

Waging the War of the Words: Global Warming or Heating?

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Abstract

Many of the metaphors we use in environmental education have unwanted emotive associations. With thought more appropriate metaphors can be found. In choosing metaphors to describe global heating (versus warming), we seem to have selected metaphors with negative associations to describe concepts that should have positive associations (such as carbon sinks), and metaphors with positive associations to describe concepts that should have negative associations (such as greenhouses). It is argued that the use of metaphors that are appropriate in form and affect will promote wider public acceptance of environmental concepts.

Résumé

Plusieurs métaphores utilisées en éducation environnementale ont des associations émotives non désirées. Après réflexion, il est possible d'en trouver de plus appropriées. En ce qui concerne le réchauffement planétaire, il semble que nous ayons choisi des métaphores qui ont des associations négatives pour décrire des concepts qui devraient avoir des associations positives (comme les puits de carbone). En revanche, des métaphores avec des associations positives décrivent des associations négatives (tel effet de serre). Il est prétendu que le recours à des métaphores qui conviennent quant à la forme et à l'affect favorise une plus large acceptation des concepts environnementaux.

Global warming is an environmental issue with alarming implications. It is likely to change the daily life of every individual on the face of the earth, and may already be starting to produce catastrophic influences on weather patterns (Houghton, 1994). As I write this the Intergovernmental

Panel on Climate Change is poised to release the final report of Working Group II; one thousand pages covering likely effects on water resources, agriculture and food supply, terrestrial ecosystems, coastal zones and marine ecosystems, human settlements and their energy and industry, insurance and other financial services, and human health. Considering its potential to render impossible the continuance of everyday culture as we know it, the community attitude to the threat seems remarkably apathetic. In Australia it is possible for the government to vacillate with its Kyoto obligations, supported by industry interest lobbies, such as the coal producers, with relatively little opposition from the general, non-scientific community (Lowe, 2000). This general apathy may be the result of at least two factors common to many environmental issues. Firstly, there is the fear of dealing with complex scientific issues. Secondly, the causes and solutions to the problem are perceived as immense; well beyond the capacity of the individual to make a difference. Each factor promotes what Douglas Adams (1982) humorously termed the *SEP* effect. Something that is too large to comprehend becomes *Someone Else's Problem*, and so the mind protects itself by hiding it from view.

Educational theory tells us that it is possible to ameliorate the perceived complexities by describing them in familiar terms (often involving metaphors), and to promote individual involvement by making the problem relevant (for example, Ausbel, 1968). These two approaches require consideration of three factors.

- Focusing on the most relevant features of the concept,
- Utilization of the information recipient's prior experiences, and
- Triggering the desired attitudes in the information recipient.

The first of these factors is self-evident. Listeners will lose interest when the vehicle used to visualise the concept is inappropriate. For example, there is little point in using quark theory to introduce a discussion on the digestive system as the audience will not see the connection. The second factor of experience is also relatively self-evident and forms the basis of the contextual model of learning (Driver, 1985). It is obvious that teaching colour aesthetics to the blind or music appreciation to the deaf will be difficult. The third revolves around the origins of attitudes that are more elusive but I believe that misleading emotive images evoked by the terminology are behind much of the reluctance of the community to engage with environmental issues like "global warming."

Lakoff and Johnson (1980) described how important metaphors are in shaping the way we think about the world. They suggested that metaphors

form clusters, where not only forms, but also values are transferred when one concept is linked to another by its use as a metaphor. Metaphors with emotive undertones are pervasive in the language, and scientific concepts are not exempt. Environmental issues are frequently described by metaphors. One only needs to think of the gender-rich associations of the term *Mother Nature* to realize how we accept these metaphors unconsciously. The motherhood image promotes positive emotions associated with protection, care, and warmth. The warmth with which we consider *warmth* (for example *warm and cosy*, or to regard someone with *warm affection*) is quite distinct from the feeling of potential threat invoked by the word *heat* (for example, *in the heat of the moment*, or *things are hotting up*). Perhaps global warming itself would be better thought of as global heating. In discussing global warming (or heating) two metaphors almost invariably arise: the greenhouse effect, and the carbon sink. I argue that these two terms are inappropriate, and that the inappropriate associations that they engender both foster the public apathy about the issue, and close our minds to alternative approaches to the problem.

Greenhouses are protected places where plant growth is luxuriant. The protection provided to plants within the greenhouse makes it difficult to associate global heating with desertification. Greenhouses are moist luxuriant environments. It is hardly surprising if the community attitude towards the greenhouse effect is skewed towards the positive image of tropical rainforests. Similarly, the greenhouse is a place protected from winds or changes in climate. Yet the greenhouse effect is producing an atmosphere more prone to extremes: cyclones, deep freezes, and excessive heat. A new metaphor is needed, one that keeps the notion of retained heat but more closely parallels the form and affect of the scientific concept. I suggest the idea of a *heat trap*. Traps have an air of danger about them. Appealing, non-threatening creatures cannot escape the trap and become writhing, vicious, and unpredictable.

In contrast to the inappropriate positive images evoked by the *greenhouse* metaphor, carbon *sinks* that should be viewed positively are saddled with a negative metaphor associated with disappearing waste. While the *sink* metaphor is familiar throughout the community, its use is a public relations nightmare both in its form and affective content.

