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Critical Discourse Analysis and Ecology: the search for new stories to live by

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Introduction

One of the criteria for working in Critical Discourse Analysis is, according to Van Dijk (1993, p. 252), 'solidarity with those who need it most. Their problems are real problems, that is, the serious problems that threaten the lives or well-being of many'. Critical Discourse Analysts therefore tend to take the perspective of oppressed groups in society, working against exploitation and towards a more equitable society. Increasingly, however, the problems faced by oppressed groups are not just social but ecological, as climate change, biodiversity loss, resource depletion, and chemical contamination make it difficult for them to achieve wellbeing or even meet their basic needs for survival. It is no longer enough to work towards an equitable society, since if that society consumes more than can be replaced by nature and produces more waste than can be absorbed by nature then it will be unsustainable and on a pathway to collapse. Mary Midgley (2011, p. 111) claims that 'the Marxist account entirely ignored factors outside the human species...Marx was not concerned about the exploitation of natural resources...he saw capitalist imperialism simply as the oppression of one set of humans by another, not as a source of ecological disaster'.

The same could be said for much work in Critical Discourse Analysis in the past, although, as this chapter will describe, that has started to change.

The change arises from a general ecological turn with the humanities and social science, which has seen the rise of *ecopsychology*, *ecofeminism*, *ecosociology*, *ecocriticism*, *environmental communication* and *ecolinguistics*. All of these new disciplines recognise that the object of study, whether human minds, gender relations, society, literature, communication or language, has an influence on human behaviour and therefore on how humans treat the ecological systems that sustain life. Ecological humanities and social sciences are (in general) oriented towards helping to build not just fairer and more equitable societies, but also sustainable societies, which protect their ecological foundations. Glotfelty (2014), for instance, describes how 'Most ecocritical work shares a common motivation: the troubling awareness that we have reached the age of environmental limits, a time when the consequences of human actions are damaging the planet's basic life support systems.'

At the same time as linguists are moving towards fuller accounts of language which include consideration of ecological issues, there is an increasing focus on language among ecologists and environmental thinkers. Rather than treating ecological issues as technical problems to be solved by science, these thinkers see them as calling into question the fundamental stories that societies are built on – the stories we live by. This chapter uses the concept of 'story' in this sense as a lens for exploring the connection between language and ecology.

The chapter begins with the ecologists and environmental thinkers who expose and question the stories we live by. It then moves on to linguistic approaches which investigate how these stories are 'told' through discourse and cognitive structures. The linguistic

approaches are illustrated through a critical analysis of the discourse Native American sayings. Finally, the conclusion explores how the approaches described in the chapter can contribute to an engaged form of ecologically sensitive Critical Discourse Analysis.

Stories

Naomi Klein, in her book, *This changes everything: capitalism vs. the climate*, describes the impact that climate change will have on vulnerable populations around the world. She states that:

There are ways of preventing this grim future, or at least making it a lot less dire. But the catch is that these also involve changing everything. For us high consumers, it involves changing how we live, how our economies function, even the stories we tell about our place on earth (Klein 2014, p. 4).

Klein is among many commentators to suggest that dealing with ecological issues requires a fundamental reconsideration of 'the stories on which Western cultures are founded' (p.63). Dougal and Hine (2009), in *The Dark Mountain Manifesto*, write that the root of ecological crisis lies in 'the stories we have been telling ourselves', which include the 'story of human centrality, of our ever-expanding control over 'nature', our right to perpetual economic growth, our ability to transcend all limits.' In *Change the story, change the future: a living economy for a living earth*, Korten (2015, p. 1) writes 'When we get our story wrong, we get our future wrong. We are in a terminal crisis because we have our defining story badly wrong'. Korten urges a move away from stories that value money and markets above all

else, towards ones which value life and the living earth. Charles Eisenstein (2013, pp. 1–2) describes a prevailing ‘Story of the People...in which humanity was destined to create a perfect world through science, reason and technology; to conquer nature, transcend our animal origins and engineer a rational society’. It is, according to Eisenstein, a story that has ‘come to enslave us, that indeed is killing the planet’ (p.8). Macy and Johnstone (2012, p. 15) criticise the ‘business-as-usual story’ which is ‘told by most mainstream policy makers and corporate leaders. Their view is that economies can and must continue to grow’.

