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Working Paper

'Responsible' images of sustainable supply chains: towards a procedural framework.

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Abstract.

Following concerns about the dominance of an 'instrumental' logic in extant sustainable supply chain management (SSCM) scholarship, recent work has suggested the value of metaphor for enabling alternative perspectives on how supply chains can contribute to the global challenge of sustainable development. However, sustainability is not 'just another' management issue – it is identified as a moral, essentially contested and pervasive issue. Moreover, metaphors have been shown to be very powerful, with significant performative effects. Against this backdrop, this working paper explores the implications for responsible metaphor-use in SSCM. It tentatively proposes a procedural framework constructed from three guiding principles and focused research questions as a step towards responsible metaphor-use in SSCM.

Keywords – *Sustainable supply chain management, Sustainability, Metaphor, Responsibility*

Introduction.

While sustainable supply chain management (SSCM) has become well-known as a cognate and influential field of study, some critical voices have begun to problematize and challenge the 'instrumental' assumptions upon which the field has been built. While SSCM has long assumed that supply chains can be environmentally and socially responsible, while *still* maintaining or improving economic performance, it is increasingly questioned whether the managerial implications of these assumptions can actually provide the environmental and social performance improvements that are required to truly address global sustainable development goals (Matthews et al., 2016; Markman and Krause, 2016; Montabon et al., 2016). In particular, it has been suggested that this 'win-win' logic encourages organisations to choose and implement only those environmental/socially-friendly supply chain activities which yield an economic return, when in fact, global sustainability may require corporate commitment to at least some economic sacrifice. Markman and Krause (2016) and Montabon et al. (2016, p.4) have thus promoted the adoption of an alternative ecologically-dominant logic which reprioritizes SSCM decision-making so that in instances where trade-offs are unavoidable, 'the environment comes first, society second, and economics third.'

While Montabon et al. (2016) have bemoaned the dominance of the instrumental logic in SSCM theory to date, Matthews et al. (2016) suggests that the issue is less about the inadequacy of this logic than the unilateralism that it reflects. That is, Matthews et al. (2016) suggests that the dominance of the instrumental logic evidences the fact that SSCM has (at best) failed to recognize and (at worst) repressed, the 'essentially contested' nature of sustainability (Connelly, 2007) – that is, that while there is widespread agreement on the importance of the issue, there is less agreement

on the means by which to achieve it. Lele (2013) suggests this is because alternative perspectives on sustainability are constructed from fundamentally different worldviews (normative) rather than simply different ideas about cause and solution (analytical). Niewenhuis and Touboulic (2016) thus agreed with Matthews et al. (2016) in suggesting that SSCM has developed in 'blissful ignorance' of broader sustainability discourses. Calls are therefore being heard for greater paradigmatic diversity (Matthews et al., 2016) and the use of alternative 'lenses' through which to frame, view and explore the role of supply chain management within a sustainable world (Touboulic and Walker, 2015). In response to these calls, previous work has highlighted the importance of metaphor. Drawing on cognitive linguistic perspectives on metaphor, Stephens et al. (2017) suggested that the instrumental logic is perpetuated by the dominance of a narrow range of conceptual metaphors which has constrained thought and action on SSCM. Complementarily, in line with broader perspectives on theory development in business and management literature (Morgan, 1980; 1986; Cornelissen et al., 2006) it has been suggested that the exploration and construction of new metaphors offer fruitful sites for experimentation for theory development in SSCM (Stephens, 2017).

However, to recognize sustainability as an essentially contested concept is to recognize that sustainability is not *just another* management issue for supply chain management. Rather, Matthews et al. (2016, p.83) suggest that '*sustainability is fundamentally different from every other problem within SCM [because] [s]ustainability is first and foremost a moral question as it concerns the legacy that is left to future generations.'* Moreover, sustainability is not just an issue for natural or social scientists – it has become pervasive across all aspects of twenty first century society, and requires collective action beyond the world of academia. In this context, alongside recognition of the powerful performative potential of metaphor, it is proposed that discussions of metaphor to further SSCM scholarship must be attended by considerations of how the power of metaphor can be 'responsibly' harnessed for positive effect in the context of the unique issue of sustainability (Figure 1).

