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Metaphor, Media, and the Market

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The volume of press coverage devoted to the prevailing volatility in global financial markets presents opportunity to build interdisciplinary links between the fields of communication and behavioral economics. The findings of this study empirically document significant relationships between news media exposure and economic outcomes, particularly with respect to the effects of metaphor framing on individuals' subsequent investment decisions.

Informed by the central tenets of prospect theory, the results indicate that just as the effects of loss frames are asymmetric to the effects of gain frames, so too are the effects of metaphoric loss frames asymmetric to the effects of traditional loss frames. Most notably, information about economic loss narrated using metaphor impacts individuals' decisions to spend and invest in the economy to a greater extent than exposure to the same information narrated without the use of metaphor. When viewed in a broader theoretical context, this outcome also presents prospects for forging continued dialogues between the disciplines of communication and behavioral economics as well as within subdisciplines of communication—namely, between rhetorical studies and communication effects research.

The 800 lb gorilla. Low-hanging fruit. Pushing the envelope. Building up your war chest. If there is one thing business loves more than a buzzword, it is a metaphor.
~ Rhymer Rigby, *The Financial Times*, September 5, 2011

This research study considers how the use of metaphor in economic discourse carries meaning to audiences. As a subtle but strong frame, metaphor can shape the meaning audiences assign to news (for related discussion, see Williams, Davidson, and Chivers Yochim, 2011) and may also drive the effects that these interpretations carry into behavioral forms of decision making (Williams, 2013). The study's outcomes give empirical support to this proposition, showing that the use of metaphor to frame economic affairs shapes consumers' economic perceptions in ways that hold broader significance in the global financial marketplace.

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Metaphor, in other words, is not merely a commonly used rhetorical device; it also influences individuals' decision making. This outcome ultimately invites larger conversations linking rhetorical scholarship to the study of communication effects and communication studies to the domain of behavioral economics. Rhetoric holds no power if it does not sway audiences—and the power that communication carries is greatly magnified when the communication process supports behavioral decision outcomes. This study is a step toward encouraging dialogue across these domains.

What Makes Metaphor So Significant?

> *That metaphor is the omnipresent principle of language can be shown through mere observation. We cannot get through three sentences of ordinary fluid discourse without it.*
>
> ~ I. A. Richards, *The Philosophy of Rhetoric*, 1936

Metaphor, as I. A. Richards observed, can be observed through discourse. But it is not through observation and discourse alone that the significance of metaphor is established. Metaphor becomes meaningful when it operates within individuals' cognitive frameworks to make information accessible, to stimulate sensory reaction, and to activate semantic response (Bowdle & Genter, 2005; Coulson, 2001; Fischer, Gleitman, & Gleitman, 1992; Gibbs, 1994; Gibbs & Gerrig, 1989; Giora, 2003; Jackendoff, 1992; Lakoff & Johnson, 1980; Lakoff & Johnson, 1999; Paprotte & Dirven, 1985; Sweetser, 1990; Turner, 1991). The significance of metaphor is then seen through the observable *effects* that metaphor promotes—as in response to the question: Does metaphor *influence* individual decision making?

In the domain of communication effects research, metaphors are powerful but abstract stimuli (Morgan & Reichert, 1999). Metaphorical appeals rely upon consumer inference, as they do not deal directly with an object's concrete characteristics (McQuarrie & Phillips, 2005). For example, a metaphor introduced in the context of an advertisement, press release, or news story may liken the introduction of a new product to a *birth*—as illustrated through the emergence of new technologies, from the *births* of Apple iPhones and Android operating systems to the *births* of Facebook and Twitter (for related texts, see "The Birth of Google," described in *Wired,* August 13, 2005, and "The Birth of the iPhone," portrayed in *CNN Money*, March 7, 2008).

When the relationship between the concrete entity (i.e., the product) and the process describing that entity (i.e., a birth) is metaphorical, the consumer is invited to produce multiple personally resonant inferences regarding the entity. Rhetorical and linguistic theory contend, more specifically, that abstract metaphorical messages carry a weak implicature, which allows the person interpreting a message to generate multiple personally salient considerations that are less sensitive to counterarguments, thereby making the message as a whole more persuasive (Gibbs & Tendahl, 2006; McQuarrie & Phillips, 2005). For instance, in the case of a new technological *birth*, the metaphor encourages the individual to respond to the introduction of the new technology by invoking his or her own experiences—which, in turn, presents an opportunity for a robust semantic response that can enliven existing views and empower persuasion. Furthermore, metaphors that "embody" the individual by tying an object to a bodily experience may be even more persuasive than more abstract metaphors (Cazeaux, 2002; Day, 1996; Gibbs, 2003; Jackson, 1983; Johnson, 1999; Köveces, 2000; Morgan & Reichert, 1999; Yu, 2003).

