



Degrowth: A “missile word” that backfires?

Stefan Drews^a, Miklós Antal^{b,c,*}

^a Institute of Environmental Science and Technology, Universitat Autònoma de Barcelona, Edifici Z, UAB Campus, 08193 Bellaterra, Spain

^b Institute of Social Relations, Eötvös Loránd University, Pázmány Péter sétány 1, 1117 Budapest, Hungary

^c Austrian Institute of Economic Research (WIFO), 1030 Vienna, Arsenal, Object 20, Austria



ARTICLE INFO

Article history:

Received 17 November 2015

Received in revised form 1 March 2016

Accepted 4 April 2016

Available online 14 April 2016

Keywords:

Growth-versus-environment debate

Degrowth

Language

Cognition

Snap judgment

Public understanding

ABSTRACT

Language use and cognition are generally underappreciated topics in ecological economics, even if effective communication is essential for social and political impact. To challenge the economic growth paradigm, the concept and term “degrowth” has recently been embraced by various activists and scholars. Drawing on a body of evidence from cognitive science, psychology, and related fields, we argue that using the word *degrowth* might be disadvantageous in public communications about alternatives to growth. We begin by reviewing arguments in favor of the term. Then we outline three main counterarguments: First, degrowth has a downward orientation which triggers negative initial feelings due to the basic conceptual metaphor “up is good—down is bad”. This puts advocates of an alternative to the growth paradigm in an unfavorable starting position, given that subsequent thought will be unconsciously biased by the initial feeling. Second, more conscious reactions are likely to be negative as well because people unfamiliar with the term will (mis)interpret it as a contraction of the economy, even though it is not always meant as such. Third, degrowth repeats and possibly strengthens the growth frame and may activate undesirable frames associated with economic recessions. To conclude, we briefly discuss alternative terms and summarize key aspects to be considered for more effective communication.

© 2016 Elsevier B.V. All rights reserved.

“When the language in use is inadequate to articulate what begs to be articulated, then it is time for a new vocabulary.” D’Alisa et al. (2014).

1. Introduction

In the last decade, various researchers working on alternatives to the economic growth paradigm started to use the English language term “degrowth”—a supposed “missile word” that originates from the French term and activist slogan “décroissance.” The provocative word was coined in 2001 and seeks to overcome the widespread ignorance about the presumed unsustainability of endless economic growth (Demaria et al., 2013). Until 2015, four international conferences, more than 100 academic and many more newspaper articles used degrowth as a central theme. Besides initiating a research agenda and raising important questions about the way our societies are organized, proponents of degrowth seek to build a social movement (Kallis, 2011). Evidently, this entails reaching out to a wider audience and spreading the word *degrowth*. Several commentators, however, reacted unfavorably to this slogan. For example, the renowned linguist and

activist Noam Chomsky said in a 2013 interview: “But when you say ‘degrowth’ it frightens people. It’s like saying you’re going to have to be poorer tomorrow than you are today, and it doesn’t mean that. [...] It shouldn’t be called ‘degrowth.’ It should be called ‘improving your lives.’” (canadiandimension.com, 2013).

Only a few studies focused on language and cognition in prior issues of this journal (e.g., Luks, 1998; Antal and Hukkinen, 2010; Shaw and Nerlich, 2015). For instance, Luks (1998) highlighted the need to consider rhetorical aspects in the communication with politicians and the general public if ecological economists want to increase their impact on public policy. Overall, these issues are largely underappreciated despite a substantial body of theoretical and empirical literature in cognitive science, psychology, and related applied fields documenting the power of word choice and framing. To give two illustrative examples: saying “global warming” instead of “climate change” can result in higher engagement among the general public but also raise doubt concerning the existence of the phenomenon among US Republicans (Whitmarsh, 2009; Leiserowitz et al., 2014; Schuldt et al., 2011); and calling an environmental charge a “tax” rather than an “offset” significantly reduces the willingness of Republicans to pay this charge (Hardisty et al., 2009). It is widely accepted that many decisions are not made in an analytic, conscious and deliberate, but rather an intuitive, quick, and unconscious way (e.g., Kahneman, 2011). Such insights are increasingly used in political psychology to draw conclusions about the realities of opinion formation regarding public issues (e.g., Westen, 2007; Lakoff, 2008; Lodge and Taber, 2013). Because some kind of framing is

* Corresponding author at: Institute of Social Relations, Eötvös Loránd University, Pázmány Péter sétány 1, 1117 Budapest, Hungary.

E-mail addresses: stefan.drews11@gmail.com (S. Drews), antalmi@gmail.com (M. Antal).

unavoidable, it is reasonable to choose an effective one. After all, building a successful movement requires not only alternative visions but also proper language use (McGrath, 2007).

