern science and technology have resulted in *earth-alienation* “with dreams of ‘liberating’ us from nature ‘biological’ necessity, and ‘human imprisonment’” (MaCauley 1996). Heidegger’s misplaced hopes that political action could address the “confrontation of planetary technology” casts an unfortunate shadow over his entire thought¹. But Arendt clearly does not abandon the importance of political renewal in reshaping the human technological relation to the earth: “There is no reason to doubt our present ability to destroy all organic life on earth...it is a political question of the first order and therefore can hardly be left to the decision of professional scientists or professional politicians” (*The Human Condition*, Prologue). Despite the immense political significance of technology, speech about it in the public sphere is no longer meaningful “for the sciences today have been forced to adopt a “language” of mathematical symbols which...now contains statements that in no way can be translated back into speech” (ibid).

Even from this limited discussion of Arendt’s thought, some insights can be gained for analysis of GM discourse. Discourse which “discloses reality” in a phenomenological sense would consider the plurality of perspectives regarding GMO technology. These include cultural and historical contexts as well as different uses of the technology by unique agents in the practice of labour and work. Moreover, as opposed to deference to specialists, discourse would take place in the public sphere through negotiated meaning acknowledging the political nature of the issue. The importance of scientific research would certainly not be dismissed, but would be one perspective from which to derive meaning and action in the public sphere. In contrast to the first text, such discourse would likely reflect plurality through a high degree of interdiscursivity.

3.2 *Second Text*

The second text for analysis is a passage from the “Maize Manifesto” released on January 15, 2013 by the *National Union of Autonomous Regional Peasant Organizations (UNORCA)* in Mexico. While the first passage “The Truth about Genetically Modified Food” implied a pejorative sense of the political, the manifesto is addressed to the government and people of Mexico and is explicitly political in both an institutional and participatory sense:

¹ The “unfortunate shadow” refers to Heidegger’s membership in the Nazi Party (NSDAP) and ongoing controversy regarding the relation between Heidegger’s philosophy and National Socialism. The “confrontation...” refers to a 1935 lecture where Heidegger spoke of the “inner truth and greatness” of the National Socialist movement. In a 1953 publication of the lecture entitled *Introduction to Metaphysics* Heidegger added the parenthetical remark: “inner truth and greatness of this movement (namely, the confrontation of planetary technology and modern humanity)”.

In our country there are more than 60 native races and thousands of local varieties of maize, which instead of representing some kind of risk, carry important virtues thanks to their selection and adaptation by indigenous peoples over more than seven thousand years. Some of these native varieties offer higher yields than the ones manipulated by Monsanto. The imposition of transnational frankenseeds would mean an end to this richness and the loss of the ancestral milpa tradition as a sustainable system of maize production and symbol of the Mesoamerican cultural inheritance. (National Union of Autonomous Regional Peasant Organizations (UNORCA), 2013)

This second text frames the essence of GM technology as not only scientific, but cultural, historical, ancestral, economic, political, philosophical and symbolic. A higher degree of interdiscursivity appears in this second text compared to the first, but this is not simply a result of mentioning more perspectives. Rather, the perspectives are disclosed in a way that indicates they have been considered in their uniqueness. In this passage (and the 'Manifesto' as a whole) the scientific discourse is not dismissed, but hedged as "some kind of risk" suggesting that, despite empirical research, there are unknowns associated with the technology. Similarly, the claim that GM results in "higher yields" is addressed outright as non-factual—an assertion the organisation makes based not on academic research, but practical engagement in food production. Scientific and technical aspects are explicitly acknowledged in this way, but are also implicitly placed in the framework of ancestral tradition and culture. Transitivity suggests interconnectedness and blurred boundaries between nature and culture. The notion of "selection and adaptation" of seed varieties over thousands of years suggests a natural attunement to complex biological processes, in contrast to an unnatural, hubristic "manipulation" of varieties by a large corporation. Similarly, the colonial, historical images could also work as a biological metaphor—the age-old Mayan milpa tradition of crop rotation and nutrient cycling being lost at the hands of a "transnational" seed is akin to an invasive species threatening an ecosystem. The historical context is also referred to in the use of the geographic term "Mesoamerica" (a cultural and bioregion) as opposed to the more recent nation states of the region. While intertextuality in the first text suggested progressive evolution from the activist to scientific viewpoint, this text invokes a sense of decline and decadence associated with modern technology. More explicit intertextuality could be interpreted from "frankenseeds" which invokes Shelly's portrayal of the dark side of industry and science as well as romanticism as a reaction to industrialisation and Enlightenment disenchantment.