In news discourse, metaphors rooted in the body—that is, "anthropomorphic" metaphors—are commonly used to structure narratives (Barcelona,2003; Charteris-Black, 2000; Kirmayer, 1992; Williams et. al., 2011). In the context of economic discourse and business news, anthropomorphic metaphors liken products, businesses, and other economic entities to humanizing functions, such as *births* and *deaths* of products and technologies, *life cycles* of firms, and *death spirals* of economies (for related discussion, see Koller, 2004). One particular physical anthropomorphic metaphor that has been frequently employed in recent coverage of financial news, economic downturn, and business failure is the metaphor of death (Williams et al., 2011).

Because the metaphor of death is quite prevalent in news discourse illustrating significant market events, the potential effects that this form of metaphor brings to economic decisions warrants more in-depth exploration. First, however, it is important to examine how past research explains processes of economic decision making and to consider the role that metaphor may play within this arena.

How Consumers Make Economic Decisions

The way information shapes economic decisions finds its theoretical roots in prospect theory. In their seminal works on prospect theory, Amos Tversky and Daniel Kahneman show that variations in how an economic problem is framed influence decision making even when there is no substantive difference in the options presented (Kahneman & Tversky, 1984; Tversky & Kahneman, 1981, 1991). In addition to clearly proving that information presentation influences economic choices in the most rational realms, Tversky and Kahneman's studies show that in complex information environments individuals often make decisions based on the frames and cues embedded within a narrative (for related discussions, see Kinder, 2003; Lau, 2003).

The discovery that individuals respond to information frames has since informed explanations for mass behaviors in the financial realm, where researchers have predicted that media framing of market events can contribute to the creation of "irrational exuberance" (a belief that the stock market will continue to rise indefinitely), which, in turn, may facilitate the periodic appearance of stock market bubbles (Shiller, 2005). As Shiller argues, in modern society, media is a key disseminator of information about the market and operates as the primary vehicle for public projection of "significant market events [which] generally occur only if there is similar thinking among large groups of people" (Shiller, 2005, p. 85). In particular, when the media frame price movements of the stock market with an overtly sensationalistic tone, such frames can push readers and viewers to keep investing even when underlying economic data does not warrant such behavior, and can, after the market has begun to decline, amplify investors' tendencies to sell (Shiller, 2005).

With this observation, Shiller puts forward a compelling case to illustrate potential media effects in the domain of mass economic behavior. However, more empirical evidence is needed to establish a clear link between media framing and economic outcomes—as dominant frames (particularly those including anthropomorphic metaphor) may have particularly strong effects on individual decision making.

In light of recent economic events, research in the domain of media studies and behavioral economics has grown and gained a more empirical focus, with results that show media agendas play a significant role in shaping labor markets (Akerlof & Kranton, 2010; Akerlof & Shiller, 2009), macro-level economic evaluations (Goidel & Langley, 1995), and share prices (Huberman, 2003). In particular, Huberman's research reports a substantive association between media frames and market trends, linking the salience of economic news stories to fluctuations in the stock market. This outcome is observed at an aggregate level. Related effects, however, could also be discernable at the individual level and detectable through the behavioral choices of individual consumers—a possibility that warrants further attention. As such, the focus here will be on individual level effects, specifically, potential effects that occur after individuals are exposed to economic news narrated using metaphor.

When Metaphor Enters the Market

As noted previously, one form of rhetorical and linguistic device used extensively in economic news is metaphor (for related discussions see Clayton, 1983; Dobbin, 1992, 1994; Koller, 2004; Parker, 1999). One metaphor, in particular, that has been heavily invoked in news coverage of the recent economic crises is the metaphor of death (Williams et al., 2011).

Death metaphors are often assigned to specific products and are commonly used to describe media industries—for example, the "dying newspaper industry" (Chyi, Lewis, & Zheng, 2012)—or the demise of communication technologies—for example, the "death of records" (Yochim & Biddinger, 2008). The following examples may help to further illustrate this practice.

