

ORIGINAL ARTICLE

Conceptualizing Change in Communication Through Metaphor

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Modeling communication patterns by individuals and organizations dealing with institutional and social change is an important challenge for communication scholars. Metaphors provide frames of thinking about societal topics. The ways metaphors change can thus reveal how conceptualizations of social topics change over time. Change occurs in two temporal paces: evolutionary (continuous) or revolutionary (discontinuous). Furthermore, change occurs in two ways: through incremental (meaning of extant metaphors change) or fundamental (old metaphors are replaced) transformation. I propose that studying shifts of metaphors can be used to model incremental and fundamental change in communication at both evolutionary and revolutionary pace. I describe how such shifts have been studied on the microlevel, mesolevel, and macrolevel through both qualitative and quantitative research methods.

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Our society is in constant change. Important issues like the rise of new technologies, the financial crisis, and global warming affect many people across the globe. Communication plays an important part in helping individuals make sense of such changes. Therefore, modeling the communication patterns by which individuals and organizations deal with institutional (Cornelissen, Durand, Fiss, Lammers, & Vaara, 2015) and social change (Calhoun, 2011) is an important challenge for communication scholars. I propose that focusing on metaphor usage can efficiently address this issue.

Metaphors are defined as “cross-domain mappings” (Lakoff & Johnson, 1980/2003), in that elements from a source domain are mapped onto a target domain. For instance, the metaphor *The European Union is a building* (Musolff, 2000) equates the European Union (EU; target) with a building (source). Metaphors are commonly used in communication, as approximately 16.4% of words in written

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news, 7.7% of words in interpersonal conversations, and 18.5% of words in academic texts are metaphoric (Steen, Dorst, Herrmann, Kaal, & Krennmayr, 2010a).

According to Conceptual Metaphor Theory (CMT; Lakoff & Johnson, 1980/2003), most linguistic metaphors are not used randomly. Instead, metaphors in language typically cluster under larger conceptual structures referred to as “conceptual metaphors.” Linguistic expressions like *the Common European House*, *the euro’s architects*, and *a closed-exit scenario* all evoke the underlying conceptual structure comparing the EU to a building (Musolff, 2000). This implies that metaphors provide frames of thinking about societal topics (e.g., EU), by highlighting particular aspects of the target while obscuring others. Because frames of thinking about the old situation shift in the context of change, focusing on the metaphors through which these frames of thinking are expressed in language is an efficient way to model change in communication.

Next to the object of change (in our case: metaphor usage), conceptualizations of change need to specify two other core elements: (a) the time span involved and (b) the nature of the transformation (Rensink, 2002). First, change can occur in two temporal paces: evolutionary (slowly, continuous) and revolutionary (swiftly, discontinuous; Greenwood & Hinings, 1996). Evolutionary change occurs when metaphors are used over longer time spans during which their meaning is adjusted and negotiated, leading to slow change (cf. Smith, Caputi, & Crittenden, 2012). Revolutionary change, in contrast, occurs when new metaphors or alternative interpretations of extant metaphor are introduced at once to deal with sudden rapid developments (e.g., new technological developments, cf. Campbell & La Pastina, 2010).

Second, two types of transformation are identified: incremental and fundamental (Armenakis & Bedeian, 1992). Incremental change implies that the meaning of an extant metaphor changes, in that it is renegotiated (interpretation of extant metaphor changes) and/or extended (new interpretation is added to extant interpretation). In the example of the *EU is a building* metaphor, an incremental change was when perspectives on the EU shifted from a building under construction (e.g., *laying the foundations for the EU*) to a completed building with structural deficiencies (e.g., *closed exit*, Musolff, 2000). Fundamental change, in contrast, suggests differences between metaphors, in that old metaphors are replaced by new metaphors. In the example of the *EU is a building* metaphor, a fundamental change would be if this metaphor is actively replaced with a different metaphor, such as the *EU is a family* (Musolff, 2006).

