



# Paying with change: The purposeful enunciation of material culture<sup>☆</sup>



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## ABSTRACT

Recent work in cultural sociology has called attention to constraints imposed by material objects on interpretive processes, but is unclear as to how actors use such constraints to produce new meanings. In this article, we use novel newspaper data of people attempting to pay with large amounts of small cash and coins as a form of protest to highlight the material conditions under which actors are able to convey an alternative meaning of an object to an audience. We use computational linguistic and quantitative methods to examine when changes in the meaning of money are more likely to lead to emotionally-charged media reception. We find that emotionally-charged media reception is more likely when, typically, actors consciously attend to money and yet do not have to put in much cognitive work to assign meaning to it in the setting where the protest is attempted. We conclude by considering the implications of the study for broader projects within cultural sociology, economic sociology, organizational theory, political sociology, and social movement studies.

## 1. Introduction

Recent work on materiality in cultural sociology has called attention to the constraints imposed by material objects on interpretive processes (e.g., Griswold, Mangione, & McDonnell, 2013; Klett 2014; McDonnell, 2010, 2016; Rose-Greenland, 2016; Zubrzycki, 2013). This is a significant move forward as it offers a corrective for strong constructivist positions presuming objects simply “reflect people’s self-definitions” (Jerolmack and Tavori, 2014, 64–65, 71; see also Barad, 2003; Domínguez Rubio, 2012, 2014; Martin, 2010, 2011; Mukerji, 1997). What remains to be further elaborated is whether and how actors use such constraints to create new meanings in social situations. In this article, we focus on situations where a condition is usually satisfied with the use of particular material objects, but can nonetheless be satisfied with different yet *unexpected* objects. More broadly, we consider how actors are able (or not able) to *intentionally communicate an alternative meaning of an object to an audience by using it in an unexpected way*.

Rather than focusing on how materiality restricts meaning-making processes, we focus on how people put these constraints to use,

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and the limitations of such attempts. We refer to these attempts, broadly speaking, as “purposeful enunciation.” This is when an actor tries to deliberately attract attention to alternative uses of a material object and in so doing communicates a new message. To develop this concept, we integrate recent work from the cultural sociology of materiality with work from culture and cognition studies. Specifically, we use dual-process models of *attention* and *sense-making* to understand how materiality evokes certain types of cognitive processing from actors in these settings.

Understanding the mechanics of purposeful enunciation is significant because communicating by using objects in uncommon ways is a pervasive form of contention and innovation. This includes making obstructive, ironic, rebellious, or humorous statements, which may result in subversion, oppression, resistance, or controversy (e.g., Halfmann & Young, 2010; Kaminski & Taylor, 2008). The field of art offers the most readily accessible examples. Famously, Marcel Duchamp submitted a urinal, titled *Fountain*, for the first annual exhibition of the Society of Independent Artists in New York City. The explicit criteria included a six-dollar fee, otherwise anyone who wanted to could display their art; there would be no adjudication of submissions. Implicitly, *Fountain* challenged the Society’s prototype of art, causing controversy and shaping American art thereafter.

Purposeful enunciation is not restricted to art or even overt statements; it may also be deployed to subvert authority and obscure one’s intentions. For example, importers of costumes—e.g., Santa suits—struggle to avoid paying tariffs on clothing by attempting to classify their item as a “festive article,” which is not taxed. A costume, by virtue of its materiality, straddles this consequential divide. While the cheaper Santa suits, for instance, are more easily categorized as a festive article, the more expensive, finely tailored suits are often considered clothing. If the manufacturer uses Velcro instead of a zipper closure, however, it is less likely that it will be classified as an article of clothing, and therefore less likely to be taxed (Smith & Goldstein, 2015).

The examples provided show that purposeful enunciation may result in a variety of consequences. In our empirical analysis we focus on one specific such outcome: audience reception. We use newspaper data of people paying with large amounts of small cash and coins—often as an attempt to perform explicit protest. Such protest efforts qualify as attempts at purposeful enunciation given that, while small cash and coins are certainly legal tender, their use in large quantities is generally unexpected. This creates situations where actors can construct an alternative meaning of money and project this meaning to an audience. Audience reception of such acts of protest is an outcome of attempts at purposeful enunciation. Reception, we argue, is a function of certain qualities of the setting within which the protest takes place. We analyze these data with computational linguistic and standard quantitative methods.