> <u>Falling Prices to Kill Off Half of Chinese LED Chipmakers</u>
> By REUTERS—Published: May 27, 2012
> HONG KONG (Reuters)—*In China, surplus capacity and sliding prices are sounding the death knell for half of the companies making light emitting diode (LED) chips used in Samsung television panels and Sharp computer monitors, with only the larger state-backed players likely to pull through.*

> <u>CEO: Lawsuit Could Kill Internet TV Startup</u>
> By THE ASSOCIATED PRESS—Published: May 30, 2012
> NEW YORK (AP) — *News Corp.'s Fox and other broadcasters went to court on Wednesday to try to pull the plug on a startup that takes live TV programming and sends it to mobile devices in New York for a monthly fee.*

> <u>Facebook's Death Spiral: It's Inevitable (and Already Starting)</u>
> By AOL's DAILY FINANCE—Posted: March 30, 2012

> *Since the birth of the Internet, all of the Web's dominant companies have had one thing in common: Eventually, they all faded into oblivion. Prodigy and Netscape are now a distant memory; MySpace becomes more irrelevant by the day; and AOL (parent of DailyFinance) and Yahoo! must constantly struggle to keep their footing in a shifting online landscape. And then there's Facebook.*

The above examples illustrate the use of death metaphor as assigned to *products* and *entities* existing within the economic marketplace. In related contexts, death metaphor is also used to describe the shape and nature of economic *processes*. The following texts exemplify this use.

> <u>Spain's Death Spiral and the Hypocrisy of the Euro</u>
> TIME BUSINESS—EUROPE—By Michael Schuman
> Published: April 5, 2012
> *Whatever numbers you look at, Spain is in a death spiral, a self-defeating circle of recession and austerity that is sending one of Europe's most important members into an economic dark ages.*
>
> <u>Welcome to the living dead economy</u>
> The Guardian (online)—Published: December 4, 2011
> *An alternative way of looking at the crisis goes like this. We now inhabit a world of the living dead: a eurozone that will not collapse but cannot be reformed; banks that are kept alive by gigantic quantities of electronically generated cash but do not lend.*

In all of these instances, when death is employed as a metaphor, it illustrates a specific type of loss frame. Loss frames are an essential component of prospect theory as they are associated with lower levels of risk aversion (Dijksterhuis & Aarts, 2003; Hamilton & Zanna, 1972; Kanouse & Hanson, 1971; Kühberger, Schulte-Mecklenbeck, & Perner, 1999; Lutz, 1975; Peeters & Czapinski, 1990; Rozin & Royzman, 2001; Skowronski & Carlston, 1989). Metaphors tied to physicality resonate with audiences (Barcelona, 2003; Day, 1996; Gibbs, 2003; Morgan & Reichart, 1999), and when operating as loss frames may work to further magnify the loss, which can influence decision making (Dijksterhuis & Aarts, 2003; Kanouse & Hanson, 1971; Peeters & Czapinski, 1990; Rozin & Royzman, 2001; Skowronski & Carlston, 1989).

By extension, the use of death metaphor in the context of economic news may shape individuals' marketplace investment decisions. This proposition—which links metaphor to behavioral economic choices—will be explored more fully under a guiding research question:

*RQ**:*** *Does exposure to death metaphor significantly influence an individual's subsequent investment decisions?*

Literature in behavioral economics situates loss frames as significant, potent, and cognitively "sticky" frames that instigate behavioral response (Peeters & Czapinski, 1990; Rozin & Royzman, 2001; Skowronski & Aarts, 2003). Therefore, when metaphor magnifies a loss frame, it is possible that an individual's decision to invest in the market will be altered. The following hypothesis is a test of this proposition.

Hypothesis: Individuals exposed to a news narrative that employs death metaphor to describe economic loss will invest differently than those exposed to a narrative that simply describes the economic loss.

Based on literature in the domain of risk and behavioral choice (Peeters & Czapinski, 1990; Rozin & Royzman, 2001; Skowronski & Carlston, 1989), if death metaphor heightens risk aversion, the likelihood of investing may be less for those exposed to the metaphor frame; in contrast, if it lessens risk aversion, the likelihood of investing may be greater for those exposed to the metaphor frame.