A metaphor-based approach to change in communication can be modeled onto the two dimensions of pace and type of change. Furthermore, because metaphors can be used to discuss any issue, this metaphor-based approach can be used across the three levels of analysis of micro, meso, and macro. First, the approach can be used to model change at microlevel communication processes (e.g., interpersonal communication). Examples include focusing on the ways in which individuals make sense of change within their personal lives (e.g., coping with life-changing events like an illness diagnosis). Second, the approach can be used for mesolevel changes at the level of organizations (e.g., by modeling the ways in which organizations communicate

about organizational change). Furthermore, the approach can also be used to study change in communication at a macrolevel. This for instance includes public discourse in which societal and political actors try to change the ways in which important topics are discussed (see Table 1 for an overview and short examples of the different types of change across the different levels of analysis).

In the next sections, I focus in detail on the different ways in which change can be modeled through metaphors and discuss various research methods used by communication scholars to study these processes.

Incremental change

Incremental change deals with the ways in which the same metaphor changes its meaning over a longer period of time (evolutionary incremental change) or in response to a sudden event (revolutionary incremental change). In incremental change, a specific metaphor stays in place (i.e. the same cross-domain comparison continues to be used), but the meaning of this metaphor changes. Incremental change can come in four different forms: (a) The metaphor itself may undergo such a social change; (b) semantic associations with a metaphor can change; (c) a metaphor can be recontextualized; and (d) old metaphors can be used to discuss new social phenomena.

First, according to the Career of Metaphor Theory (Bowdle & Gentner, 2005), all metaphors undergo an incremental change themselves: Metaphors that are first introduced are novel, which means that recipients have to actively seek how the source and target domains are connected. Novel metaphors are thus processed by comparison, in that recipients have to actively compare source and target to determine how they are related. In that way, novel metaphors work like a sort of puzzle, the solving of which can generate pleasure (Giora et al., 2004). Novel metaphors can attract attention to familiar information, and work as a spur for conversations on difficult or taboo topics (Hoeken, Swanepoel, Saal, & Jansen, 2009).

When metaphors have been in use over a longer period of time, they become conventionalized. Then, recipients no longer have to think about the connections between source and target, but immediately solve the metaphor. These conventional metaphors are processed by categorization, because the metaphoric connection is already stored in the recipient's mental lexicon (Bowdle & Gentner, 2005; Steen, 2011). Such conventional metaphors can make complex, abstract concepts more concrete by providing familiar images (Burgers, Konijn, Steen, & Iepsma, 2015). In this way, the conventional and familiar image can act as an anchor to ground complex and abstract information.

A good example of a metaphor that has undergone a career from novel to conventional is the "desktop metaphor" used in graphical user interfaces (GUI) of personal computers. When describing the history of the personal computer, Isaacson (2014) shows how Steve Jobs introduced the GUI of a "desktop" to the realm of personal computers. When Jobs first came across the idea in the early 1980s, he was enthused about ordering documents on a computer using the desktop metaphor with files that can be

Table 1 Examples of How Metaphors Conceptualize Change Across Pace of Change (Evolutionary, Revolutionary), Type of Change (Incremental, Fundamental) and Levels of Analysis (Micro, Meso, Macro)