This article aims to examine why intuitive judgments of degrowth are unfavorable, and thus why degrowth may be an unfortunate name for a proposed alternative to the economic growth paradigm. First, we review arguments given in favor of using the term. Next, we provide a number of reasons why it is problematic from a cognitive psychological perspective. Finally, we look at some alternative framings and the challenges of re-framing. In this way, we briefly go through the main points that have been discussed so far in non-peer-reviewed sources such as newspapers and blogs. The contribution of this article is to enrich the debate by grounding certain claims more firmly in the psychological literature and to offer further insights. Let us stress that we focus on terminology, not on the substance of degrowth proposals (in subsequent sections, italics will be used to differentiate *degrowth* as a term from its substantive use). Besides, we only look at degrowth as a slogan (because that is crucial for public support), not as a descriptive term which simply means that something is shrinking/decreasing (for which it can be appropriate).

2. Arguments for the Term *Degrowth*

Whether *degrowth* should be used as a slogan has been debated by members of the movement since its inception. Others in favor of a new economic paradigm, who are probably more positive about the term than the general public, have repeatedly raised concerns as well. For instance, commenting on a broad description of the “degrowth alternative,” eight out of twelve well-known environmental experts critical of economic growth explicitly mentioned the problem (greattransition.org, 2015). Well-informed journalists and bloggers have also expressed criticism, calling the word “problematic,” “off-putting,” and “repulsive” (Dean, 2015; Hickel, 2015). After the submission of this article, the debate received new impetus from two pertinent blog posts and several comments (oxfamblogs.org, 2015a,b). To defend the slogan, the following main arguments are given by proponents.

First, it is claimed that crucial environmental goals are incompatible with the current growth-based economic paradigm (Martinez-Alier, 2009; Kosoy et al., 2012). In fact, scientific evidence suggests that internationally agreed climate targets are unlikely to be achieved if there is GDP growth in all countries (Antal and van den Bergh, 2016). As mainstream economists and politicians consistently ignore arguments about the unsustainability of continued economic growth (Daly, 2013), degrowth advocates believe it is best to use a provocative “missile word” that breaks through the wall of ignorance and raises attention (Ariés, 2007). By emphasizing that any real transformative scenario will reduce the average income, they intend to spur thinking about how such reductions could be socially feasible.

A second suggested advantage is that *degrowth* unambiguously goes against the current economic paradigm and questions “the automatic association of growth with better” (D’Alisa et al., 2014). This should help to redefine what a good life means and reduce the fear of a future without economic growth (Latouche, 2009, as in Kallis and March, 2015). Expected longer-term outcomes are voluntary self-limitation and a shift of focus to community values by many people. For policy makers, the message is that strong social and environmental policies should not hinge on economic growth. Encouraging people to imagine a different future is considered essential.

Third, those who advocate the term emphasize that it cannot be easily co-opted (Fournier, 2008). Less radical terms often do not signal a stance against the current system, so actors in power can give them their own interpretations. This, argue supporters of *degrowth*, led to the hollowing out of the phrase “sustainable development,” and the same could happen to terms like the “new economy” or the “great transition.” *Degrowth* is seen to be immune to this problem because the term embodies the opposite of what the current system is built on. As such, it

is viewed as a starting point for genuine political debate and conflict that can trigger social change. Anything else is seen as hiding the differences.

3. Arguments Against the Term *Degrowth*

3.1. Snap Judgments: *Degrowth* Triggers Negative Feelings and Thoughts

To give counterarguments, insights from various disciplines will be considered. First of all, research in political psychology over the last two decades has shown that political evaluations and judgments are largely automatic, unconscious, and deeply affect-laden (Lodge and Taber, 2013). An issue or object triggers feelings and snap judgments within milliseconds, which influence subsequent information processing, opinions, and decisions. In other words, initial exposure to a sociopolitical concept creates an automatic affective evaluation which biases later phases of political thinking, especially because people tend to deliberate in affectively congruent ways. As a result, quick affective judgments can lead to attitude perseverance, rationalization, and motivated reasoning. The latter means that people seek information that confirms their prior beliefs, view evidence consistent with prior opinions as stronger, and spend more time contradicting and dismissing evidence inconsistent with prior opinions regardless of objective accuracy. These effects are stronger the more contentious the initial statement or stimulus is.

Imagine a person reading the word *degrowth* in a newspaper headline. If the initial affective evaluation about degrowth is negative, then all subsequent information processing is influenced by this negative bias. Even if the newspaper article portrays degrowth as positive, the person will tend to deliberate in congruence with her initial feeling. Therefore, negative snap judgments can create a very unfavorable starting position for the degrowth argument in the debate about the paradigm of economic growth.