By the term ‘story’, Eisenstein means ‘a matrix of narratives, agreements and symbolic systems that comprises the answers our culture offers to life’s most basic questions’ (ibid. p.4). A key aspect of this conception of ‘story’ is that people can forget that a certain perspective is just one possible perspective, and instead start to perceive it as just a transparent reflection of the way the world is. Macy and Johnstone (2012, p. 15) describe how ‘When you’re living in the middle of this [business-as-usual] story, it’s easy to think of it as just the way things are.’ Kingsnorth and Hine (2009), similarly state that ‘What makes this story [of human centrality] so dangerous is that, for the most part, we have forgotten that it is a story’.

In essence, these ecological thinkers are claiming that stories and myths which grew out of the Enlightenment have taken on new powerful forms within neo-liberalism and transnational capitalism, to the extent that they are making the Earth less hospitable for human life. What these critics do not do, however, is to analyse the detailed linguistic workings through which stories such as these are produced, reproduced and come to structure how we think about the world. That is a task that critical discourse analysis and cognitive linguistics are well suited for. In their own ways, these disciplines analyse linguistic features to reveal ideologies, metaphors, framings and other forms of story that

we live by. If we combine linguistic approaches with the insights of environmental and ecological thinkers, then the result can be considered a form of *ecolinguistics*.

Stories and discourse

Ecolinguistics is a term which refers to a variety of different approaches with different methods and goals (Steffensen and Fill 2014). Early approaches tended to focus on how grammatical features and lexical items which are built into the language system prevent ecological thinking. Halliday (2001, p. 193) wrote that 'there is a syndrome of grammatical features which conspire...to construe reality in a certain way; and it is a way that is no longer good for our health as a species'. One example he gives is how human beings are represented in transitivity structures as the most animate of beings (thinking, doing and acting in the world), while inanimate objects are represented passively, as having things done to them (p.194). He points out that forests are not represented as actively doing things, even though they prevent flooding, provide oxygen, stabilise the soil and harbour wildlife. He concludes that 'The grammar does not present inanimate objects as doers...[which] makes it hard for us to take seriously the notion of inanimate nature as an active participant in events' (p.194). The problem with a language system approach is that it fails to consider how particular groups in society use language in particular ways to further their interests, and there is little prospect of changing the language system itself, a fact which Halliday himself concedes (p.196).

Later approaches have tended to focus on *discourse* rather than the language system. A discourse approach examines how particular groups in society select particular lexical items and grammatical structures from those available from the language system,

and combine them in particular ways to tell stories about the world. Glenn (2004), Mitchell (2013) and Stibbe (2012), for instance, analyse the discourse of transnational agribusiness, showing how it represents animals in ways which promote exploitative and ecologically damaging farming. Glenn shows how a cluster of linguistic features within the discourse of agribusiness tells the story that FACTORY FARMING IS BENIGN:

With the relatively recent advent of the factory farming industry... an assortment of corporate strategies have ensued that construct an image of a benevolently beneficial industry. Far from benign, however, factory farms are responsible for a tremendous amount of environmental damage... (p.63)

Mitchell (2013, p. 299) analyses farming magazines and discovers 'a strong discourse of production where the nonhuman animals are linguistically constructed as raw materials, production machines and product'. By representing the industry as beneficial to animals, or alternatively representing animals as objects who cannot feel, the discourse justifies and promotes industrial farming techniques. These techniques serve the financial interests of the agribusiness executives responsible for creating the discourse, but only through harming animals and imposing externalities (external costs) on local communities and future generations who suffer from the environmental damage caused.