Level of analysis	Evolutionary Change		Revolutionary Change	
	Incremental	Fundamental	Incremental	Fundamental
	Extant metaphors renegotiated and/or extended over long time period	Metaphors are replaced over long time period	Extant metaphors renegotiated and/or extended in light of specific and/or sudden events	Metaphors are replaced in light of specific and/or sudden events
Microlevel	Extant metaphor comparing love to a journey re-negotiated over relationship (from <i>bumpy rollercoaster ride</i> at age 20 to <i>steady cruise</i> at age 40)	Extant metaphor <i>love is a journey</i> at age 20 replaced over relationship (to <i>love is a filing cabinet</i> at age 40)	Extant metaphor comparing love to a journey renegotiated after specific event (from <i>bumpy rollercoaster ride</i> to <i>steady cruise</i> after marriage)	Extant metaphor <i>love is a journey</i> replaced after sudden event (to <i>love is a filing cabinet</i> after death of loved one)
Mesolevel	Extant metaphors on problems holding back career opportunities for women renegotiated over time (from <i>glass ceiling</i> in mid 1980s to <i>glass cliff</i> in end 1990s)	Extant metaphors on problems holding back career opportunities for women (<i>problem is glass ceiling</i> in mid 1980s) replaced over time (<i>problem is labyrinth</i> in 2000s)	Extant metaphors on problems holding back career opportunities for women renegotiated after specific event (from <i>glass ceiling</i> to <i>glass door</i> when first female manager is hired in top position at company)	Extant metaphors on problems holding back career opportunities for women replaced after specific event (from <i>glass ceiling</i> to <i>labyrinth</i> when first female manager is hired in top position at company)
Macrolevel	Extant metaphor <i>European Union is building</i> renegotiated over time (from <i>building under construction</i> in late 1980s to <i>completed building with structural deficiencies</i> in late 1990s)	Extant metaphor <i>European Union is building</i> in 1990s replaced with <i>European Union is family</i> in 2000s	Extant metaphor <i>European Union is family</i> renegotiated after specific event (e.g., signing treaty changes a <i>flirt</i> to a <i>marriage</i> between countries)	Extant metaphor <i>European Union is building</i> replaced with <i>European Union is family</i> after specific event (e.g., when EU <i>disciplines</i> specific member with fine)

Note: Examples based on the following sources: Microlevel: Glucksberg and McGlone (1999); mesolevel: Smith et al. (2012); macrolevel: Musolf (2000, 2006).

stored into folders, a trash can, etc. Thus, in the early 1980s, the desktop metaphor was novel and exciting. Today, however, this metaphor has become conventionalized as computer users across the globe using either a Windows, a MacOS, or a Linux operating system have been exposed to the desktop for quite some time.

Some scholars have argued to expand the novel–conventional dichotomy with a third type of metaphor: discourse metaphors, which can be positioned in between novel and conventionalized metaphors (Zinken, 2007). Discourse metaphors are defined as “a relatively stable metaphorical projection that functions as a key framing device within a particular discourse over a certain period of time” (Zinken, Hellsten, & Nerlich, 2008, p. 363). An example of a discourse metaphor is the metaphor comparing the EU to a building. This metaphor is not novel, because—as we have seen—it has been in use for some time. Yet, at the same time, the metaphor is also not conventionalized. After all, the different items (e.g., *euro* and *architects*) in expressions like *the euro’s architects* do not form a fixed expression that is lexicalized in the dictionary. As such, a discourse metaphor is a metaphor that is in between novel and conventional.

Zinken et al. (2008) argue that discourse metaphors have three important characteristics: (a) they use cultural knowledge, (b) they have a basis in both social interaction and individual cognitive processes, and (c) they can be used across languages. In this way, discourse metaphors typically use familiar cultural knowledge to communicate about unknown and abstract concepts, which is subsequently established in discourse through communications. This does not, however, mean that discourse metaphors remain stable over time. Instead, their meaning may shift subtly.

One important way in which the meaning of particular metaphors can shift over time is through a change in semantic associations (cf. Musolff, 2014; Nerghes, Hellsten, & Groenewegen, 2015). In some cases, this occurs over a long time period. One qualitative study, for instance, tracks the use of the negative metaphor of “parasites” to characterize political and social adversaries over various centuries (Musolff, 2014). Results show that the notion of “parasite” started out in the 16th century to denote a “social concept of sponging,” thereby referring to freeloaders. These freeloaders were seen to mainly have a negative effect of people’s resources and were treated as an object of derision. Yet, at the end of the 18th century, the word “parasite” was metaphorically used to denote individual political adversaries. In the 19th century, this metaphor was extended to also include entire groups, leading to the racist connotation it still carries today. In this way, the semantic associations of the parasite metaphor have shifted subtly over time, leading to changes in meaning (Musolff, 2014).