But are snap judgments triggered by *degrowth* actually and necessarily negative? To answer this question, we have to look at “growth” first. Research on the affective meaning of words shows that on a valence scale from 1 (very unpleasant) to 9 (very pleasant), both the words “grow” (6.28) and “growth” (6) tend to score above the mean value (Warriner et al., 2013). That is, both words are considered rather pleasant and positive. While *degrowth* was obviously not one of the studied words, it is fair to suggest that the prefix “de” means a reversal. Therefore, the affective valence of the word is likely to be rather negative. To assess the chances of changing this and the associated snap judgments, the next task is to clarify whether valence scores for growth are necessarily positive.

An influential line of research in cognitive linguistics claims that human thinking is strongly based on metaphors in language, many of which grow out of our experiences in the physical world and learning in early childhood (Lakoff and Johnson, 1980). For example, the association between affection and warmth—as in the phrase “a warm person”—stems from bodily contact between a loving caregiver and a child. Similarly, the vertical spatial dimension has a critical role in our cognition according to Lakoff and Johnson (1980): “up” stands for happiness, virtue, control, goodness, health, and life, whereas “down” signifies sadness, depravity, being subject to control, badness, sickness, and death. These relations, say Lakoff and Johnson, are physically wired in our brains. Experimental evidence corroborates that spatial directions (up, down) and affect (good, bad) are associated with each other and that these associations have a physical basis (Meier and Robinson, 2004; Santana and de Vega, 2011).

Growth, in accordance with common, everyday experiences, is connected to up, health, and life: easily observable growth usually happens from the ground up (directionality is determined by gravity), offspring grow if they are healthy, plants grow if they are alive. This is not to say that growth is always perpetual and good, just that there are many common sensory experiences that serve as grounds for positive

associations. Important negative examples of growth such as cancer often do not produce embodied experiences because direct observations are rare and limited to those affected. In this case, learning usually happens through conscious channels as opposed to the automatic processes behind embodied cognition. This might explain the empirical observation that visual stimuli of expansion lead people to feel more capable of realizing their full potential (Landau et al., 2011). In Western countries, even pro-social and pro-environmental attitudes are associated with metaphors like “personal growth” or “inner growth” and with seeing life as a “big growth process” (Hedlund-de Witt et al., 2014). Due to our shared experiences in the physical world, the positive valence values of “growth” may well be universal. Therefore, attacking growth in general as degrowth proponents (perhaps unwittingly) do is an uphill battle according to cognitive science (Hukkinen, 2012). We are not aware of any successful movements whose slogan ran counter to embodied experiences.

In the light of findings in economic psychology, the *degrowth* frame will unlikely be an exception. Experiments show that direction-related frame choices significantly influence support for economic policies even if their substance is unchanged. For example, describing an economic program in terms of increasing employment (something going up) instead of decreasing unemployment (something going down) can increase popular support for the program (Druckman, 2011). While economic growth is associated with rising charts or upward pointing arrows, *degrowth* sounds like going down (like decline, decrease, descend, degrade, deteriorate, etc., something that shrinks or falls), which may unconsciously evoke all the abovementioned negative ideas linked to downward spatial orientation. This is an important difference between other negative slogans (anti-slavery, deregulation, etc.) and *degrowth*. It seems unlikely that expressions such as “sustainable degrowth” or even “happy degrowth” can offset this cognitive effect. At least from this aspect, phrases like “green growth” will always have a huge comparative advantage.

In addition to the so-called primary metaphors in thought (like “good is up”), more particular metaphors are routinely used in communication and the media, which reinforces the metaphorical reasoning of citizens (Bougher, 2012). Cover pages of *The Economist* magazine show how this works in economics. Besides frequently representing economic growth with something rising and economic contraction with something falling, direct analogies with growth in other areas are used as well (Fig. 1).

3.2. Conscious Thoughts: Limited Public Support because Degrowth is (Mis)Interpreted as Decreasing GDP

When thinking about economic growth, most people will make connections to positive ideas such as prosperity, employment, development, economic and social improvement, higher wages, and well-being (Mohai et al., 2010), which makes it a very effective frame in politics (GSG, 2015). How much these positive connections are justified by evidence is debatable, but most ordinary people will see economic growth as something good. Very few people would think about environmental unsustainability, resource/energy limits, or social limits to growth (Mohai et al., 2010). Again, the mass media plays an important role in shaping these associations simply by the constant repetition of explicit pro-growth messages.