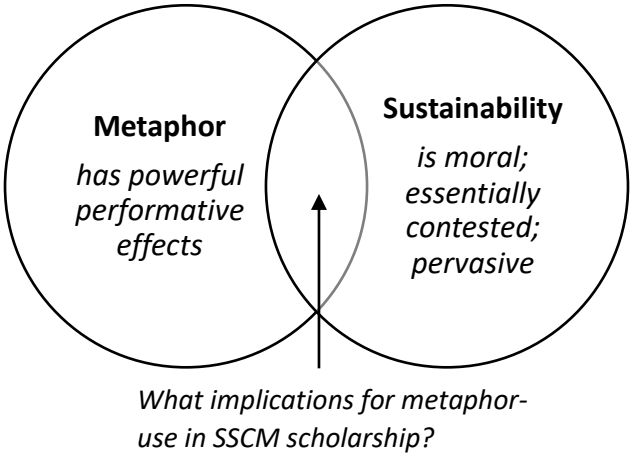

Figure 1: Situating the aim of the working paper.

On that basis, this working paper explores the implications for responsible metaphor-use in SSCM scholarship. It begins by outlining thinking on the issues of power and responsibility in metaphor use. Then, in reflecting upon and synthesizing broad principles within related metaphor and

sustainability discourses it tentatively proposes a procedural framework which recognizes the unique and salient characteristics of metaphor and sustainability as a step towards responsible metaphor-use in SSCM.

On metaphor – power and responsibility.

Much has been written on the role of metaphor in both constraining and enabling new thinking in management theorising. On the one hand metaphor has been suggested to be inherent within the human conceptual system (Lakoff and Johnson, 1980), meaning that metaphors are central in the way we reason about abstract concepts. This is significant given that metaphors *highlight* certain features and values and *hide* others (Morgan, 1986). For example, by thinking of ORGANISATIONS as MACHINES (a dominant metaphor in organizational management) we are encouraged to conceptualise and manage organisations in terms of *efficiency*, *effectiveness* and *performance*, rather than human well-being (Morgan, 1980). Barter and Russell (2013) have therefore suggested that the dehumanizing and orgocentric nature of the MACHINE metaphor makes it fundamentally incongruent with the requirements of sustainability.

On the other hand, organisational science has emphasised the potential of metaphor for facilitating 'disciplined imagination' (Weick, 1989) and 'imaginization' (Morgan, 1986) – that is, experimentation through alternative images to facilitate creative thinking that can lead to theory development (Cornelissen, 2005; 2006). Since the publication of Morgan's (1980) seminal 'Images of Organisation', an extensive list of suggestions of alternative metaphors for organisation have been thus proposed within multivariate efforts at theory building. Organisations have been explored as SPIDER PLANTS, CLOUDS AND SONGS, and THEATRE (Tietze et al., 2003). More recently, Schoeneborn et al. (2012) proposed the metaphor of INSOMNIA to better explain inadequacies in organisational learning, while McCabe (2016) explored organization as WONDERLAND as a means by which to better embrace and explore organizational absurdity. In the supply chain field, Foropon and McLachlin (2016) and Chen et al. (2013) have also supported the potential of theory-constitutive metaphors for supply chain management.

On that basis, Stephens et al. (2017) have tentatively suggested that dominant SSCM discourse is currently characterized by a preponderance of functionalist metaphors for sustainability which have constrained SSCM thinking and perpetuated the instrumental logic that has been bemoaned by scholars (Matthews et al., 2016; Montabon et al., 2016). The authors have therefore similarly endorsed the experimentation potential offered by alternative metaphors as a means by which to normatively explore the role that supply chains could or should play in a sustainable world. Ongoing work has thus adopted Matthews et al.'s (2016) framework of sustainability as a useful tool for disciplined imagination in SSCM scholarship (Figure 2). The framework conceptualizes alternative perspectives on sustainability according to proponents' beliefs in terms of two dimensions: 1) Sustainability (relating to relative perspectives on the substitutability of man-made for natural resources (c.f. Daly, 1996) and, 2) Structuration theory (relating to relative perspectives on the power of structure versus agency in achieving change). Matthews et al. (2016) suggest that current SSCM discourse represents a utilitarian perspective on sustainability, thereby highlighting that alternative 'critical', 'systemic' and 'constructionist' perspectives and their associated images represent fruitful sites of experimentation for new images of 'supply chain' in a 'sustainable' world. For example, the metaphors SUSTAINABILITY as HEALTH and SUSTAINABILITY as

WAR have long characterized the sustainability concept in broader critical and systemic discourses on sustainability, yet they are conspicuously absent in SSCM literature. It would seem therefore, that these offer a potentially fruitful site of enquiry for furthering SSCM scholarship, through asking such questions as: *what is the role/place of supply chains if SUSTAINABILITY is HEALTH*?