Yet, not every change in semantic associations occurs over such a long time period of various centuries. Nerghes et al. (2015) for instance study the evolution of *toxic* metaphors in newspaper reports of the recent financial crisis over the time period 2006–2011. In this study, the authors collected all instances of *toxic* metaphors in three English-language newspapers. Subsequently, they created semantic networks for each of the three newspapers using computer-automated analyses. In this approach,

the newspaper texts were translated into networks of concepts, indicating which concepts were used with the *toxic* metaphor and how these concepts were related. They found that, at the start of the financial crisis, most newspapers used relatively generic and unspecified instances of these metaphors (e.g., by referring to *toxic waste*). As the financial crisis developed, the metaphors become more specific and started to target specific financial instruments (e.g., by referring to *toxic mortgages* or *toxic loans*). Thus, semantic associations with specific metaphors can also change over a relatively short time frame, in response to specific events (e.g., financial crisis).

In the examples listed so far, a change in semantic meaning meant that a specific semantic association shifts or is added to a metaphor. In some cases, however, semantic associations can also disappear over time. One study shows how individuals change their associations with new technologies and innovations when these become commonly used (Matlock, Castro, Fleming, Gann, & Maglio, 2014). The case study focused on the differential metaphors used by US Internet users in 1996 (when the Internet was a new phenomenon) and in 2013 (when it was an established phenomenon). In 1996, many participants used the metaphor of seeing the virtual Internet as a physical space, by using motion verbs like “go,” “surf,” “float,” and “drop by” to describe their online activities. In 2013, participants used the same conceptual metaphor (virtual space as physical space), which was now instantiated with only one motion verb (“go”). This means that the other motion verbs (e.g., “float,” “drop by”) were no longer used in this context. This indicates that, when encountering new innovations (like the Internet in 1996), individuals first try out different conceptualizations to describe their experience. Over time, these decrease until people end up with the conceptualization that best fits the experience.

The third form of incremental change occurs when extant metaphors are recontextualized or renegotiated between genres, discourse situations, and/or social groups (cf. Campbell & La Pastina, 2010; Nerlich & Halliday, 2007; Semino, Deignan, & Littlemore, 2013). An example of recontextualization between genres is the metaphor of *Welcome to Holland*, which was first introduced by writer Emily Perl Kingsley (1987) to discuss her experiences with her son with Down syndrome (Semino et al., 2013). In the essay, Kingsley metaphorically compares her experiences with a holiday trip. In the metaphorical scenario, the family had expected to go to beautiful Italy (which metaphorically represented the default expectation of getting a child without special needs). When the plane landed, however, they found that they had arrived in Holland instead and were stuck there. In this metaphor scenario, the unexpected arrival in Holland thus represents the unexpected development of getting a child with special needs (e.g., Down syndrome). After describing her initial disappointment of landing in “Holland” rather than “Italy,” Kingsley imagines how their family got to also appreciate and love Holland, despite the differences with Italy. This essay subsequently became very popular among parents with children with special needs and was recontextualized in different ways. For instance, some theme parks introduced Holland sections, specifically designed for children with special needs. Furthermore, parents wrote follow-up blogs and diaries noting down their

experiences in “Holland,” leading to various blog stories of parents describing their own visits to “Holland.” In this way, the “Holland” metaphor was recontextualized in different ways in different genres and communicative situations beyond its first usage (Semino et al., 2013).

Yet, recontextualization of a metaphor occurs not only in the context of sense-making but also in the context of political and social debates. For instance, the first *Apple iPhone* was metaphorically described as the “Jesus phone” (Campbell & La Pastina, 2010). This metaphor was subsequently used both by *Apple* enthusiasts and by *Apple* critics, albeit in a different way. *Apple* enthusiasts mainly used the religious metaphors to argue for canonization of the *iPhone*, even before it was officially introduced. Critics used the same metaphors in different ways, by suggesting a link between *Apple* fans and religious fanaticism. In this way, the same metaphor was used to talk about the *iPhone* introduction by both fans and critics, albeit with different semantic associations.