The discourse approach is, of course, a form of Critical Discourse Analysis. A powerful group uses language in characteristic ways that convey a story (an ideology) that causes suffering and oppression to other groups. An ecolinguistic analysis simply considers a wider range of oppressed groups (including animals, current generations of humans who are suffering from pollution and resource depletion, and future generations of humans who will

find it harder to meet their needs), and considers the impact of discourses on the wider systems that support life. Discourses such as transnational agribusiness can be considered *destructive* since they can encourage people to engage in ecologically destructive activities. Other discourses that could be considered are destructive are those of neoclassical economics or other dominant economic paradigms such as Keynesian economics, which either overlook the environment completely or contain a 'mechanistic conception of nature as devoid of significance except insofar as it could be moulded for human purposes and sold on the market' (Gare 1996, p. 143). Advertising, too, could be considered destructive, in encouraging people to purchase unnecessary and environmentally damaging products. Destructive discourses are addressed through *resistance*, e.g., raising critical language awareness that the stories that the discourse tells are not the only stories possible, that they potentially have a negative impact on the systems that support life, and that other stories are available.

As well as criticising the destructive impact of discourses such as advertising, economics, and agribusiness, ecolinguistics also searches for new, positive stories to live by. Goatly (2014), for instance, uses systemic functional grammar to analyse Wordsworth's *The Prelude*. Wordsworth's poetry, he finds, represents nature actively by placing animals, plants, and rivers in the roles of *actors* in material processes and *sayers* in verbal processes. It encourages people to be more observant of the natural world by placing it as the *phenomenon* of mental processes. Goatly's conclusion is that 'to survive we had better take note of Wordsworth ... rethink and respeak our participation in nature before it rethinks or rejects our participation in it' (p. 215).

Goatly's analysis is just of one collection of poems, but these poems are manifestations of a wider discourse of romantic poetry which offers different perspectives

on nature from those currently dominant in society. Discourses like this, which the analyst believes can be helpful in encouraging ecological thinking, can be considered *beneficial discourses*. Analysis of beneficial discourses is a form of Positive Discourse Analysis (Martin 2004, Bartlett 2012). The aim of PDA in this case is not to promote the works of Wordsworth or other Romantic poets, but rather to discover constellations of language features which tell a useful story. These language features could then be applied to a wide range of texts which shape how we think about nature, e.g., biology textbooks or ecology reports.

Many ecological studies of discourse are not of discourses which are clearly destructive, or ones which are beneficial, but ones which fall somewhere between the two, which can be called *ambivalent discourses*. Corporate greenwash, for example, is negative because it deceives customers into thinking that products are more ecologically beneficial than they actually are, but also positive in the sense that it conveys the story that the environmental performance of products matters. Sustainable development discourses are positive in emphasising that the environment needs to be protected as economies grow, but negative in failing to question whether the economies of countries that are already over-consuming actually do need to grow. There have been numerous studies of ambivalent discourses, including eco-tourism (Purnell 1997), sustainability (Kowalski 2013), greenwash (Alexander 2013), natural resources (Kurz *et al.* 2005), zoos (Milstein 2009), wildlife documentaries (Sealey and Oakley 2013), and environmentalism (Benton-Short 1999). Addressing ambivalent discourses may involve negotiating a common set of values between the analyst and those responsible for reproducing the discourse, and then working together to ensure that the discourse conveys those common values.

Stories in cognition

One of the most productive areas of ecolinguistic enquiry has focused on the cognitive level, and examined how particular frames and metaphors promote ecologically beneficial or destructive behaviour. Romaine (1996) and Nerlich and Jaspal (2012) take Lakoff and Johnson's (1980) expression 'metaphors we live by' and invert it to 'metaphors we die by'; that is, metaphors which encourage us to destroy the systems that we depend on for our survival.

Sometimes metaphors and framings are examined as part of particular discourses, but sometimes the cognitive structures cross large numbers of discourses and are of interest in their own right. For example, the framing CLIMATE CHANGE IS A PROBLEM TO BE SOLVED is shared across a great number of discourses and everyday ways of thinking about climate change. It tells a particular story about climate change - that once a solution is found the problem will disappear. Although widespread, it is not the only possible way to frame climate change. Greer (2013, p. 22) writes that 'many things we've conceptualised as problems are actually predicaments'. Framing climate change as a predicament leads to a different conceptual structure – although humanity can, and must, respond to a predicament, there is no response which can make a predicament simply disappear.