We proceed in four steps: (1) we develop our theoretical framework, which combines affordance theories of materiality with dual-process theories of cognition, (2) discuss our key theoretical concept, purposeful enunciation, and (3) outline our main hypothesis. Following this, (4) we provide an empirical demonstration by applying computational text analysis and regression models to a corpus of newspaper articles involving the case of “coins as protest” described earlier. We conclude by considering the implications of the phenomenon of purposeful enunciation for future work in cultural sociology, economic sociology, organizational theory, political sociology, and social movement studies.

## 2. Material affordances and dual-process cognition

How do materials constrain meaning-making in situations? The strand of research that has most explicitly addressed this question is affordance theory. According to the theory, objects in an environment delimit what can actually be done in that environment (Gibson, 1986). These objects constitute tangible, material arrangements that constrain human cognitive capacities to influence interpretive processes (see also DeNora 2000, 38–41). An affordance, then, “is a relationship between the properties of an object and the capabilities of the agent that determine just how the object could possibly be used” (Norman 2013, 11).

McDonnell (2010) adds theoretical flesh to the role of affordances in interpretive processes with the concept of “object-settings” (see also Griswold et al., 2013; Klett, 2014). Object-settings are sites of “material interactions of cultural objects and their settings” (McDonnell 2010, 1802; McDonnell, 2010). It is within object-settings that objects impose themselves on interpretive processes through their ecological positioning (Gibson, 1986; see also Domínguez Rubio, 2016). Two dimensions of ecological positioning relevant to the present discussion are *perceptibility* and *legibility* (McDonnell 2010, 1804; McDonnell, 2010).

Perceptibility refers to the degree to which an object can be detected or handled, as well as how it demands actors’ attention. Therefore, an object’s perceptibility is determined by the extent that actors can or must interact with, and cognitively attend to, the object in a deliberate way. For example, for those in the United States an ATM (automated teller machine) at the edge of a parking lot would be considered “more perceptible” than a drive-through ATM at a bank. With the former, the machine may “stick out like a sore thumb”—it is a giant, isolated box on a piece of asphalt, there for observation for anyone who may pass by it, and is an object that not every parking lot possesses. When the machine is located at a bank drive-through, however, it may not require as much cognitive attention: one often has to drive around the bank to see it and almost every bank in the United States possesses one, meaning that it can easily recede into the background.

An object’s legibility refers to the degree to which its *intended* meaning is clear or unclear. Put another way, a legible object is one with a relatively unambiguous intended meaning in that setting. An ATM may be highly legible for most audiences in the United States regardless of whether it is located at a bank or in a parking lot, given that it serves an explicit functional purpose of which most are aware. The intended meaning of an ATM, then, is relatively clear.

To summarize, an audience’s interpretations resulting from interactions with an object in any given situation are therefore determined in large part by how physically and cognitively available the object is (perceptibility) and the extent to which the intended message is clear and known, and the demand for *ad hoc* meaning construction is limited (legibility).

Recent work in cognitive social science argues that human cognitive processes can be described as two types (Lizardo et al., 2016; Moore, 2017; Smith & DeCoster, 2000; Vaisey, 2009). Following convention (Evans, 2008), we will refer to these as deliberate

**Table 1**  
Material Affordances as Dual-Process Cognitive Characteristics.

	Sense-Making	Attention
Deliberate	Less Legibility requires effort to understand meaning of object	More Perceptibility the object demands actors' conscious attention
Automatic	More Legibility requires little effort to understand meaning of object	Less Perceptibility the object only requires unconscious attention

cognition and automatic cognition, respectively. *Automatic cognition* is generally understood as slow to learn, but fast, effortless, and automatic to deploy. *Deliberate cognition*, by contrast, is quick to learn, but slow, effortful, and deliberate to deploy. Both perceptibility and legibility can be dimensionalized along these two types of cognitive processes. Specifically, we suggest that the *perceptibility* of a given object in an object-setting can take two general forms: it can require automatic attention (less perceptibility) or deliberate attention (more perceptibility). In other words, it either demands little attention or it demands a great deal. Similarly, the *legibility* of the object can take on two general forms: it can require deliberate sense-making to communicate its intended meaning (less legibility) or automatic sense-making (more legibility). In other words, it either requires a lot of sense-making or requires very little.