The form of the "carbon sink" metaphor is not appropriate. The *sink* is the domestic antithesis of ecological dogma, diametrically opposed to the conservation and recycling ethic. One definition of a sink is as a "basin that allows water to escape . . . having a supply of water connected to it" (Oxford Compact Dictionary, 1991, p. 1774). This combines the ideas that

both the supply and the disposal are passively regulated. By contrast, the carbon sink is a place where valuable material is stored (often very temporarily in the case of vegetation) in a valued form. Ecological maintenance is an issue of active carbon management rather than passive disposal.

If the match between the metaphor and the scientific concept is bad, then the affective impact of the *sink* metaphor is far worse. The Compact Oxford Dictionary (1991) lists one hundred and one different usages for the word *sink*, none of them positive. As a noun it is “a receptacle of foul or waste material” (p. 1774). In medieval times it referred to “a collection of unsavoury or objectionable matters.” The metaphors associated with the noun *sink* are similarly negative. If something has disappeared without benefit then it is “down the sink.” A person with a “mind like a sink” reflects the old view that sinks are where “the scum or dregs or a place or set of persons” collect. Similarly, the “sinks of the body” were the organs or excretion in biology textbooks from around the turn of last century. As a verb *sink* fares no better. No-one wishes to “sink into depression.” To sink is to “reduce or bring to ruin a low estate” where something will “fall, lapse or degenerate into some inferior or unsatisfactory state or condition” (p. 1774). It is the opposite of swim; that is, it is a failure to cope. You go down by sinking, bringing to mind Lakoff and Johnson’s construction of *sadness*, *lack of control*, *low status*, *depravity* and *death* with *down* (and *sink*) as a single coherent metaphor with negative connotations.

There is no need to use the *sink* metaphor. There are many others that retain familiarity, but are more appropriate in form and affect. A *reservoir*, such as a water reservoir, is still a receptacle, but one associated with a valued resource. It also conjures up a system where the regulation of inputs and outflows is important if adequate reserves are to be maintained. However, it suffers as the image of a vast and impersonal expanse under the control of some large authority; that is, *Someone Else’s Problem*.

A *store*, such as a grain store, is smaller, but retains the need to regulate inputs and outflows, and highlights the need to have some reserves. In the current climate of economic rationalism the metaphor of a bank might be one way to develop this theme further. A carbon *bank* would provide “aesthetic” interest in the form of preserved wilderness. However, a bank (and to a lesser degree a store) can operate on borrowed capital. The earth cannot borrow from other planets.

A possible solution presents itself by combining the notion of a bank while reversing one further definition of sinking where one *invests* unprofitably, losing money in unfortunate *investment*. The metaphor of carbon *investment* provides us with a positive metaphor for a positive environ-

mental action. The Compact Oxford Dictionary (1991) defines investment as “the employment (of money) in the purchase of anything from which interest or profit is expected” (p. 874). Investment is both an active process and a process of choice about how valuables are allocated. It recognizes how our present actions determine our ability to fulfil future needs. In this manner it encompasses the positive qualities of care, planning, and control.

As well as having the appropriate affective impact, carbon investment has many similarities in form to economic investment. Investment implies the active management of resources. Two time horizons are important in both investments. Liquidity is provided through easily convertible resources. In carbon investment this liquidity comes in the form of living vegetation that ties up the carbon in non-gaseous compounds for short periods (geologically speaking) until it is released by burning, rotting, or similar chemical reactions. Long-term investment is in the form of fossil fuels, such as coal and oil, that are not prone to conversion to gaseous compounds by virtue of their chemical structure or anoxic location. The carbonate and bicarbonate in the oceans forms a sort of government reserve that is regulated by overall economic conditions, but (as has been appreciated by monetarist economists) has limited potential as a means to regulate the carbon economy.

The investment metaphor may also spur some lateral thinking about the problem. Firstly it makes it much clearer how prone liquidity, via planting schemes such as the carbon credits proposals, is to political manipulation. Similarly it opens the possibility that alternative long-term carbon investment schemes will be formulated. Assets are reformulated as compounds that lock carbon out of the atmosphere, rather than those that can be used as fuel. Since the required resource for this carbon investment is non-gaseous, carbon-rich compounds (as opposed to the volatile carbon-containing *liquidity* in fuels that burn to create a carbon *debt*), we may start considering our industrial organic waste that satisfies these requirements, such as plastics, less as a liability and more as an asset. The use of car tyres to make artificial reefs becomes a carbon investment as well as a fish habitat. Burning them is the wonton destruction of an asset.

In summary, the words we use *do* matter; they shape the way we look at the world. The use of words with positive associations (such as greenhouse) for negative concepts, or the use of words with negative associations (such as sink) for positive concepts creates a cognitive confusion that I believe has resulted in more muted support for the political and social actions that are needed to avert the devastating effects of global heating. The unfortunate truth is that once coined, a buzzword is next to impossible to

extinguish. Thomas Kuhn, who popularised the word *paradigm*, found it became out of control, losing its original meaning, while retaining its affective attraction (Horgan, 1996). When *greenhouse gases* and *carbon sinks* pass from the scientific community into the wider community much of their discipline-specific content is lost; only their affective impact remains intact. Science places great store on precision in its definitions. In future more attention needs to be paid to the emotional links in the metaphors we employ. For the present we need to consider actively reassessing our terminology. Let's start with talking about heat *traps* and carbon *investments* when discussing global *heating*. It might win more understanding and support.

Notes on Contributor

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