There have been studies of metaphor and frames in a wide range of areas, including climate change (Hulme 2009, Russill 2010), biodiversity issues (Christmas *et al.* 2013), conservation (Keulartz 2007, Larson 2011, Blackmore and Holmes 2013), development (Darnton and Kirk 2011), nature (Verhagen 2008), geoengineering (Nerlich and Jaspal 2012) and general environmental issues (Crompton 2010). While some of these studies are written for academic audiences, some are aimed at giving practical advice to NGOs and policy-

makers on how to frame environmental and development issues. What all the studies agree on is that how ecological issues are cognitively structured by framings and metaphors is important for how we think about the issues, and, importantly, how we act on them.

Blackmore and Holmes (2013, p. 42) propose a specific methodology to investigate frames, based on the following questions:

What values does the frame embody?

Is a response necessary?

Can the frame be challenged? If so, how?

Can (and should) a new frame be created?

A primary way that they evaluate frames is whether they trigger the *intrinsic* values (concern for others) that are associated with pro-environmental behaviour, or *extrinsic* values (i.e., profit, status and concern for self) that are associated with ecologically destructive behaviour. The examples they give of intrinsic frames are *discovery*, *working together*, *beauty in nature*, and *connection with nature*, which they contrast with the extrinsic frames of *commercial transaction* (which sees protecting nature as a business selling the product of conservation to a customer), or *ecosystems services* (which puts a price on nature).

A key issue for frames and metaphors is whether they tell a story of humans as part of the natural world, or separate from it. Cachelin *et al.* (2010, p. 671) write that 'if we humans consider ourselves apart from nature, we will not necessarily consider ourselves subject to nature's laws'. Verhagen (2008, p. 11) investigates the metaphor of *NATURE IS A MACHINE*, which 'justifies the exploitative and managerial character of Western civilisation'

and clearly separates humans from nature. A variant of that metaphor is *EARTH IS A SPACESHIP*, which conveys the 'image of humans as managers and controllers' of nature (Mühlhäusler 2003, p. 180). Another metaphor, of 'ecological restoration', treats the Earth as a painting that needs caring for (Keulartz 2007, p. 31), but still separates the person doing the restoring from the painting (nature). Another metaphor which separates humans from nature is *NATURE IS A BURNING LIBRARY* (Väliverronen and Hellsten 2002, p. 236). In this metaphor, the extinction of species is viewed in terms of the loss of important (genetic) information that occurs when a library burns. It is a dramatic metaphor but still places humans outside the library trying to put the fire out, rather than inside the library burning along with the books.

In general, Russill (2010, p. 116) argues that it is essential to investigate frames and metaphors to discover how people make sense of ecological issues, since 'professional communicators have great power to shape public understanding, and build support for specific conclusions by accessing deeply shared metaphorical systems'.

An integrated framework for analysing stories

The recent book *Ecolinguistics: language, ecology and the stories we live by* (Stibbe 2015) proposes a cognitive framework that integrates the idea of 'stories we live by' from human ecology with critical discourse analysis, cognitive science, social psychology, identity theory and appraisal theory. In this framework, *stories* are underlying cognitive models that manifest themselves in text and exist in the minds of individuals or across the minds of multiple individuals in society. Stories that are common within a culture are the *stories we*

live by and influence how people think, talk and act, with a consequent impact on how we treat the ecosystems that life depends on. There are eight forms that stories take, as follows:

- *Ideologies* are mental models shared by a group
- *Framings* use a packet of knowledge about the world (a source frame) to tell a story about an area of life (a target domain).
- *Metaphors* are a form of framing where the source frame is concrete and distinctly different from the target domain
- *Identities* are stories about what it means to be a particular kind of person.
- *Evaluations* are stories in people's minds about whether an area of life is good or bad.
- *Convictions* are stories in people's minds about whether a particular description of reality is true, uncertain or untrue
- *Erasure* and *Salience* are stories in people's minds about whether an area of life is important and worthy of consideration.