By *attention*, we refer to the “prioritization” of certain objects over others for cognitive processing in a situation (Matthews and Wells 1999, 172; Posner and Petersen 1990, 35). For example, in searching for a quote in a book, selective priority is likely given to page numbers and keywords while “irrelevant distractors” (Lavie, Hirst, de Fockert, & Viding, 2004, 339) such as font, smell, and page texture are backgrounded. Further, by *sense-making*, we refer to the phenomenological “invention that precedes interpretation” (Weick 1995, 14)—i.e., the process of “fitting” incoming perceptions into interpretive frameworks (Starbuck & Milliken, 1988). The focus here, then, is on the extent to which the “intended invention” is made clear, thereby minimizing cognitive effort. For example, a coffee maker in an office break room typically requires little effort in terms of allocating the object to the interpretive framework intended by those who put the object in the break room in the first place. However, more information might be needed to communicate the intended meaning of the coffee maker if it was instead placed inside of a child’s inflatable castle.

If the object demands *conscious* attention and *deliberate* sense-making, it is highly perceptible but less legible—it requires deliberate cognition for both dimensions (see Table 1).<sup>2</sup> For example, generally, an advertiser wants a billboard to demand deliberate attention from the audience, but for the meaning to be automatically recognizable (cf. McDonnell, 2016). However, ubiquitous ad-campaigns become so unremarkable as to only require unconscious attention. In this way, an object can vary in terms of the types of attention and sense-making it demands. Taken together, the “levels” of an object’s perceptibility and legibility “set the stage” for the extent to which alternative meanings can be *purposefully enunciated* by an actor—a process which is the focus of the following section.

### 3. Purposeful enunciation

#### 3.1. Instigators, audiences, and enunciation

In contrast to the physical *qualities* of an object, the *affordances* of an object are a *relational* dimension that emerges out of an object-setting (McDonnell 2010, pp. 1803). In the same way, “meaning happens through the emergent process of interaction between the material and symbolic qualities of an object, the interpretant, and the context of that interaction” (2010, 1803). The audience engages in a process of *enunciation* – that is, the audience’s realization of alternative meanings afforded by an object. The “enunciability” of objects is the capacity to generate “unintended meanings and uses” (McDonnell 2010, 1808; McDonnell, 2010; see also de Certeau 2002, xiii).

Actors may *unintentionally* make “an object differently legible” (McDonnell 2010, 1808). This means they believe they are understanding the “intended message” when they are actually reading an alternative message “afforded by the object” but different from the one meant to be communicated. We argue that is also possible for an actor to *intentionally* make an object differently legible. They may do so by drawing attention to unnoticed or backgrounded affordances of that object. We refer to these actors as instigators. This manipulation is done in the hopes of “engineering” a new meaning of that object (or challenging a competing meaning) to an audience. Therefore, we define *purposeful enunciation* as a situation in which an instigator attempts to (1) deliberately attract attention to an alternative affordance of a material object, and (2) use this affordance to communicate a new or competing message.

#### 3.2. The purposeful enunciation of money

In this article, we delimit our empirical cases of purposeful enunciation to settings where a condition (e.g., a monetary transaction) is usually satisfied using a particular object (e.g., larger bank notes), but which can be satisfied with *technically feasible yet normatively unexpected* objects (e.g., small cash and coins). Although certainly not universal, the idea that the materials representing money should be exchanged with ease is a normative expectation. Likely as a result, frustrating this exchange as a means of making

<sup>2</sup> In other words, as these two dimensions relate to dual-cognitive processes, they run in the opposing directions: more on one will be less on the other, and vice versa.

an obstructive or ironic statement appears salient. As Simmel notes, the insight that money is, on one hand, that which “expresses the relativity of objects of demand” (Simmel, 2004, 128), and, on the other hand, in tension with the materials that necessarily constitute it,<sup>3</sup> provides a strategic entry point for considering the process of purposeful enunciation.