Degrowth, on the other hand, may evoke thoughts about crisis, recession, spending cuts, lower salaries, and job losses. The reason for this is straightforward. In economic parlance, growth generally means GDP growth, which is a main policy goal. People who are not familiar with the term *degrowth*—i.e. the vast majority—may simply, and often unconsciously, negate that meaning and understand degrowth as economic contraction or an intentional reduction of the GDP. As past and current periods of GDP decline have been socially and psychologically painful (De Neve et al., 2015), the first spontaneous conscious reactions to the idea of degrowth will be generally negative. The retrieval of such

negative conscious associations is facilitated by the initial affective judgment of degrowth. Clearly, losses loom larger than gains in the *degrowth* frame (see also Davey, 2014).

Therefore, attacking growth head on is a strategy that will inevitably create a lot of resistance and—if it ever becomes more influential—may even activate and unify the growth camp. Winning the battle seems unlikely as long as in most countries economic growth really is correlated with important short-term goals such as lower unemployment, better public finances, and higher social stability (Antal and van den Bergh, 2013). Furthermore, changing initially negative opinions about degrowth will be difficult because people are generally more reluctant to change their prior beliefs than to develop new and positive opinions about an issue (Lord et al., 1979). In addition, an abstract slogan like *degrowth* communicated by the far left is problematic because convincing an audience whose political positions differ from the speaker's is more effective with concrete messages (Menegatti and Rubini, 2013). If repoliticizing environmental issues is the way to go, then it should be done in a way that creates a more favorable starting position in the debate.

3.3. The Cost of Raising Attention: Repeating Growth, Activating Further Undesirable Frames

George Lakoff titled one of his books “Don't Think of an Elephant” (2004) to demonstrate that negating (to think about) an object or an idea may in fact prompt thoughts about it. Psychological research on correction of misinformation shows that repeating a myth increases its familiarity, its acceptance as being true, and may ultimately reinforce it (Lewandowsky et al., 2012). This is called a backfire effect, and it is why, for example, climate change communicators who aim to convince deniers are warned to avoid using the phrase “climate change is not a hoax” and instead are advised to say “climate change is occurring and humans are contributing”. Another often-cited example is president Nixon's statement “I am not a crook,” given in a television interview after the Watergate affair, which of course strengthened the public image of him as a crook. So, while supporters of degrowth intend to break the myth of growth as the solution to most human problems, they may unwittingly strengthen it by repeating, activating and possibly reinforcing the growth frame which sits inside the *degrowth* slogan.

The role of this effect can be debated. Those who believe that conflict is essential for social change can argue that attention has to be focused on economic growth anyway. It is not accidental that Marx, whose theory of social change centers on conflict, titled his book *Capital*. In contrast, those who believe that conflict in this case leads to impasse rather than change can be frustrated. For them, the slogan looks counterproductive as it polarizes the debate. As a result, alternative views will frequently be lumped together and dismissed as radical sentiments linked to degrowth.

Oftentimes, further problems arise in the communication process after mentioning *degrowth*. The expression raises attention mainly because it sounds like the polar opposite of the current paradigm based on GDP growth. However, advocates of degrowth often claim that GDP reduction is not a goal, just a likely consequence, of the strategies proposed. When explaining this, they are regularly forced to say things like “degrowth is not a recession,” “degrowth is not a return to the cave” or “degrowth is not about declining GDP”. Again, activating these frames and expressions will unintentionally evoke negative images and thoughts associated with the negated words. From this perspective, using a slogan such as “Their recession is not our degrowth” (postwachstum.net, 2010) can be particularly disadvantageous.

Educating people about the actual meaning of *degrowth* in order to avoid these problems will not be easy. Different members of the movement might have different interpretations, which may even change over time. Perhaps the most widely used definition is “an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions” (Schneider et al., 2010). As



Fig. 1. Representations of the basic conceptual metaphor “up is good—down is bad” on the cover pages of *The Economist* magazine. Up refers to economic growth, down refers to economic contraction.

pointed out by van den Bergh (2011), this is ambiguous because it is not clear how we measure “equitable,” “production and consumption,” “well-being,” and “ecological conditions.” He discussed several possible interpretations including GDP degrowth, work-time degrowth, physical degrowth, and others. Ambiguity has still not been resolved, perhaps because each clear definition would have its downsides. With the “missile word” interpretation of *degrowth* (that is GDP reduction), confusion about the substance of the strategy and the activation of negative frames is unavoidable. On the other hand, interpretations such as

physical degrowth, which is not so far from the mainstream goal of dematerialization, would not raise that much attention. Hence, there is a stark conflict between two crucial goals of the movement: to raise attention with a subversive word and to use a clear expression that prevents harmful misunderstandings.