Method

To explore the above research question and hypothesis, an experiment was conducted to provide an empirically based response. The experiment employed a two-group post-test design in which one group was exposed to a fictional business news story based on an article taken from *The Wall Street Journal*, wherein a company is anthropomorphized as "dying." The other group was exposed to the same news story devoid of metaphors. The participants were drawn from a population of young adults (N = 78). The two groups were matched on gender and were comparable on other key demographic variables, including investment background, family income, and political ideology. The characteristics of the sample, taken collectively, suggest that key demographics of the sample were relatively representative of the larger U.S. population. Overall the sample means reflect balance in ideological terms (on a 6-point scale, m = 3.17, sd = 1.48, with liberal coded low, conservative coded high). The gender distribution of the sample was 40% male and 60% female, and the mean family was estimated at slightly over $70,000 income (on a 6-point scale, m = 5.32, sd = 1.25). With respect to pre-existing investments, 22.1% of the participants owned mutual funds, and 45.5% owned stocks.

In the treatment condition, anthropomorphic death metaphor was introduced as a vehicle that structured the topic of bankruptcy as an organic, natural, and evolving part of the human condition. The stimulus introduced death metaphor in four instances that mapped onto this process: the company "suffering from huge losses," filing for bankruptcy in a "last ditch effort to avoid financial death," and "ailing" before arriving "on death's doorstep."

In the standard narrative condition, the company was actively "filing for bankruptcy"; in the metaphoric narrative, the company was arriving naturally "on death's doorstep." In the standard narrative, the process of bankruptcy was described as "a possible prelude to closing down completely"; in the metaphoric narrative, bankruptcy was associated with the natural process of death, as in "a last ditch effort to avoid financial death." In the standard narrative, the company failure was accompanied by "huge losses"; in the metaphoric narrative, the company failure was "suffering from huge losses." Finally, in the standard narrative, the manufacturers were characterized as "soon to be bankrupt," while in the metaphoric narrative, the manufacturers were organically faltering and "ailing."

After exposure to the news stimuli, the participants in both groups were asked to make financial investment choices. Participants were told that they had won $1,000 in the lottery and were asked to designate how they would use the money. Respondents were given five financial options, from which they were asked to choose one of the following behavioral actions: invest in mutual funds, invest in stocks, save the money, spend the money, or donate the money.

Results

The results of the experiment provide evidence confirming that metaphor shapes behavioral economic choices. Specifically, individuals exposed to death metaphor reported higher levels of spending ($T = 3.172$, $p < .002$), higher levels of mutual fund investment ($T = 3.559$, $p < .001$), lower levels of stock purchase ($T = -3.172$, $p < .002$), and lower levels of saving ($T = -9.304$, $p < .001$) than those exposed to the loss-framed narrative that did not employ death metaphor.

Multinomial logistic regression analyses were performed to examine the effect of metaphor on investment decisions (i.e., to invest in stocks, to invest in mutual funds, to spend, to save, or to donate), while controlling for existing investments, ideology, and family income. Tables 1, 2, and 3 illustrate the outcomes.

Table 1 details predictors of a decision to invest in stocks. Here, the analysis indicates that the decision to invest in stocks is significantly predicted by exposure to death metaphor, with those individuals exposed to the metaphor showing a lower likelihood of investing in stocks than those exposed to the standard loss narrative (Exp(B) = .719).

Table 1. Multinomial Logistic Regression Analyses for Variables Predicting Decision to Invest in Stocks.

Predictors	***Odds Ratio***
Anthropomorphic Metaphor	.719
Predispositions	
Existing Investments	3.841 * 10^–8
Ideology	.898
Family Income	.823

Note: Reported coefficients are significant at $p < .01$.

Table 2, shown below, details predictors of a decision to invest in mutual funds. Here, the results indicate that the decision to invest in mutual funds is positively predicted by exposure to metaphor, with exposure to death metaphor increasing the likelihood of investing in mutual funds (Exp(B) = 2.780).

Table 2. Multinomial Logistic Regression Analyses for Variables Predicting Decision to Invest in Mutual Funds.

Predictors	***Odds Ratio***
Anthropomorphic Metaphor	2.780
Predispositions	
Existing Investments	1.272 * 10^–8
Ideology	.548
Family Income	.351

Table 3 details predictors of a decision to spend. Here, the outcomes show that exposure to metaphor increased the likelihood of spending (Exp(B) = 3.463).

Table 3. Multinomial Logistic Regression Analyses for Variables Predicting Decision to Spend.

Predictors	***Odds Ratio***
Anthropomorphic Metaphor	3.463
Predispositions	
Existing Investments	2.920 * 10^–8
Ideology	.615
Family Income	.498

Note: Reported coefficients are significant at $p < .01$.