All eight types of story exist at the cognitive level, as models in people's minds, but they manifest themselves in particular linguistic forms: discourses, trigger words for metaphors and framings, language that characterises people, appraisal patterns, and erasure/salience patterns which disguise participants or represent them vividly. By analysing the linguistic features of texts (or discourses), it is possible to reveal the underlying story, which is then judged against an *ecosophy*.

Ecosophy is a term coined by Arne Naess (1995) and is short for 'ecological philosophy'. It is 'a philosophy of ecological harmony...openly normative it contains norms, rules, postulates, value priority announcements and hypotheses concerning the state of affairs' (p. 8). All Critical Discourse Analysis is (explicitly or implicitly) conducted against a vision of ideal human relations with other humans. Gavriely-Nuri (2012, p. 83) is explicit when she says that a Cultural Critical Discourse Analysis should be based on 'values, attitudes and behaviours based on the principles of freedom, justice and democracy, all human rights, tolerance and solidarity.' An ecosophy is a values framework for judging stories against that includes consideration of relationships of humans not only with other humans, but also with the larger ecosystems they depend on for survival.

Ecosophies vary on a scale from anthropocentric (where the focus is only on human wellbeing), to ecocentric (where humans and other species are considered to have intrinsic worth). They can be optimistic (e.g., that changes in technology can solve environmental problems without any reduction in consumption or changes in social relationships), or pessimistic (e.g., that current civilisation is on an irredeemable trajectory towards collapse, and it is time to plan for a new kind of civilisation for after the collapse). And politically they can range from the far right, where market forces are seen as the solution to environmental problems, to socialist or anarchist responses which call for a new social order.

Stories are judged to be *destructive* (i.e., encouraging people to destroy the systems that life depends on) if they oppose the ecosophy, and are then resisted (e.g., through raising critical language awareness of the potential impact of the stories). They are *ambivalent* if they partially oppose but partially agree with the ecosophy, in which case it may be possible to work constructively with those who use the story to make adjustments. And stories are judged to be *beneficial* if they are seen as aligning with and agreeing with

the ecosophy, and are then promoted. Promoting a 'story' means promoting the linguistic features which combine together to tell the story rather than specific texts that tell the story.

Stories and the Discourse of Native American Sayings

This section briefly puts the framework described above into practice by analysing a corpus of Native American Sayings that are commonly used in environmental and ecological writing. One example is the following quotation attributed to Chief Seattle:

Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together. All things connect.

This quotation appears in Al Gore's book *Earth in the Balance*, in Molly Scott Cato's *Green Economics*, in Matlock and Morgan's *Ecological Engineering Design*, in Havercroft et al.'s *Carbon Capture Storage, Makofske's Technology, development, and the global environment*, and a vast range of other environmental books, reports and publications.

In Chief Seattle's metaphor, humans are very much part of the natural world, and the metaphor is useful in emphasising that concern for the environment is not just for the sake of exotic and beautiful species which are endangered, but for the survival of humans too. As Raymond et al point (2013) point out, 'In the web of life metaphor, humans are one part of a wider ecological system and have the responsibility to understand their impacts

on...the broader system'. In general, the use of Native American Sayings in ecological/ environmental discourse is of interest to ecolinguistics because they are a device for presenting stories about the place of humans in the world that are very different from mainstream economic and environmental discourses.

The common quotations can be considered a discourse in their own right since they have characteristic linguistic features which encode a particular ideology. This is not a monolithic 'Native American Ideology', however, as if peoples across an entire continent all thought (and still do think) the same. The sayings have come from the past selectively, often at a considerable distance from the original. Furtwangler (1997), for instance, describes how Chief Seattle's speech was written down a significant time after it was given, based on notes written by someone who only heard it through an interpreter.