Money is an object that is found in different settings, each of which presents different affordances—thus both the legibility and perceptibility of money vary with them. In our data, instigators intentionally pay with large amounts of smaller denominations. In so doing, they attempt to make the material of money more perceptible and their new message more legible. If money did not demand deliberate attention, we presume, they hope it does so now. These attempts at purposeful enunciation, however, are constrained by the object-setting, and in particular, the assumptions the audience has regarding the object (money) in that setting. Indeed, communicating obstructive or ironic alternative meaning does nothing if there is no audience to receive it. Media reception, then, is one relevant outcome of such attempts.

### 3.3. Media reception as an outcome of purposeful enunciation

In purposeful enunciation, object-settings are produced by the relations between instigator, objects, and audience (McDonnell 2010, 1803). Accordingly, we construct a measure of audience reception. Given that our data come from newspaper articles, we focus specifically on media reception. We measure the reception of attempts to purposefully enunciate in terms of “media sentiment”—that is, in terms of the journalists’ use of positive or negative (as opposed to neutral) language to describe and report on an attempted instance of protest.

Journalists constitute an important audience, especially for those instigators who intend their efforts at purposeful enunciation to extend beyond the particular object-setting and into the broader public sphere (cf. DiMaggio et al., 2013; Gamson & Modigliani, 1989). Journalistic records of attempts at purposeful enunciation, then, are reception accounts from a particular type of audience: *journalists*. We argue journalists are more likely to describe events with more affective language if the events fit a “schema” that follows the pattern of a “good story.” That is, “journalistic practice involves a seemingly self-evident and self-explaining sense of newsworthiness, the journalistic gut feeling” (Schultz 2007, 190).

We argue that whether an attempt to use money for purposeful enunciation fits the schema of a good story depends on the interaction between its perceptibility and legibility in that setting. If money is more perceptible, its use in purposeful enunciation presents itself as something unusual and demanding of storytelling. However, this should be so to the extent that the typical meaning of money is clear in that setting (more legible). When money is perceptually salient and highly legible in the setting, the conflict between the default and instigated meanings is immediately understood by the audience. Accordingly, in settings where money is salient, its use in purposeful enunciation will fit the schema of a good story.

For example, take the following case drawn from our data. A university student received two parking tickets in the same day. Already feeling that this treatment was unfair, he became more unnerved upon realizing that the money from his fine would be redistributed to other campuses, rather than used to fix various buildings in disrepair on his own campus. He decided to turn his payment into a protest, raising awareness about this policy of redistribution by paying his fine with eleven thousand pennies. The student brought the coins into the school’s parking and transportation services, which, although money is not normally present the meaning of money in this scenario is typically straightforward as a means to pay fines and fees. This resulting protest is a story that demands telling because it is remarkable, but also offers a clear and obvious storyline. This is because the alternative meaning (protesting an unjust fine) is easily juxtaposed against the typical meaning (acquiescing to a just fine).

On the other hand, more legibility in a setting where money is less perceptible means that a relatively obvious and clear meaning imposes itself, but is less remarkable. Therefore, when money is used in purposeful enunciation in contexts in which it is typically present, the story is at worst not newsworthy, and at best boring. In short, perceptibility and legibility are more likely to promote an emotionally charged reception when they are *both* high in the ideal-typical object-setting (i.e., when the object usually requires both deliberate attention and automatic sense-making).

We now specify our primary theoretical proposition: in light of the empirical setting and the framework outlined above. Given that our primary measure of media reception is media sentiment, we suggest that:

*Theoretical Proposition: Purposeful enunciation is more likely to be emotionally resonant with audiences when instigators use highly legible objects in high perceptibility settings*

Finally, in light of the empirical setting and given that our primary measure of media reception is media sentiment, we put forth the following empirical hypothesis in order to test the proposition:

*Empirical Hypothesis: The use of small coins for payment will generate more media sentiment when it happens in a setting in which money demands conscious attention (more perceptibility) and automatic sense-making (more legibility)*

With our framework and hypothesis outlined, we now move on to a discussion of our data and methods.