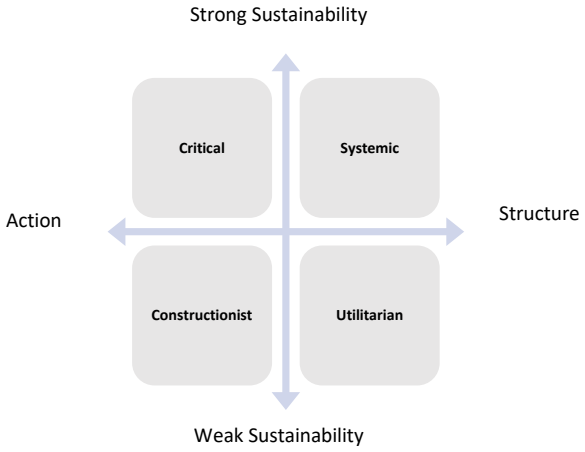

Figure 2: Matthews et al. (2016), The Four Paradigms of Sustainability

However, in making such calls for experimentation with such alternative metaphors in SSCM scholarship, I have become cognizant of our responsibility to recognize the power of metaphor in its ability to highlight certain features and to hide others - to both enable and constrain thinking- and thus its potential implications for performative sustainability action. Indeed, the use of metaphor in organization studies has long been accompanied by calls for organizational researchers to practice 'reflexivity and self-deconstruction' to mitigate the risk of metaphors becoming reified as concrete reality (e.g. Morgan, 2011). However, in the context of the unique characteristics of sustainability – its 'moral' (Matthews et al., 2016), essentially contested (Connelly, 2007) and pervasive nature - I contend that the requirement for emergent considerations of metaphor-use in SSCM scholarship to be accompanied by considerations of responsibility is even greater.

Scientists are people too – a 'post-normal' view of SSCM?

While sustainability is a moral issue in that it attends responsibility to future generations, it is also a pervasive issue in that it touches all aspects of modern society. Sustainability is not confined to the academic realms of scientists or scholars, rather it is a defining feature of twenty-first century popular discourse. Carter and Easton (2011, p.46) commented that '[i]t is difficult…to walk by a newsstand without seeing at least one magazine cover featuring alternative sources of energy, climate change issues or the iconic polar bear floating on a thin sheet of ice.' Relatedly, it is recognized that meaningful change towards the achievement of sustainability is not dependent solely upon action among academics, but by action across society, with potentially broad-ranging implications for political, economic, social, cultural, and of course management activity. It is in this context that Larson (2011) argues the implications of a post-normal perspective on biological science, which recognizes the unavoidable interweaving of science and society. Larson illustrates that while academic analyses of the material issues of sustainability provide 'knowledge' that

influences policy making, so too does 'society' influence academia by providing the dominant worldviews through which such sustainability issues are interpreted (i.e. 'scientists' are 'people' too) (Figure 3).

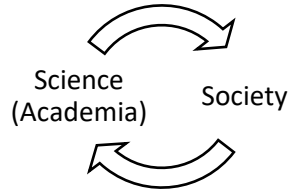

Figure 3: Interweaving interaction between science and society (Larson, 2011)