Finally, old metaphors can be used and revitalized to discuss new social phenomena and to give meaning to them. An example is the introduction of the Ethernet communication technology (i.e., a local area networks (LAN) system), which builds on the long-established metaphor of “ether” (Schaefer, 2013). The concept of ether has a long history (going back to antiquity) as a metaphor for a “mysterious, universal medium that connected everything on earth and beyond” (Schaefer, 2013, p. 2011). For instance, some 19th century physicists argued that ether was a substance through which energy and/or light flowed. While current developments in physics have shown this stance to be false, developers of (what is now known as) Ethernet technology used a comparison with ether when developing this communication technology. In doing so, the concept of ether was meant to communicate that the new technology had a metaphorical medium (the “ether”) that carried information to all stations within the network. In this process, a concept from 19th-century physics (“ether”) was used to explain the properties that a new and emerging communication technology was (supposed to) have. This means that the explicit choice of using an old and familiar metaphor when designing a new technology could help to ground the technological developments and to make clear which goals it wanted to achieve.

Fundamental change

In incremental change, the meaning of extant metaphors changes. In contrast, fundamental change entails that old metaphors are replaced by new ones. This implies that speakers use other source domains to discuss the same social issue (“target domain”). Again, fundamental change can be both evolutionary and revolutionary. In the case of revolutionary fundamental change, the change can happen either as a response triggered by a specific event or as a deliberate choice made by social actors without connection to a specific event.

First, fundamental change can happen when old metaphors are slowly replaced by new ones over relatively long stretches of time. For instance, one study focuses

on metaphors about (in)fertility in women (Jensen, 2015). Results show that, in the 17th and 18th centuries, the metaphorical expression of “barren” was used most often. This agricultural metaphor implicitly compares women’s bodies to agricultural soil. The subtle implications of this metaphor are that, if a woman is unable to “bear fruit” (i.e., get children), this could be due to her personal responsibilities. In the 19th century, this metaphor was replaced with the metaphor of “sterile,” referring to machinery. In this context, physicians have the most responsibility, because they are metaphorically portrayed as the “mechanics” who have to fix the “machine” (woman’s body). This swap from “barren” to “sterile” thus not only changes the metaphor but also the implications of responsibility from the individual woman to medical professionals.

Such a change occurs slowly over a period of centuries, in response to slowly changing circumstances. Looking at a shorter time period, such swaps in metaphors can also be identified when adopting a lifespan perspective. For instance, people typically change the metaphors they use to describe their job over the course of their professional careers. A case study focusing on metaphors used by teachers asked experienced teachers to look back at their careers (Alger, 2009). At an early-career stage, these teachers generally used teacher-central metaphors focusing on the exchange of knowledge (e.g., teacher as “sage on a stage,” students as “vessels to be filled with knowledge”). At a later career stage, these experienced teachers tended to use more student-oriented metaphors (e.g., teachers as “providers of tools” to enable learning). Such changes thus stem from the accumulation of knowledge and expertise over a longer time period.

In other cases, fundamental change can be revolutionary and occur as a response to a specific event or crisis. In the area of health communication, for instance, the sudden diagnosis of an illness can be such a personal crisis. Various studies show how patients metaphorically conceptualize both their illness and their recovery period, and how their sense of self shifts during the difficult illness period (e.g., Boylstein, Rittman, & Hinojosa, 2007; Gibbs & Franks, 2002; Palmer-Wackerly & Krieger, 2015). Boylstein et al. (2007) analyze the metaphors used by patients during recovery from stroke. One of their key findings was that patients often conceptualized their recovery process as a metaphorical war (e.g., by referring to personal battles to regain specific physical functions). These patients also reported greater depression during recovery, suggesting that the metaphors patients use to frame their recovery are closely related to their sense of self.

