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ENVIRONMENTAL SEMANTICS

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1. Environmental semantics: An overview

Environmental semantics is the study of the meanings of words, expressions, and constructions that pertain to climate, weather, and associated social phenomena, including environmentalism. Through the composition of semantic explications, scripts, and models, phrased in natural semantic metalanguage (NSM) or minimal languages, one can illuminate the relationship between language and people, and the social, cultural, and environmental systems in which they are embedded. Environmental destruction, including climate crisis, is a wicked problem. How people express themselves through language encodes attitudes and values held towards the environment, broadly defined. In this way, language is one piece of the puzzle. Although of worldwide concern, many climate and weather events happen locally in specific geographic, historical, and cultural contexts, and instantiate local linguacultural expressions. At the same time, discussion of environment increasingly occurs between people of different linguistic and cultural backgrounds, often using English as a global language.

Environmental semantics is a recent development in the NSM approach. It emerged in Australia and, thus far, has been mostly concentrated in English-based discourses. However, the Nordic relevance of environmental semantics is obvious, given the global prominence of Nordic green rhetoric, such as the rhetoric of Greta Thunberg and the *Skolstrejk för Klimatet* movement, and the development of new words, constructions, and discourses in Nordic languages that revolve around environmental, green themes.

Environmental semantics builds on basic research in environmental words and meanings, such as semantic molecules (Goddard 2010; Levisen & Aragón 2017), and geographical semantics (Bromhead 2018; Mašková 2022; Levisen forthcoming; Rao forthcoming), but extends its focus to the entanglements of geopolitical, sociocultural, and communicative aspects of global crisis (on the cultural pragmatics of "danger", see Levisen and Ye forthcoming, on language and popular geopolitics, see Fernández & Levisen 2021). A variety of compositions have been proposed for the study of environmental semantics. Apart from cultural scripts (see Levisen, Fernández & Hein, this volume), these include new work on discourse models, action models, and message models—texts that present the messages encoded in proper names for natural disasters.

This article presents an overview of work to date in Section 2. Section 3 gives an illustration of environmental semantics in action through (i) the English extreme weather word *flood* in an explication, and (ii) an action model for "School Strikers" protesting for climate action. Section 4 places environmental semantics in a Nordic context.

2. Work on environmental semantics to date

Environmental semantics was inaugurated through studies of the discourse of extreme weather in an Australian context (Bromhead 2020, 2021a, In press). From there, it has expanded to encompass the language of the environmental movement, now mainstream, at least in English and other Western European languages (Bromhead & Goddard forthcoming; Bromhead 2021b, forthcoming). Further, there is a practical angle—a minimal languages approach is being proposed to inform disaster and climate adaptation messaging (Bromhead 2021c).

To the first strand, Bromhead (2020) unpacks the semantics of Australian English *bushfire*, a cultural keyword. *Bushfire* differs from broader English *wildfire* as it takes in the meaning of the Australian term *bush*, which denotes dry vegetation conceived of as a mass. The 'dry' aspect accounts for why Australians, though traumatized by fires, expect some vegetation to burn. Many Australian species of tree only reproduce through exposure to fire. Moreover, First Nations burn vegetation for culturally and spiritually embedded management of land. The study also provides a cultural script for responses to 'bushfires' that includes activities such as preparing one's property in anticipation of fire. The chapter traces conceptions of events through

English language in Australia's distinct geographic, settler colonial and social context, which developed prior to impacts of anthropogenic climate change.

Bromhead (In press) outlines tensions between traditional and climate-informed bushfire vocabulary in Australia, such as competing names for the catastrophic 2019–2020 bushfires, *Black Summer* and *the Forever Fires*. Through rendering minimally the messages conveyed by each name in message models, one can lay bare attitudes to the local and the global, to land and vegetation, to humans and other species, and to mourning and responsibility. Vocabulary selection can hinge on whether one wants to emphasise the new challenges of climate crisis, or provide cultural continuity with established Australian approaches to extreme weather.