On that basis, Larson (2011) and Kueffer and Larson (2013) have been particularly influential in emphasizing the responsible use of metaphor in scientific communication. The authors argue that while metaphors are undoubtedly important vehicles for understanding and communication (both among scientists and between the scientific and lay communities) they should also be recognized as value-laden constructions. In being (sub)consciously selected and adopted from the socio-cultural realm, metaphors reinforce particular social ideals and actions with potentially profound implications for sustainability (Larson, 2011). For example, Kueffer and Larson (2013) highlight that the ECOSYSTEM SERVICES metaphor which currently dominates ecological research on human-environment relationships reinforces a dominant social perspective on ECONOMIC PRODUCTION which emphasizes the direct benefits that ecosystems provide to humans, while neglecting alternative conceptions that are focused on stewardship, moral duty or ecosystems' intrinsic or cultural value. The authors similarly bemoan the invocation of WAR in constructing images of non-native (invasive) species for its encouragement of aggressive strategies for *eradication* that minimize recognition of the potentially positive effects of diversity. Similarly, the concept of DNA BARCODING within the study of genetics is highlighted as a feedback metaphor which draws upon and projects contemporary images of CONSUMERISM on to nature, thus depreciating the value of living things which are thus constructed as mere commodities. While BARCODING arguably aids communication of the complex science of genetics to a contemporary lay audience, it simultaneously reinforces consumerist ideals which may be at odds with the needs of sustainability. Thus, Larson (2011) bemoans the disproportionate attention given to research ethics in terms of the collection and analysis of data and findings, over responsibility regarding the use of language (and metaphor) through which those findings are communicated. He goes as far to suggest the need for an Hippocratic Oath-equivalent for metaphor-use in sustainability science.

While these discussions have thus far emerged within the context of the communication of research findings within the natural sciences, they are considered important antecedents and corollaries to emerging discussions of the role and use of metaphor in SSCM scholarship. In this regard, we propose the importance of asking, *how can scholars assure responsible metaphor-use in sustainable supply chain scholarship?* It is towards answering this question that the following section now turns.

Towards a procedural framework for 'responsible' metaphor-use in SSCM scholarship

Based on the above discussion, the following offers a tentative attempt at reflecting upon and synthesizing broad principles within related metaphor and sustainability discourses in the construction of a procedural framework which might guide future research. Specifically, it

highlights the importance of three mutually reinforcing and guiding principles by exploring them in terms of their significance for guiding metaphor use in SSCM scholarship (Figure 4). It also articulates related research questions to guide future research efforts in this area

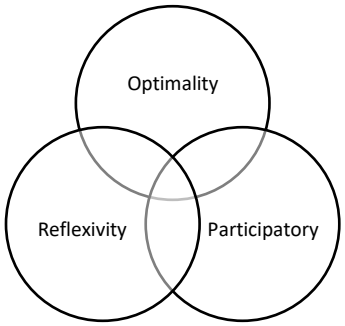

Figure 4: Three guiding principles for responsible metaphor-use in SSCM.

1. *Optimality principle – Towards revised optimality principles for responsible metaphors*

The introduction and exploration of new metaphors is seen as a creative approach to theory building. Contrary to more positivistic approaches which emphasise theory testing over theory building, Weick's (1989) perspective asserts that there is a greater chance of higher quality theory to emerge from a theorising process which begins with greater variety. This call for variety has inevitably been accompanied by discussion of the quality of such new metaphors, with associated calls for assurance that they offer a requisite aptness and effectiveness that will encourage fruitful disciplined imagination and lead to useful theoretical suggestions. Cornelissen (2006) has thus summarised a series of 'optimality principles of metaphorical imagination.' These principles relate to, for example, assuring that the source domain is sufficiently different from the target domain in order to offer true surprises for exploration (*the distance principle*); that the source domain is concrete rather than abstract in order to enhance the efficacy of the comparison (*the concreteness principle*); and the importance of using common and well-known source domains that provide clear access to structure and vocabulary for conceptualizing the target domain subjects (*the web principle*).

However, these optimality principles were developed in a 'non-sustainable' context. Given the unique characteristics of sustainability – namely its moral, essentially contested and pervasive nature- it seems pertinent to ask, *do these optimality principles allow for the development of new images that attend the unique characteristics of sustainability*? I contend the need for these optimality principles to be problematised in terms of the unique characteristics of sustainability. For example, by attending Cornelissen's (2006) *concreteness* and *web* principles (which require that source domains be *concrete* and *familiar*), are we trying to think normatively within a positivistic framework? Additionally, on the assumption that sustainability is a moral issue (Matthews et al., 2016), is there a requirement that assessment of the suitability of new metaphors should include evaluation criteria related to responsibility? I therefore also contend that a revised set of optimality principles include an additional 'value principle' which asserts that the source domain be responsible in terms of not unwittingly perpetuating unsustainable values – for example, such as the dehumanizing values of the MACHINE metaphor (Barter and Russell, 2013) or the consumerist values of DNA Barcoding (Larson, 2011). In order to explore these suggestions

further, I propose the following research question: *What are the optimality principles of a responsible metaphor for sustainable supply chains?*