Some such interpretations take more liberty than others, but it is clear the second text involves interconnectedness and layers of rich meaning that are absent from first. Also, the non-discursive social practice of the second text leads to further understanding that is not obtainable from the first text. The relation between the texts and what Arendt considered fundamental aspects of the human condition—labour, work and action—is fundamentally different. Notably, the "Maize Manifesto" was a political act that

accompanied protests and hunger strikes by indigenous peasants in the Mexican capital. It could be argued that concerns of “large multinational corporations having enormous influence over the food supply” (an accusation in the first text) are legitimised given the social and economic context of the average Mexican peasant farmer. For example, since NAFTA and the opening of Mexico to transnational agribusiness, Mexico has become a net importer of food and traditional diets have been replaced by more processed foods; due to foreign commodity imports many farmers have been forced to abandon the countryside and migrate; and prices for food staples rose due to consolidation in agribusiness (Wise, 2010).

Although this analysis need not claim one text is more truthful than the other, it does suggest the second text is embedded in a *Lebenswelt* and plurality of perspectives in a way the first is not. Full consideration of these perspectives is necessary for equal and participatory discourse on GM seed technology.

4.0 Conclusion

Stibbe (2014) suggests discourses can be judged against ‘ecosophies’, a term Naess described as a “philosophy of ecological harmony...concerning not only the ‘facts’ of pollution, resources, population, etc. but also value priorities” (Stibbe pg. 120; Naess pg. 8). In critical discourse analysis, the *object of critique* is then the degree to which discourses “‘fit’ with the ecosophy” (Stibbe, pg. 121). However, the wide range of possible ecosophies and the tendency to prioritise the natural sciences present challenges. For example, the hegemony of scientific discourse (even in cases where science is not definitive) may lead to an absence of ‘value priorities’. Phenomenological hermeneutics informed by ecosemiotics offers an alternative by explicitly prioritising intersubjective meaning.

Heidegger’s work provides the language and richness for such an enterprise, but also presents many challenges. The example of GM seed discourse aims to show how phenomenological hermeneutics based on the thought of Hannah Arendt could provide insight in CDA practice. A possible concern with a phenomenological approach is that intersubjective meaning may refer exclusively to the human world as opposed to the biological earth. It could therefore lose sight of the “‘facts’ of pollution, resources, population, etc.” by prioritizing human meaning over the fate of other organisms. This justifies an approach to ecological discourse that refers to scientific research in a more central way than is necessary in social variants of CDA. Also, an ecosemiotic approach could allow for meaning and interpretation where, in its absence, there may be nothing to say concerning value priorities. For instance, if DNA can be read as message-bearing signs transmitted to protein for replication to occur (Buchanan, 2008), then patterns that may be inherent in nature (eg. “selection and adaptation” vs. “manipulation”) have symbolic meaning for humans. In the context of human action, this meaning could lead to

very different interpretations then, for instance, empirical studies concluding there is no evidence of health risk.

In a tripartite model of the *social nature of discourse* (Figure 1), discourse is constitutive and constituted of the social world, as well as constitutive and constituted of the natural world. Heidegger and Arendt's reflections on modern technology detail the centrality of language and communication in both disclosing and framing the human relation to the natural world. In this light, critical (*kritikós*) analysis of discourse is pivotal given the modern "environmental crisis" (*krisis*, or judgement). Fostering critical language awareness amid the plurality of discourses that connect both human and natural worlds is a main objective and challenge of ecological CDA.

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