Furthermore, if *degrowth* will ever be understood as a broader and more positive term, it will be possible to give it false interpretations. For instance, certain actors may use it for policies that reduce materials use in any specific activity regardless of the broader systemic

consequences, just as the word “sustainable” is often misused for activities that merely displace negative effects. The only way to prevent such misuses would be to define *degrowth* in a fully quantifiable way (e.g., as GDP reduction) that enables objective assessment, but any such definition would be rejected by proponents of *degrowth* as seriously restrictive and reductionist. So it *will* be possible to steal the slogan if people start to find it appealing.

4. Alternative Terms

Now that we have shown why *degrowth* may be an unfortunate frame, we discuss alternatives and explore related challenges, without intending to be exhaustive. We note that the task is difficult; a main reason for which *degrowth* has been chosen and kept as a slogan is that the community could not find a more suitable term until now. One way out may be to separate different functions of the word *degrowth*, i.e. to choose an identifying name for the movement, and to use an accompanying slogan (just as in the case of most brands). Some expressions listed below are more appropriate for one or the other of these functions, while others can combine the two.

As a matter of fact, there are various related terms circulating that are unaffected by several of the problems of *degrowth*. Irrespective of the differences between the insights, ideas and proposals behind these expressions, they are interesting as potential alternative slogans for a new economic paradigm. A first group of terms includes words or slogans that are unlikely to trigger automatic negative affect and to activate negative ideas, images, and frames. Examples are “post-growth,” (see e.g. postgrowth.org) “beyond growth” (Daly, 1996), “agrowth” (van den Bergh, 2011), and “prosperity without growth” (Jackson, 2011). Such neutral or positive slogans do not go against embodied experiences with a downward orientation. Yet, each term has its own drawbacks: post-growth and beyond growth can be somewhat dull, agrowth is too cryptic to convey a clear message and to activate the emotional mind, and prosperity without growth can be too long for a name of a movement.

A second group refers to different types of economies such as the “green economy,” “sustainable economy,” “new economy,” and “steady-state economy” (Daly, 1973). Here, the growth frame is not repeated. However, frequently used adjectives (e.g. green or sustainable) can be confusing due to similarity with mainstream language use, while reclaiming co-opted words looks very difficult. Qualifiers that do not signify a stance (like new) or do not sound familiar enough (like steady-state) raise less attention and are easier to forget, so probably they have to be complemented with a slogan that expresses the key message.

The third group of terms may even drop the word *economy* and include broader slogans such as “good life” (like in the “buen vivir” movement in South America), “better life” (instead of “better growth” used by the mainstream), “great transition” (e.g. greattransition.org), or “simple prosperity” (Wann, 2007). While all of these terms are positive, some of them further include a signal of sufficiency, which goes against the association of “more” with “better.” Yet, the problems are the same as in the previous group.

Positive slogans which do not refer to growth or even the economy represent an alternative to the frontal attack against the current paradigm. The strategy is to let people forget economic growth as it is a misguided social objective. Emphasizing positive aspects that the growth strategy lacks, such as being equitable, fair, humane, sustainable, and joyful, can lead people to question automatic positive associations and attitudes toward economic growth. First reactions to these expressions can be much more sympathetic than in the case of *degrowth*. At the same time, unlike *degrowth*, these slogans will not be able to build on the popularity of the growth frame, so they are likely to raise less attention and stick less in people’s minds. There seems to be a tradeoff between the level of interest and public acceptance.

To facilitate brainstorming about a new name and slogan, we list a number of additional terms that may be interesting: stable/fair/sustainable prosperity, balanced/solidarity/happiness economy, caring/thriving/plenitude economy, sufficiency, well-being, harmony. We note that the name of the movement may even come from a symbol or an abbreviation, leaving the message for the slogan.

5. Conclusion

The objective of this paper was to highlight the role of cognitive and communicative aspects in public debates about economic growth. The main message is that using the slogan *degrowth* might create a backfire effect. *Degrowth* proponents tend to favor the provocative term because it raises interest in a world which has not yet faced the limits to growth, and because it indicates an unequivocal stance against the current economic paradigm. Many also believe that this “missile word” will help to break the automatic association of “growth” with “better” and that the term *degrowth* can never be co-opted by the mainstream.

The slogan certainly had success in sparking interest and debate about the issue, especially in leftist circles. How this is evaluated against the drawbacks of the term depends on the theory of social change one accepts. If one believes that convincing people is not a main goal because conflict triggers thinking and self-reflection, which effectively drive change in the favored direction, then satisfaction is warranted. If, however, one believes that the goal of the debate is to convince a wider audience and thereby change attitudes towards economic growth, then the slogan looks more problematic.