2. *Participatory principle – Towards a collaborative approach to metaphor-construction*

While we may assume that a new set of responsible optimality principles will reduce the risk of the creation and perpetuation of irresponsible metaphors in SSCM scholarship, the essentially contested nature of sustainability means that there does not exist one authoritative value system. Indeed, it has been suggested that alternative perspectives on sustainability are grounded in alternative philosophical beliefs on the value of nature, and the locus and potential for change (Matthews et al., 2016; Lele, 2013). It is therefore suggested that metaphoric approaches for theory development in SSCM be attended by participatory principles which conspicuously seek to recognize and harness alternative sustainability perspectives among alternative stakeholders. Traditional (non-sustainable) approaches to the suggestion of new metaphors in business and management research may be characterised as rather opaque and individualistic with little transparency or rationale regarding where and why new source domains are proposed. By contrast, given the moral and essentially contested nature of sustainability, it is here proposed that efforts towards participatory approaches, characterized by diverse, inclusive and democratic discussions of new or alternative metaphors, will act as a means by which to assure recognition and inclusion of multiple value systems (paradigmatic perspectives) in the co-creation and co-evaluation of useful *and* responsible metaphors for SSCM scholarship (Kueffer and Larson, 2013). In order to explore these suggestions further, I propose the following research question: *What does a participatory process for metaphor construction in SSCM look like?*

3. *Reflexivity principle – Towards personal metaphorical interrogation.*

While the participatory principle attends to issues surrounding the initial suggestion and exploration of a new metaphor for sustainable supply chains, the reflexivity principle seeks to assure the ongoing problematization of the metaphoric images that shape, frame, and potentially constrain research pursuits in SSCM scholarship. Reflexivity assumes the importance of the researcher's engagement in explicit self-reflection as a means by which to unmask complex hidden agendas that might impinge upon and transform the research process (Finlay, 2002; Cohen and Crabtree, 2006). Malterud (2001, p. 483-484) articulated that 'a researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions.' On the basis that a central component which influences a researcher's position relates to the foundational metaphoric conceptualisations of the concepts under investigation (Lakoff and Johnson, 1980), reflexivity works towards mitigating the pervasive nature of sustainability and the post-normal nature of sustainable supply chain scholarship (Larson, 2011). In particular, it is proposed that adequate metaphoric reflexivity- a systematic interrogation of the dominant metaphoric framings that have shaped researchers' decision-making- is essential among academic researchers of sustainability, regardless of philosophical perspectives: for example, perhaps this may manifest itself in terms of personal systematic metaphor analyses of researchers' own reflexive journals (Nadin, 2006). In order to explore these suggestions further, I propose the following final research question: *How can 'reflexivity' procedures be harnessed by SSC scholars for personal metaphoric interrogations?*

Conclusion.

Metaphor has been proposed as a potentially useful new approach for advancing SSCM scholarship (Stephens, 2017; Stephens, et al., 2017). However, in recognition of the unique characteristics of sustainability that make it more than 'just another' management issue, as well in recognition of the potentially powerful performative effects of metaphor, it is believed that discussions of metaphor in SSCM scholarship must be attended by consideration of how the power of metaphor can be responsibly harnessed for positive action towards sustainability goals. This working paper therefore aimed to explore the implications for responsible metaphor-use in SSCM scholarship. Following consideration of the existing discourses on power and responsibility in metaphor use, the paper offers initial reflections upon broad principles within related metaphor and sustainability discourses towards the construction of a procedural framework for responsible metaphor-use in SSCM. The framework is constructed from three mutually reinforcing principles – the optimality principle, the participatory principle, and the reflexivity principle - and proposes linked research questions, which it is hoped will guide future research efforts towards responsible metaphor-use in SSCM scholarship.

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