Instead of being a transparent and authentic representation of an ancient worldview, the Discourse of Native American Sayings could be considered a social construction of an ecological wise 'other' to express a story that speaks to contemporary environmental issues. As Greg Garrard (2012) points out, there are dangers to essentialising an 'other' in this way. He writes that 'The Ecological Indian is clearly a stereotype of European origin' (p.135), and 'at its cruellest, the Ecological Indian represents a homogenisation of ... 600 or so distinct and culturally diverse societies' (p. 136). The discourse can, however, be analysed in terms of the linguistic features it contains and how these features convey particular stories about the world, without treating it as an authentic record of a particular civilisation. While patronising stereotyping can certainly be dispensed with, there may be forms of language in the sayings that are useful in telling stories that align with the analyst's ecosophy.

This section is based on the ecosophy described in Stibbe (2015, p. 13), which is a) broadly ecocentric in valuing humans and other species, b) has a pragmatic focus on human wellbeing, since any solution that harms humans for the sake of other species is unlikely to be adopted, c) recognises environmental limits so calls for a reduction in global consumption d) recognises social justice so calls for a redistribution of resources as total consumption declines e) recognises that human survival (and existence) depends on continuous interaction with other species and the physical environment.

For the purposes of this analysis, sixty examples of Native American Sayings were gathered into a corpus from a variety of on-line collections of quotes from various organisations, including *Californian Indian Education* (2015). This is not a representative sample, but the quotes are common ones, and therefore the corpus represents a significant usage of the discourse. The approach is a Positive Discourse Analysis one, which aims to discover beneficial stories (i.e., ones that accord with the analyst's ecosophy), and determine what cluster of linguistic features give rise to those stories. If positive stories are found then the language features which combine to tell these stories can be promoted as useful ways of communicating about the place of humans in the world. That is not to say that PDA is an uncritical approach – if there are negative aspects of a discourse then they need to be exposed to ensure they are not reproduced.

The discussion here is of the discourse of the quotes themselves, but as part of a larger study which analyses how the quotes are used in the context of environmental and ecological writing. Analysis of the context is beyond the scope of this chapter, but it is worth making three comments about how the quotations tend to be used. Firstly, the quotes are generally represented positively in environmental writing as a source of insight into ecological problems; secondly, the style of language of the quotes differs markedly from the

surrounding text, and thirdly, the insights from the text are often re-described using the style of language of the surrounding text.

The discourse of Native American Sayings constructs a power relationship between speaker and hearer that represents the Native American speaker as wise and knowledgeable, in relationship to a hearer who is either ignorant (in the case of a 'white' addressee) or innocent (when the addressee is a young Native American). The story behind this can be glossed as THE NATIVE AMERICAN SPEAKER IS A WISE ADVISOR, and is an example of the most general form of story, an *ideology*. Linguistically, the ideology manifests itself in the use of the following features (with examples from the corpus):

- imperatives, e.g., '*Hold on* to what you believe'
- high modality, e.g., 'we *must* consider the impact of our decisions on the next seven generations' or 'We *need* to set an example of truth and action'
- second person pronouns, e.g., '*you* will discover you cannot eat money'
- present tense 'zero conditionals', which represent the outcome of one state of affairs as necessarily leading to another state of affairs, e.g., '*When* you know who you are; *when* your mission is clear...You know that you are alive'.

These language features have a strong interpersonal function which, although it powerfully engages the reader, would be out of place and didactic in environmental/ecological writing if not in a quotation.

The story of the speaker as wise and hearer as ignorant is part of a larger *ideological square* (van Dijk) where positive aspects of an ingroup are emphasised, negative aspects downplayed, and negative aspects of the outgroup are emphasised, with positive aspects

downplayed. In this square, the Native Americans (or 'Red Nation', 'Indians', 'a red man', 'our people' or 'us') form the positive in-group while Europeans (or 'the white man', 'him', 'you', 'them') form the negative out-group. An example from the corpus of the ideological square is as follows:

Only to the white man was nature a wilderness and only to him was the land 'infested' with 'wild' animals and 'savage' people. To us it was tame, Earth was bountiful...