Yet, revolutionary fundamental change is not only a response to a specific event. It can be actively instigated by social actors on all levels of analysis. People may choose to change their individual metaphors at the microlevel. For instance, various academics have argued in favor of abandoning the war metaphor to describe the period of illness recovery and to replace this negative war metaphor with a more positive, patient-centered metaphor (Hurley, 2014; Macilwain, 2015). If individuals choose to abandon such negative metaphors, this may positively impact their personal wellbeing (cf., Hurley, 2014). Similarly, fundamental change can be instigated

when organizations initiate a strategic change and a reorganization at the mesolevel (e.g., Cornelissen et al., 2015; Gioia & Thomas, 1996; Gioia, Thomas, Clark, & Chitipeddi, 1994). In such situations, management of an organization decides that the organization needs to change course and introduces a new set of metaphors as a way to position the organization.

Finally, actors can try to change a social debate by means of a “call to action” at the macrolevel, bringing the use of specific metaphors to the forefront with the aim of change. An example can be found in, what was at the time of writing, the most recent ICA Presidential address. In his address, ICA President François Heinderyckx (2014) discusses the digital transition that is currently happening around the globe. He argues that regular media coverage of new online technologies is mostly framed in terms of positive, utopian values, suggesting that new technological development will mainly bring progress. Heinderyckx (2014) develops the argument that a metaphor of “digital enchantment” can best be used to characterize this process, in two ways. First, the word enchantment suggests positive aspects (e.g., something is evoked with magical qualities), which reflects how many people see new ICT developments. Second, the word also evokes negative qualities (*being under a spell*), which are reflected in the prominent position new technologies have in our daily lives and the ease with which people share private information online. Heinderyckx (2014) subsequently argues that an important task for communication scholars is to counter this metaphor of digital enchantment, by providing a counternarrative that incorporates both the positive and the negative aspects of the digital transition. In this way, a prominent scholar in our field took on fundamental revolutionary change through a call to action, using metaphor.

Change in communication

Since metaphors can be used for any societal topic, they are also used to conceptualize communication. A clear example is provided by Krippendorff (1993), who argues that various theoretical models of communication are themselves of a metaphorical nature. For example, one important metaphor of communication he distinguishes is the *conduit* metaphor, which suggests that communication can *flow* through networks. In this conduit metaphor of communication, a communication wire is perceived as a “tube through which something could flow from a source to its sink, much like in a plumbing system” (Krippendorff, 1993, p. 6). In this communication metaphor, then, good communication is achieved when it flows instantly to its intended source, while bad communication occurs when the flow is in some way obstructed or blocked (e.g., through *noise*).

Thus, new communication technologies and developments can be placed within such existing frameworks, which are then amended to include the new communication technology (“incremental change”) or they can be framed as something very different (“fundamental change”). For instance, the creators of Ethernet technology (Schaefer, 2013) based their ideas on the conduit metaphor of communication, and

metaphorically filled in the substance through which the information would flow through the network as “ether.” Similarly, when the concept of “big data” was introduced, some speakers used the conceptual metaphor comparing big data to a “force of nature to be controlled” (Puschmann & Burgess, 2014). People using this metaphor discussed what they saw as “vast oceans of digital data” and the “coming data tsunami” (Puschmann & Burgess, 2014, p. 1698). Proponents of this metaphor thus presented a representation in such a way that it was clear that the amount of “fluid” (information) was so large that it would present problems for the existing communication networks to deal with. Both the Ethernet and the big data examples reflect incremental change in that communicators adapted the existing conduit metaphor to reflect the new communication development under discussion (LAN networks, big data).