Taking the latter position, we have pointed out several cognitive and psychological reasons why using the word *degrowth* can be disadvantageous. Most notably, negative snap judgments of *degrowth* can unconsciously lead to unfavorable subsequent information processing and evaluation, congruent with the initial negative feeling. There are fundamental cognitive reasons why initial affect towards *degrowth* is predominantly negative. According to basic and universal embodied metaphors “up is good” while “down is bad,” and growth is associated with up (hence good) while *degrowth* sounds like going down (hence bad). Therefore, even with great effort to educate the public, it seems extremely difficult to turn it into a term that is positively judged by a broad audience. Furthermore, most people who are unfamiliar with *degrowth* will logically interpret it as economic contraction (GDP reduction). This is likely to cause anxiety and resistance—for both conscious and unconscious reasons. As a result, few people will start thinking about a future without growth when confronted with the term. In addition, when clarifying what *degrowth* means and what it does not, negative images and words (e.g. recession) will often be used that may inadvertently strengthen negative associations. *Degrowth* itself also activates the growth frame, which can be counterproductive from a cognitive perspective.

A better strategy is to reframe the alternative to economic growth, and thus the broader economic growth debate, by changing the slogan so as to start from a more favorable position. Alternatives such as “good life” or “stable prosperity” can be more useful to trigger deliberation about a different future involving people from all walks of life. In the end, empirical research is needed to examine how and why people perceive specific catchwords differently. We hope that this paper will motivate such research and further discussions on the cognitive aspects of the growth debate, culminating perhaps in the rebranding of the movement. Although we focused here on words and slogans, it is necessary to construct a broader and more coherent narrative—possibly structured around metaphors of good life and increased freedom through “independence from economic growth”—that can generate public interest and support. A movement can challenge the status quo, but to be successful, it should resonate with the deepest perceptions of people.

Acknowledgments

We thank Jeroen van den Bergh for useful comments. The research was supported by the National Research, Development and Innovation Office of Hungary under grant number PD 116638 and the Agency for Management of University and Research Grants (AGAUR) of Generalitat de Catalunya (2013FI_B736).