In context, however, the environmental/ecological writings are written by members of an industrial society for members of the same society, and appropriate the voice of the 'other' to reject the values of the society that both author and reader are part of. The discourse uses *appraisal patterns* to consistently represent the values of industrial civilisation negatively, and those of the Native Americans positively. In the quote above, 'infested' and 'savage' have negative semantic prosody (i.e., tend to be used in negative contexts such as 'infested with cockroaches') and are associated with the view of the 'white man', while 'bountiful' has positive connotations and is associated with the view of the ingroup (i.e., Native Americans). The pattern in general is to build up the positivity of the in-group values through a wide range of appraising items that have positive prosody or connotations, such as *peace, love, respect, truth, honesty, generosity, equity and brotherhood*, while associating the outgroup with negative appraising items, such as *sick, broken, selfish, or separation*. The appraisal consists of not just lexical items but also antithesis, where a contrast is presented between something that is approved of and something that is condemned. For example in 'I do not think the measure of a civilisation is how tall its buildings of concrete are, but rather how well its people have learned to relate to their environment', the second clause is given

positivity through aligning with the views of the speaker, who is already presented as wise, with the first part presented negatively.

When appraisal patterns are widespread within a culture they can become entrenched, i.e., become stories in people's minds about whether an area of life is good or bad. These cognitive stories are called *evaluations* (in Stibbe 2015, p. 83). A key aspect of the appraisal patterns in the Native American Sayings is that they represent extrinsic (self-centred) values such as *wealth, power, money* and *fame* negatively, and intrinsic (other-centred) values such as *generosity, love, and respect* positively (e.g., *We do not want riches. We want peace and love.*). This is important since research shows that just reading about intrinsic values encourages people to express more care about the environment (Molinsky *et al.* 2012, Blackmore and Holmes 2013). In this way the quotations are resisting widespread entrenched evaluations that represent extrinsic values positively and attempting to replace them with other evaluations.

An important issue in ecolinguistics is whether the natural world is represented saliently in texts through linguistic patterns which represent it prominently, or is erased through patterns which omit or distort it. As Leopold (1979, p. 214) notes 'We can be ethical only in relation to something we can see, feel, understand, love, or otherwise have faith in'. Often in mainstream environmental writing, plants and animals are represented abstractly as *flora and fauna, or stocks of biotic resources*, which erases them as individuals worthy of respect and care (Stibbe 2012). Cognitively, if the natural world is erased from widespread texts that people interact with daily it could set up stories in their minds that the natural world is not of importance or worthy of consideration.

In contrast to this, the Discourse of Native American Sayings has various ways to build up the salience of the natural world, including what can be called *sense images*. A

sense image represents an aspect of nature as it appears to the senses of humans observing it, conveying a strong and vivid image to the hearer. Examples from the corpus are: *the cry of a loon, the flash of a salmon, the whisper of spruce needles, the fragrance of the grass and the flash of a firefly*. The focus on the names of specific species *loon, salmon, spruce* also builds salience since these are at the most concretely imaginable *basic level* (Lakoff and Wehling 2012, p. 41), as opposed to more abstract level of *bird, fish* or *tree*, or the even more abstract *organisms*. Metonymy too gives animals a salience by representing types of animals by specific, easily imaginable characteristics or actions ‘Honour all with whom we share the Earth: Four-leggeds, two-leggeds, winged ones, swimmers, crawlers’. In this way the *salience patterns* in the text make the natural world more prominent in the minds of hearers, which, if repeated frequently enough, could build a story in their minds that nature is worthy of consideration.

There are many analogies in the sayings which compare humans with other aspects of nature:

- We live, we die, and like the grass and trees, renew ourselves
- A frog does not drink up the pond in which it lives
- the coyote is sly, so is the Indian
- [man must follow a vision] as the eagle seeks the deepest blue of the sky.

These also give salience to the natural world, and help build up the story that humans are comparable to the rest of life, which is important in not overlooking that, like all creatures, we depend on the natural world for our continued survival.