The language of floods is treated in Bromhead (2021a), addressing events in the Australian state of Queensland in 2011. The study uses a collection of witness accounts as a starting point to explore aspects of the discourse of floods (see Section 3.1, below, on the discourse keyword *flood*). Included are discourse models that portray formations brought about and established within a broader linguacultural context, such as the topic of flood warnings. Though materially based, "floods" are a geographic, cultural, social, and colonial construction, which is reflected through different levels of discourse.

Language of environmental concern is the topic of Bromhead and Goddard (forthcoming), and Bromhead (2021b, forthcoming). An applied semantics study takes three exemplars of climate action discourse: (i) nomenclature used to reframe "climate change": for example, *climate catastrophe*; (ii) "public inquiries" as a discourse shaper; and (iii) *the economy* and derivatives like *low carbon economy* (Bromhead & Goddard forthcoming). Elements of NSM formulations are used to shed light on the advantages and drawbacks of particular lexical choices.

Environmental distress has come to attention, especially in the light of the School Strikes movement founded by Swedish climate activist Greta Thunberg. Bromhead (forthcoming) explores the proliferation of English expressions like *eco-anxiety*, *climate anxiety*, and *climate grief*. The emotion words *anxiety* and *grief* carry resonance into the use of these new expressions. It is argued that the English emotional lexicon of this domain has not yet stabilised. The

expressions may all be alternative labels of a new emotion, which reflects the spirit of the age. Meaning components are also sketched. In addition, the study proposes an action model, which depicts the "Greta effect", that is, young people channelling their negative feelings about climate change into collective action (see Section 3.2, below).

Applying environmental semantics to public messaging is ongoing, with proposals to inform messages for disaster preparedness, heat health, and outdoor fire safety (Bromhead 2021c). Environmental semantics provides an opportunity to collaborate across disciplines as academics join forces to tackle climate action. A minimal languages approach has been brought to climate distress assessment in Australia, through a National Climate Action Survey (Bradley 2022; Goddard et al. forthcoming), and there are ongoing collaborations with big data analytics and public health.

3. Environmental semantics in action

3.1. *Flood*

To illustrate the inner workings of environmental semantics, an explication of English *flood* is discussed ([A] below; see also Bromhead 2021a). Two important aspects of the NSM approach arise in its composition. Firstly, the concept was taken as it appears in the naïve picture of the world (Apresjan 1992). The ordinary semantics of *flood* are not of the nature of a meteorological description nor a legal one for insurance. Secondly, as with other cognitively based approaches to linguistics, the NSM approach views meaning as experiential; the concept of "flood" is born of human experience in the body, the senses, movement, and social, cultural, and material life.

[A] *a flood* (English)

(a)
when people say there is a *flood* in a place, they are saying:
    something like this is happening now:
    it rains very, very much in this place, not like at other times
    because of this, there is very much water in many places where there isn't water at other times
    people don't want this, it is very bad for people

(b)
sometimes it happens like this:

because it rains very very much, there is very much water in places like rivers, not like at other times
after this, it rains more, some of this water isn't in places like rivers anymore
there is much water everywhere
there is a lot of water on roads, there can be a lot of water in houses
very bad things can happen to people when something like this happens
sometimes people die because of it

(c)
after something like this happens in places, it is like this:
there is a lot of water in places for some time, it can't be there for a very long time
at the same time, these places are not like they were before
something bad happened to them because for some time there was very much water in them

Section (a) provides the key ingredients of a flood. The first line denaturalises the concept. It is presented as a happening in a place. An unusually large amount of rain leads to water being in places where it normally is not. People do not want this, and the effect this has on them is bad. The depiction is general and could take in both floods from rivers and flash floods from storms.

Section (b) sets out the prototypical scenario for a flood, preceded by "sometimes". It portrays water overflowing from "places like rivers" at times of a lot of rain. The result is water in human structures, houses, and roads. Moreover, people can suffer negative effects; sometimes floods even lead to deaths.

In (c), an aftermath is sketched in which water is present before receding, leaving a site damaged.