<sup>3</sup> In fact, even in the case of “virtual” currencies such as Bitcoin, money is not a “pure token.” Such forms of money are always “materially embedded” (Karlström 2014, 40).

**Table 2**  
Descriptive Statistics for all Variables.

	N	Mean	SD	Min	25%	Interquartile Range			VIF
						Median	75%	Max	
Media Sentiment	258	0.42	0.18	0	0.30	0.43	0.55	0.96	–
Perceptibility (0 = Less, 1 = More)	258	0.53	–	0	–	–	–	1	1.57
Legibility (0 = Less, 1 = More)	258	0.34	–	0	–	–	–	1	1.48
Amount (in USD)	258	14690	37821	1	60	600	12000	150000	1.55
Space (0 = Private, 1 = Public)	258	0.83	–	0	–	–	–	1	1.55
Resistance (0 = No, 1 = Yes)	258	0.61	–	0	–	–	–	1	1.40
Instigator (0 = Individual, 1 = Collective of Individuals, 2 = Organization, 3 = State)	258	–	–	0	–	–	–	3	1.13
									10.05
									9.20
Target (0 = Individual, 1 = Collective of Individuals, 2 = Organization, 3 = State)	258	–	–	0	–	–	–	3	1.21
									7.46

Note: The variance inflation factors for the Instigator and Target variables correspond to the dummy variables used in the regression models (reference group omitted). Though some of the dummy variables exhibit large VIFs, they do not appear to inflate the variances of the predictors of interest—i.e., Perceptibility and Legibility.

#### 4. Data and methods

We test our hypothesis—i.e., that the effects of purposeful enunciation on audiences is a function of perceptibility and legibility—using quantitative techniques applied to a corpus of newspaper articles, each of which addresses the use of small money as protest. In what follows we briefly describe (1) the nature of our newspaper article data, (2) the core variables we extracted from these texts, and (3) the analytical model used.

##### 4.1. Sample: small money newspaper articles

Our analytic sample consists of a collection of newspaper articles covering attempts to use small money as protest objects. Articles were sampled using various Boolean search criteria and specific phrases (e.g., “paid with coins,” “payment in change,” etc.). All news articles were published online and described situations in which people deliberately paid with large amounts of small denominations of cash or coins. After compiling a total sample of 317 articles, we used plagiarism detection software (Bloomfield n.d.) to remove duplicates resulting from syndicated articles. This yielded a sample of 280 articles, which is reduced to 258 after listwise deletion on relevant missing variables.<sup>4</sup> We used natural language pre-processing techniques to prepare the data for analysis (specifically using the “tm” package in the R statistical computing environment; see Feinerer, 2017). This included stripping excess whitespace from the texts; removing punctuation, numbers, capitalization, and stopwords (“meaningless” words such as prepositions and conjunctions); and, finally, stemming the texts using the Porter stemming algorithm (Porter, 1980).

##### 4.2. Measures

We use computational linguistic techniques and interpretive coding strategies to generate our variables. Table 2 provides descriptive statistics for these measures. They are also described below.

###### 4.2.1. Dependent variable

As mentioned above, we focus on media reception of purposeful enunciation attempts as the outcome. We conceptualize reception within the context of these newspaper articles as “media sentiment”—that is, the overall positive, negative, or neutral sentiment of each article. This degree of “sentiment” is treated as an indicator of the protest attempts relative degree of success at drawing a significant reaction from the audience. As such, we understand journalists to be constituent members of the audience from whom the instigators hope to garner a reaction.

We created a “media sentiment” index using sentiment analysis techniques to compute each text’s polarity score.<sup>5</sup> The scores are calculated by tagging every “positive outlook” and “negative outlook” word in each text using the General Inquirer dictionary, which is composed of 1316 positive and 1746 negative words (General Inquirer, 2002).<sup>6</sup> Media sentiment scores were created by subtracting the total number of negative words from the total number of positive words for each document, dividing the difference by their sum, taking the absolute value of the quotient, and, finally, taking the square root. Stated formally, the media sentiment score,  $a_{ij}$ , is found with:

<sup>4</sup> The plagiarism detection software used was WCopyfind (; see Bail (2015) for a similar use of this software program).

<sup>5</sup> We used the tm.plugin.sentiment package in R to compute this variable (Annau, 2015).