Of course, it is possible to try to replace old metaphors with new ones in the light of new communication technologies (fundamental change). For instance, Puschmann and Burgess (2014) argue that when big data became more accepted, speakers switched to a second conceptual metaphor, seeing big data as nourishment or fuel to be consumed (e.g., we have to *take it all in*, *data-driven* decisions). In this metaphor, then, big data are seen as nourishment that is necessary for people and corporations to survive in the changing contemporary world, and the conduit metaphor is replaced with a food metaphor.

In communication theory, we have also seen challenges to classic metaphors of communication like the conduit metaphor. Pingree (2007), for instance, questions a presupposition of the conduit metaphor that information is already pre-existing before it is sent from the sender to the receiver. Instead, Pingree (2007) argues, senders (especially in spoken communication) seldom have a full-fledged idea of what they want to communicate. Thus, the creation of new information through the art of expressing is one element that is difficult to explain using classic metaphors of communication like the conduit metaphor. Consequently, Pingree (2007) suggests that new models of communication should replace these metaphoric models like the conduit metaphor and have more attention for the role of the expresser.

In sum, like other important societal topics, changes in communication and new media are often communicated through the use of specific metaphors, the details of which are filled in and amended as time progresses. For instance, the general conceptual metaphor of seeing the Internet as a physical space (Matlock et al., 2014) has opened up the opportunity to further specify the looks of this virtual space. Providing metaphoric details such as “geographic information” (e.g., vast oceans of data), specific locations on which to (make a) stand (e.g., platforms, Gillespie, 2010), and virtual actions with a direct equivalent in the real world (e.g., receiving mail) make it possible for communicators to deal with such important and profound changes in communication practices.

Methods of research and types of data

The examples listed in the previous sections give an overview of a variety of studies conceptualizing change in communication through metaphor from different

theoretical and methodological backgrounds. When looking at the type of data used to model such changes, researchers typically use either natural-language data or elicited data (and sometimes a combination).

In analyses of natural language data, communication scholars have used data from different types of sources. To give some examples: Scholars interested in microlevel processes have used unpublished personal memoirs (Fixsen, 2016), published autobiographical memoirs (El Refaie, 2014), or online data (e.g., web forums; Bates, 2015; Hellsten, 2003) as case studies to be analyzed. Scholars interested in mesolevel processes have used organizational documents (Cheng & Ho, *in press*; Tourish & Hargie, 2012). Scholars focusing on macrolevel processes, finally, have often used policy documents (e.g., Shaw & Nerlich, 2015) or media content (e.g., newspaper reports; Charteris-Black & Musolff, 2003; Nerghes et al., 2015; O'Mara-Shimek, Guillén-Parra, & Ortega-Larrea, 2015).

In analyses of elicited data, communication scholars take the initiative to elicit data from specific individuals. One way of doing so is by conducting personal interviews (e.g., Boylstein et al., 2007; Gibbs & Franks, 2002) or large-scale surveys (Alger, 2009; Matlock et al., 2014; McAdams et al., 2008) with selected individuals. In such studies, these interviews are requested to discuss the topic at hand freely. Subsequently, the transcripts of these interviews are coded for the types of metaphors that are used.

Finally, some scholars focus on the usage, evolution, and response to specific (pre-selected) metaphors. This can be both the case in studies focusing on natural-language (e.g., Campbell & La Pastina, 2010; Musolff, 2014) and elicited data (e.g., in the case of experiments, Burgers et al., 2015; Keefer, Landau, Sullivan, & Rothschild, 2014). Other studies survey the field and map how the general usage of metaphors has changed over a (preselected) time period (e.g., Alger, 2009; Charteris-Black & Musolff, 2003; Gibbs & Franks, 2002). In the latter approach, then, scholars do not start from a specific metaphor, but rather from the data to determine which types of metaphors are in usage to discuss a particular topic at a particular time.