References

- Antal, M., Hukkinen, J.J., 2010. The art of the cognitive war to save the planet. *Ecol. Econ.* 69, 937–943. <http://dx.doi.org/10.1016/j.ecolecon.2010.01.002>.
- Antal, M., van den Bergh, J.C.J.M., 2013. Macroeconomics, financial crisis and the environment: strategies for a sustainability transition. *Environ. Innov. Soc. Transit. Econ.-Financ. Crisis Sustain. Transit.* 6, 47–66. <http://dx.doi.org/10.1016/j.eist.2013.01.002>.
- Antal, M., van den Bergh, J.C.J.M., 2016. Green growth and climate change: conceptual and empirical considerations. *Clim. Pol.* 16 (2), 165–177. <http://dx.doi.org/10.1080/14693062.2014.992003>.
- Ariés, P., 2007. *La décroissance : un nouveau projet politique*. Editions Golias, Villeurbanne.
- Bougher, L.D., 2012. The case for metaphor in political reasoning and cognition. *Polit. Psychol.* 33, 145–163. <http://dx.doi.org/10.1111/j.1467-9221.2011.00865.x>.
- Canadiandimension.com, 2013. The greening of Noam Chomsky: a conversation. <https://canadiandimension.com/articles/view/the-greening-of-noam-chomsky-a-conversation> (last accessed 15/02/2016).
- D'Alisa, G., Demaria, F., Kallis, G., 2014. *Degrowth: A Vocabulary for a New Era*. Routledge.
- Daly, H.E., 1973. *Toward a Steady-State Economy*. W.H. Freeman, San Francisco.
- Daly, H.E., 1996. *Beyond Growth: The Economics of Sustainable Development*. Beacon Press.
- Daly, H., 2013. A further critique of growth economics. *Ecol. Econ. Trans. Costs Environ.* 88, 20–24. <http://dx.doi.org/10.1016/j.ecolecon.2013.01.007>.
- Davey, B., 2014. *Degrowth – A Vocabulary for a New Era*. Review. *Feasta: The Foundation for Economics of Sustainability*.
- De Neve, J.E., Jan-Emmanuel, Ward, G.W., Keulenaer, D., Femke, Landeghem, V. Bert, Kavetsos, G., Norton, M.I., 2015. The Asymmetric Experience of Positive and Negative Economic Growth: Global Evidence Using Subjective Well-Being Data (SSRN Scholarly Paper No. ID 2586417). Social Science Research Network, Rochester, NY.
- Dean, B., 2015. “Degrowth” – A Problematic Economic Frame. News Frames blog <https://newsframes.wordpress.com/2015/01/15/degrowth/>.
- Demaria, F., Schneider, F., Sekulova, F., Martinez-Alier, J., 2013. What is degrowth? From an Activist Slogan to a Social Movement. *Environ. Values* 22, 191–215. <http://dx.doi.org/10.3197/096327113X13581561725194>.
- Druckman, J.N., 2011. What's it all about?: framing in political science. *Perspectives in Framing*. Psychology Press/Taylor & Francis.
- Fournier, V., 2008. Escaping from the economy: the politics of degrowth. *Int. J. Sociol. Soc. Policy* 28 (11–12), 528–545.
- Greattransition.org, 2015. The degrowth alternative. <http://www.greattransition.org/publication/the-degrowth-alternative> (last accessed 15/02/2016).
- GSG, 2015. Focus on growth to frame priorities. <http://globalstrategygroup.com/wp-content/uploads/2014/04/Focus-on-Growth-to-Frame-Priorities.pdf> (last accessed 15/02/2016).
- Hardisty, D.J., Johnson, E.J., Weber, E.U., 2009. A dirty word or a dirty world?: attribute framing, political affiliation, and query theory. *Psychol. Sci.* 21, 86–92. <http://dx.doi.org/10.1177/0956797609355572>.
- Hedlund-de Witt, A., de Boer, J., Boersema, J.J., 2014. Exploring inner and outer worlds: a quantitative study of worldviews, environmental attitudes, and sustainable lifestyles. *J. Environ. Psychol.* 37, 40–54. <http://dx.doi.org/10.1016/j.jenvp.2013.11.005>.
- Hickel, J., 2015. Forget 'Developing' Poor Countries, It's Time to 'De-develop' Rich Countries. *The Guardian* (<http://www.theguardian.com/global-development-professionals-network/2015/sep/23/developing-poor-countries-de-develop-rich-countries-sdgs> (last accessed 15/02/2016)).
- Hukkinen, J.J., 2012. Fit in the body: matching embodied cognition with social-ecological systems. *Ecol. Soc.* 17. <http://dx.doi.org/10.5751/ES-05241-170430>.
- Jackson, T., 2011. *Prosperity Without Growth: Economics for a Finite Planet*. Routledge.
- Kahneman, D., 2011. *Thinking, Fast and Slow*. Macmillan.
- Kallis, G., 2011. In defence of degrowth. *Ecol. Econ.* 70, 873–880. <http://dx.doi.org/10.1016/j.ecolecon.2010.12.007>.
- Kallis, G., March, H., 2015. Imaginaries of hope: the utopianism of degrowth. *Ann. Assoc. Am. Geogr.* 105, 360–368. <http://dx.doi.org/10.1080/00045608.2014.973803>.
- Kosoy, N., Brown, P.G., Bosselmann, K., Duraipapp, A., Mackey, B., Martinez-Alier, J., Rogers, D., Thomson, R., 2012. Pillars for a flourishing earth: planetary boundaries, economic growth delusion and green economy. *Curr. Opin. Environ. Sustain. Open Issue* 4, 74–79. <http://dx.doi.org/10.1016/j.cosust.2012.02.002>.
- Lakoff, G., 2004. *Don't Think of an Elephant!: Know Your Values and Frame the Debate*. Chelsea Green Publishing.