The meaning is experiential: human desires, lives, bodies, and constructions (roads, houses) are included, as well as "water" and "river", which are defined via human experience (Wierzbicka 1996; Bromhead 2011, 2018).

Often the NSM approach applies a cross-cultural lens. The explication comes out of reflecting on an Australian context. Considering a First Nations perspective on the same weather event, in the same geography, one can view *flood* in the Australian English settler colonial linguaculture. The explication shows a flood as, at worst, a disaster; at best, a nuisance. Phrasings "where there isn't

water at other times" and "not like at other times" convey the idea that a "river" must be regular and contained (Bromhead 2011, 2018). By contrast, First Nations land use practices see people living in accordance with seasons, in flexible settlements, as opposed to the fixed cities and towns of colonial Australia. Waterways on the Australian continent regularly expand over their banks, so, in Indigenous conceptualizations, events of this kind are expected and not distressing (Joachim 2021).

Though composed of the behaviour of the elements, in a particular place, at a particular time, extreme weather concepts are artefacts that encode the expectations, views of landscape, values, and lifestyles of the culture of which they are part.

3.2. Action model for School Strikers

Discourse on new English climate emotion expressions, such as *eco-anxiety* and *climate anxiety*, includes recommendations for how best to deal with these negative feelings, which are associated with young people. One course is by taking collective climate action as in a 'School Strike'. Model [B] gives a cognitive scenario for the motivation for this practice.

[B] action model for School Strikers

some very bad things are happening to the earth

I don't want these things to happen
because of this, I want to do something

many other young people don't want these bad things to happen to the earth
because of this, we want to do something

there are some old people above us, like politicians, like businessmen
they are doing bad things to the earth because they want money

we don't want these people to do these things, we want to tell them,
we want them to hear it, they don't want to hear it

we want them to see us, see many people in the same place, at the same time
we will be in the same place, at the same time

The composition is an "action model" about an individual young person who "wants to do something" (a component associated with

anxiety) so joins with likeminded agemates in action. It takes a minimal languages approach to representation (on minimal languages, see Diget, this volume), and includes the concepts of "earth", "young people", "old people", "politicians", "businessmen", and "money". It establishes a generational divide between young people who have a concern for the earth, and powerholders of the older generation whose environmentally destructive practices are motivated by capitalist greed. Dialogue between the two groups is not possible because of the latter's intransigence. Therefore, the result is young people gathering in mass protest to draw attention to climate change.

4. Environmental semantics in Nordic context

The study of environmental semantics in Nordic contexts is still in its infancy, and in this final section we would like to identify some priorities for future studies. The Nordic discourse of climate action is often multilingual and new green keywords bridge Nordic and global discourse. The connections between Nordic and global discourses of environmentalism, and the views of the world that are created through words, constructions, and scripts, are important to account for in depth. We would like to point to four areas of special interest in this regard:

- The semantics of the rhetoric of first movers—such as Greta Thunberg as a thought-articulator—and the discourses of radical Nordic–global environmentalism, but also the adaptation of, modification of, or rejection of these views and ideas in public Nordic discourse.
- The semantics of emotion and affect in and across Nordic languages, including new concepts such as *klimaangst* 'climate anxiety', *flyskam* 'flight shame', etc.
- The semantics of sociality, and the social constructs of environmental discourse, especially, the questions of young people vs. old people, rebels vs. boomers, and the discursive construction "generations", including also "future generations".
- The semantics of environment and geography in First Nations in Nordic contexts, including Inuit and Sami construals of the world, and ways in which these construals both differ from modern Scandinavian takes on environmental cognition, and at the same time offer wisdom that can be of great importance for a rethinking of the relationship between "people and planet".

5. Summing up

Environmental semantics is both of intellectual interest and social urgency. The analytical tools of the NSM approach, as well as its emphasis on an ordinary perspective, experientialism, and cross-cultural comparison, provide a powerful way to explore diverse topics of language and environment, broadly defined. Environmental semantics is a field that provides fertile ground for researchers, including those working on Nordic languages, at the critical time of the 2020s and into the future.

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