Finally, in regressing exposure to metaphor on decisions to save and donate, the results revealed positive associations, but did not reach conventional levels of statistical significance. It is important to note that in the case of a decision to donate, lack of statistical significance may be a function of the relatively small number of respondents who elected to donate rather than use other investment options.

Analytic Summary & Discussion

To summarize the analyses reported above, exposure to metaphor (while controlling for existing investments, ideology, and income) had significant effects on individuals' decisions to spend and invest in the market. Of these outcomes, the most notable effect of exposure to death metaphor was an increased likelihood of investing in the economy through increased spending.

When contextualized with respect to risk, investment in the market (a riskier choice than non–market-based decision options) was greater for those exposed to the death metaphor than for those exposed to the standard loss narrative. However, when choosing between the market-based investment choices of stocks and mutual funds, those exposed to death metaphor preferred the diversified risk of mutual funds to the more concentrated risk of stocks. Further, although a decision to invest in the market was more likely after exposure to the death metaphor than after exposure to the standard narrative, those exposed to the standard narrative were significantly more likely to save.

In addition to lending support to Shiller's contention that sensationalized economic news coverage leads individuals to invest even when it may not be completely rational to do so (Shiller, 2005), the outcomes are also in keeping with the central tenets of prospect theory, which contends that loss frames are associated with lower levels of risk aversion (Kahneman & Tversky, 1984; Tversky & Kahneman, 1981, 1991). Specifically, the results reflect the power of metaphorical loss framing, indicating that individuals are more likely to assume risk for market-based investment after exposure to narratives framing economic loss with the use of anthropomorphic metaphor.

To further contextualize the outcomes with respect to prospect theory, the analyses show that exposure to news of a failing business that is narrated with death metaphor significantly influences individuals' investment decisions. The semantic response driven by the metaphor's call to "come to the aid of" or "help resuscitate" a "dying" business did not yield a uniform turn away from market investment. Rather, exposure to metaphor appeared to shape risk aversion in interesting ways. As prospect theory suggests, risk aversion is typically lessened after exposure to a loss frame—as "losses hurt more than gains feel good" (Tversky & Kahneman, 1981). Here, findings are congruous with this position—spending and riskier economic choices of investing were preferred over the decision to save after individuals were exposed to loss frames, in general, and even more so after being exposed to death metaphor, in particular. This suggests, more broadly, that death metaphor operates as a strong form of loss frame. In keeping with prior research on risk perceptions and market-based investing (Baker & Wurgler, 2007; Canner, Mankiw, & Weil, 1997), it is likely, however, that although metaphor can lessen risk aversion, it does not completely wash it way. In this case, the evidence supports this proposition, as the risk diversified through investment in mutual funds was preferred to the risk concentrated in stocks.

Conclusions

With an eye toward building ties between rhetorical scholarship and communication effects research, this study shows that metaphor—as a linguistic and rhetorical device—does carry effects. It can as I. A. Richards argued decades ago inspire action or inaction, depending on the message and the context in which it is employed (Richards, 1936). In the specific domain of economic news, death metaphor is linked to behavioral intentions and appears to promote certain behavioral investments over others. When "death" is assigned to a business entity, the effects are observed through an increased likelihood of spending and investment in the market through mutual funds.

Future studies should further explore the cognitive attributions underlying decision-making processes. It is likely that metaphor exposure may be working through cognitive attributions as a means of establishing decision choice. Risk perceptions, in general, and responsibility attributions, in particular, may further support the link between metaphor exposure and behavioral outcomes (for related discussion, see Williams et al., 2011; Williams, 2013). As such, the outcomes reported here may be mediated by these factors and moderated by individual and media source characteristics (Williams, 2012). Therefore, more detailed consideration of cognitive attribution processes will require greater attention in ongoing research. It is important also to note that as the news landscape continues to grow and develop, the complexities of news discourse may also evolve (Williams, 2011), and the potential for influencing attitudes toward investments may increase or decrease with repeated exposure to metaphor as well as with exposure to different combinations of metaphoric stimuli. This, again, opens the door for continued discussion in this domain.

Ultimately, the outcomes in this study signal the continued importance of metaphor not only as a prominent rhetorical device, but also as a rhetorical device that influences individual decision making. Here, we see that metaphor is not only a vehicle for narrating political and economic discourse; metaphor is a conduit of influence that can *affect* individual decision makers.

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