A specific example to model how preselected metaphors impact change using elicited data is by conducting experiments (e.g., Burgers et al., 2015; Keefer et al., 2014; Parrott & Smith, 2014; Williams, Davidson, & Yochim, 2011). In such experimental set-ups, the independent variable typically contains a variation in the metaphor to which participants are exposed. That is, a specific metaphor is contrasted with a nonmetaphorical control (e.g., Burgers et al., 2015; Keefer et al., 2014), with another metaphor to describe the same issue (e.g., Parrott & Smith, 2014), or with both (e.g., Reijnerse, Burgers, Krennmayr, & Steen, 2015). This experimental method has the advantage that responses to specific metaphors on specific dependent variables of interest can be measured.

While much progress has been made in recent years on the role of metaphor as a tool for conceptualizing change in communication, challenges still remain to be addressed in future research. The variety of methods used also suggests that various scholars identify metaphors in different ways using different methods. This may be problematic because of two reasons. First, important characteristics of scientific

research relate to comparability, reliability, and validity, which is why various scholars have called for a standard, reliable, and valid method of metaphor identification (Pragglejaz Group, 2007; Steen et al., 2010b). Second, interpretation and reinterpretation of discourse by researchers may in itself also lead to change, in that researchers' reinterpretation may be different from the experience of the speakers in the discourse (Manhas & Oberle, 2015). To make identification of metaphors as objective as possible, current identification procedures like the Metaphor Identification Procedure (MIP, Pragglejaz Group, 2007) and its updated version MIP-VU (Steen et al., 2010b) suggest using standardized reference works (e.g., dictionaries) as aids when identifying metaphors. In order to push this research field further, such methodological issues related to the measure and identification of metaphors should remain on the academic agenda. After all, using standardized measures makes it easier to compare and contrast different studies using different topics on different levels of analyses and reduces bias of individual researchers.

A second challenge is related to the use of metaphors in discourse. A recent debate is on the notion of deliberate metaphor (Steen, 2011), involving the issue when metaphors are used to introduce alternative and different perspectives. According to Steen (2011, p. 37), a deliberate metaphor is an "overt invitation on the part of the sender for the addressee to step outside the dominant target domain of the discourse and look at it from an alien source domain." The notion of metaphor deliberateness suggests that some metaphors are used to introduce alternative perspectives, while other metaphors do not serve such a function. The notion if and when metaphors are used deliberately is a topic of hot debate (compare Steen, 2011, 2015, to Gibbs, 2015a, 2015b), the outcome of which can have important ramifications for the approaches detailed above.

Conclusion

The variety of studies shows that metaphor research as a way to model change in communication is widespread in our discipline. While some researchers study metaphor at a microlevel, for example, by studying personal memoirs (e.g., El Refaie, 2014; Fixsen, 2016), others study how important societal topics like the financial crisis or the EU are metaphorically described, explained, and legitimized (e.g., Musolff, 2000; Nerghe et al., 2015). As different as these approaches are, most of them start from one of the basic premises of CMT (Lakoff & Johnson, 1980/2003): that metaphors are an integral aspect of thought. Modeling how metaphors shift, and are recontextualized and/or replaced, is thus a fruitful approach to model how individuals and organizations deal with institutional and social change.

The examples illustrated above show that metaphor changes can come in different forms. Focusing on evolutionary change, metaphors may shift meaning over time (Musolff, 2014) by acquiring new (Nerghe et al., 2015) or losing old, deficient semantic associations (Matlock et al., 2014), or be replaced entirely (Jensen, 2015). Focusing on revolutionary change, external circumstances can trigger the

rise or replacement of metaphors (Campbell & La Pastina, 2010), but individuals or institutions may also make the deliberate and explicit decision to reject and/or replace old metaphors (Hurley, 2014).

Because metaphors can be used to discuss any phenomenon, a metaphor-based approach has the advantage that it can be applied to communication issues across levels of analysis (micro, meso, macro) and topics. A focus on the usage, change, and effects of metaphors may thus help to uncover both similarities and differences between communication processes in such different domains. I hope that this essay may serve as a catalyst for communication scholars of various methodological backgrounds interested in institutional and/or social change to start or to continue the discussion on metaphor usage.

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