One of the framings used is EARTH IS A POSSESSION, for example in 'We do not inherit the earth from our ancestors, we borrow it from our children'. This framing is anthropocentric since humans are represented as owning the earth, but at least in this case it is the children who own the earth, which accords with intergenerational justice. More ecocentric metaphors are those of THE EARTH AS A MOTHER, THE SKY AS A FATHER and HUMANS AS CHILDREN (e.g., 'Honour the Earth, our Mother', 'Whatever befalls the earth befalls the children of the earth'). The entailment of this metaphor is that the earth should be respected, since the earth is (framed as) a parent and a parent frame includes respect from children to parents.

This section has just commented on a few of the many framings, metaphors, evaluations, salience patterns and other stories in a corpus of Native American Sayings. In general, while there are important caveats about the construction of the fictional 'ecological other', the sayings do provide a cluster of linguistic devices for telling stories about the world that differ markedly from the dominant stories of an unsustainable industrial civilisation. Some of these stories accord with the ecosophy used to judge them against in giving salience (and therefore moral consideration) to both human beings and other species, in bringing awareness of environmental limits, and emphasising the dependence of humans on the more than human world. Further investigation of the discourse could help reveal clusters of linguistic features that could be applied in other areas of life beyond the quotes themselves to help tell stories that encourage people to protect the natural world.

Conclusion

This chapter has discussed three main approaches to the relationship between language and the ecosystems that life depends on. A discourse approach describes how powerful groups in society select clusters of linguistic features which tell particular stories, and aims to expose these stories and resist them if they are seen as encouraging behaviour that harms the ecosystems that life depends on. The cognitive approach is similar, but focuses on particular cognitive structures such as metaphors and framings, which may appear as part of a discourse or more widely across a range of discourses. The final approach combined the human ecology idea that the fundamental stories told in western societies contribute to ecological destruction, with cognitive and discursive theories to expose and challenge those stories. The practical analysis showed how a discourse (Native American Sayings) can be investigated in the search for positive stories that align with the analyst's ecosophy, while still keeping an eye open for negative aspects of the discourse which should not be reproduced.

A key conclusion is that linguists cannot do it on their own. The ecological issues that we face are not due to linguistic deficiencies in the language system which can be recognised and corrected through grammatical or semantic analysis alone. Instead, it is necessary for ecolinguists to analyse how linguistic features come together in particular discourses to tell stories about the world, and judge those stories according to an ecosophy. The quality of the analysis will depend entirely on the quality of the ecosophy. An ecosophy partly consists of value announcements (e.g., statements about whether only humans matter or whether other species matter too), but is also based on evidence (e.g., evidence of environmental limits and the degree to which society must change to live within them).

Ecolinguistic analysis, then, is highly interdisciplinary, bringing consideration of ethics, environment, ecology, economics, and society to bear on the analysis of texts. It requires an expansion of focus of Critical Discourse Analysis from the oppression of some groups of humans by other groups of humans, to a wider view of the role of language in influencing how we treat the ecosystems that all life depends on.

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Further Reading

Stibbe, A., 2015. *Ecolinguistics: language, ecology and the stories we live by*. London: Routledge.

This book outlines a theoretical framework for ecolinguistics, combining Critical Discourse Analysis and cognitive science. It is based on analysis of the *stories we live by*, which are judged according to the ecosophy of the analyst, and applies the framework to a wide range of discourses from economics textbooks to Japanese haiku.

Fill, A. and Penz, H. (eds). Forthcoming. *Routledge Handbook of Ecolinguistics*. London: Routledge

This book consists of chapters written by a large number of leading ecolinguistics, including those who take a Critical Discourse Analysis and Positive Discourse Analysis approach.

Stibbe, A., 2012. *Animals erased: discourse, ecology, and reconnection with the natural world*. Middletown, CT: Wesleyan University Press.

This book investigates how the forms of language used to describe animals can influence how they are treated, with consequences for both animal welfare and the environment.

Steffensen, S. and Fill, A., 2014. Ecolinguistics: the state of the art and future horizons. *Language Sciences*, 41, 6–25.

This journal article provides a useful overview of the broad range of research approaches which label themselves as 'ecolinguistics'.