- Lakoff, G., 2008. *The Political Mind: Why You Can't Understand 21st-Century American Politics with an 18th-Century Brain*. Viking.
- Lakoff, G., Johnson, M., 1980. *Metaphors We Live By*. University of Chicago Press.
- Landau, M.J., Vess, M., Arndt, J., Rothschild, Z.K., Sullivan, D., Atchley, R.A., 2011. Embodied metaphor and the “true” self: priming entity expansion and protection influences intrinsic self-expressions in self-perceptions and interpersonal behavior. *J. Exp. Soc. Psychol.* 47, 79–87. <http://dx.doi.org/10.1016/j.jesp.2010.08.012>.
- Leiserowitz, A., Feinberg, G., Rosenthal, S., Smith, N., Anderson, A., Roser-Renouf, C., Maibach, E., 2014. *What's In A Name? Global Warming vs. Climate Change*. Yale University and George Mason University, New Haven, CT (Yale Project on Climate Change Communication).
- Lewandowsky, S., Ecker, U.K.H., Seifert, C.M., Schwarz, N., Cook, J., 2012. Misinformation and its correction: continued influence and successful debiasing. *Psychol. Sci. Public Interest* 13, 106–131. <http://dx.doi.org/10.1177/1529100612451018>.
- Lodge, M., Taber, C.S., 2013. *The Rationalizing Voter*. Cambridge University Press.
- Lord, C.G., Ross, L., Lepper, M.R., 1979. Biased assimilation and attitude polarization: the effects of prior theories on subsequently considered evidence. *J. Pers. Soc. Psychol.* 37, 2098–2109.
- Luks, F., 1998. The rhetorics of ecological economics. *Ecol. Econ.* 26, 139–149. [http://dx.doi.org/10.1016/S0921-8009\(97\)00116-X](http://dx.doi.org/10.1016/S0921-8009(97)00116-X).
- Martinez-Alier, J.M., 2009. Socially Sustainable Economic De-growth. *Dev. Chang.* 40, 1099–1119. <http://dx.doi.org/10.1111/j.1467-7660.2009.01618.x>.
- McGrath, C., 2007. Framing lobbying messages: defining and communicating political issues persuasively. *J. Public Aff.* 7, 269–280. <http://dx.doi.org/10.1002/pa.267>.
- Meier, B.P., Robinson, M.D., 2004. Why the sunny side is up associations between affect and vertical position. *Psychol. Sci.* 15, 243–247. <http://dx.doi.org/10.1111/j.0956-7976.2004.00659.x>.
- Menegatti, M., Rubini, M., 2013. Convincing similar and dissimilar others the power of language abstraction in political communication. *Personal. Soc. Psychol. Bull.* 0146167213479404. <http://dx.doi.org/10.1177/0146167213479404>.
- Mohai, P., Simoes, S., Brechin, S.R., 2010. Environmental concerns, values and meanings in the Beijing and Detroit metropolitan areas. *Int. Sociol.* 25, 778–817. <http://dx.doi.org/10.1177/0268580910378138>.
- Oxfamblogs.org, 2015a. Why degrowth has out-grown its own name. Guest post by Kate Raworth <https://oxfamblogs.org/fp2p/why-degrowth-has-out-grown-its-own-name-guest-post-by-kate-raworth/> (last accessed 15/02/2016).
- Oxfamblogs.org, 2015b. You're wrong Kate. Degrowth is a compelling word. Post by Giorgos Kallis <https://oxfamblogs.org/fp2p/youre-wrong-kate-degrowth-is-a-compelling-word/> (last accessed 15/02/2016).
- Postwachstum.org, 2010. 12 lines of flight for just degrowth. <http://postwachstum.net/2010/11/23/12-lines-of-flight-for-a-just-degrowth-economy/> (last accessed 15/02/2016).
- Santana, E., de Vega, M., 2011. Metaphors are embodied, and so are their literal counterparts. *Front. Psychol.* 2. <http://dx.doi.org/10.3389/fpsyg.2011.00090>.
- Schneider, F., Kallis, G., Martinez-Alier, J., 2010. Crisis or opportunity? Economic degrowth for social equity and ecological sustainability. Introduction to this special issue. *J. Clean. Prod.* 18, 511–518. <http://dx.doi.org/10.1016/j.jclepro.2010.01.014>.
- Schuldt, J.P., Konrath, S.H., Schwarz, N., 2011. “Global warming” or “climate change”? Whether the planet is warming depends on question wording. *Public Opin. Q.* nfq073. <http://dx.doi.org/10.1093/poq/nfq073>.
- Shaw, C., Nerlich, B., 2015. Metaphor as a mechanism of global climate change governance: a study of international policies, 1992–2012. *Ecol. Econ.* 109, 34–40. <http://dx.doi.org/10.1016/j.ecolecon.2014.11.001>.
- van den Bergh, J.C.J.M., 2011. Environment versus growth—a criticism of “degrowth” and a plea for “a-growth.”. *Ecol. Econ.* 70, 881–890. <http://dx.doi.org/10.1016/j.ecolecon.2010.09.035>.
- Wann, D., 2007. *Simple Prosperity: Finding Real Wealth in a Sustainable Lifestyle*. first ed. St. Martin's Griffin, New York.
- Warriner, A.B., Kuperman, V., Brysbaert, M., 2013. Norms of valence, arousal, and dominance for 13,915 English lemmas. *Behav. Res. Methods* 45, 1191–1207. <http://dx.doi.org/10.3758/s13428-012-0314-x>.
- Westen, D., 2007. *The Political Brain: The Role of Emotion in Deciding the Fate of the Nation*. PublicAffairs.
- Whitmarsh, L., 2009. What's in a name? Commonalities and differences in public understanding of “climate change” and “global warming”. *Public Underst. Sci.* 18, 401–420.