<sup>6</sup> The words in the dictionary can be found at the General Inquirer website (2002).



$$a_{ij} = \sqrt{\frac{p_{ij} - n_{ij}}{p_{ij} + n_{ij}}} \quad (1)$$

Where  $p$  is the total number of positive words in the  $i$ th document and  $n$  is the total number of negative words in the  $i$ th document. The result of this computation is a normalized score ranging from 0 to 1, where 0 indicates an emotionally neutral text and 1 indicates a text with a very positive or negative sentiment. This measure can be thought of as the absolute value of a “polarity score”—a standard measure of emotionality in sentiment analysis frameworks (Annau, 2015; Key, Leonie, Matthew, Skiena, 2010; Zhang & Skiena, 2010).<sup>7</sup> The square root merely serves to mitigate skewness.

Our use of this dependent variable as an index of media sentiment requires clarification on two points. First, we acknowledge that we are selecting on those acts of protest that have already attracted some amount of media attention. This is a well-documented issue with newspaper data; social movement researchers have shown that newspapers tend to self-select events that are perceived as more newsworthy (Beyerlein, Barwis, Crubaugh, & Carnesecca, 2016, 3; Earl, Martin, McCarthy, & Soule, 2004, 69). With that said, the key point in the present study is that the dependent variable is not media *attention*<sup>8</sup>; rather, it is media *reception conditional on attention*. This is an important distinction in that, by media reception, we are simply measuring the extent of emotional language in journalists’ writings. This is regardless of the fact that the protest event has already received news coverage and is therefore already “successful” in garnering media attention. We therefore accept as a baseline that our events have already received more attention than their counterparts that received no news coverage, and, relatedly, probably are already more subject to emotional language when the event is discussed. That does not mean, however, that there is not significant variation *among those protest events that do receive news coverage*—it is this gradient of emotional language among those events that have presumably already gained public attention that we wish to model.

Second, it may not be clear how the degree of media sentiment is a relevant dimension of media reception. Why, for instance, does heightened emotionality in discourse provide a window into the extent to which an alternative meaning of an object has been communicated to an audience? As cognitive scientists (Thagard & Stewart, 2011) and cultural sociologists (McDonnell, Bail, & Tavory 2017) argue, the realization that something is resonating is often associated with heightened emotional arousal. The result is the sudden feeling that one has gained a new understanding of a situation. This is known as the “Aha! experience” or the “subjective experience of insight” (Bowden and Jung-Beeman 2003, 730). We argue that heightened emotional arousal—which often manifests in language, since language is an encoder of bodily experience (Ignatow 2015, 106)—is a valid indicator of the extent to which an audience is “receiving” an act of purposeful enunciation in the way intended by the instigator; as an attempt to communicate an innovative alternative meaning of an object, purposeful enunciation is *all about* the communication of the Aha! Experience.<sup>9</sup>

#### 4.2.2. Independent variables

There are two primary independent variables of interest here: perceptibility and legibility. We measure perceptibility in terms of whether or not the money in the settings described in each article would *typically* require automatic or deliberate attention. “Less perceptibility” corresponds to only requiring unconscious attention and “more perceptibility” corresponds to requiring conscious attention. Similarly, we measure legibility in terms of whether or not the small money would typically require deliberate sense-making or automatic sense-making. “Less legibility” corresponds to deliberate sense-making and “more legibility” corresponds to requiring automatic sense-making.

Consider a large quantity of coins in bank. Money typically requires unconscious attention because money is invariably found in banks. A large quantity of coins, however, also typically requires deliberate sense-making, because money can “mean” a number of possible things in the bank setting (e.g., withdrawal, deposit, money order, and so on). In this object-setting, money satisfies the criteria of being both less perceptible and less legible.<sup>10</sup>

The final result of this interpretive coding process was two dichotomous variables. Perceptibility was coded as 0 for unconscious attention typically required (less perceptibility) and 1 for conscious attention typically required (more perceptibility). Legibility was coded as 0 for deliberate sense-making typically required (low legibility) and 1 for automatic sense-making typically required (more legibility). We also include an interaction effect between these dichotomous variables, allowing us to observe a separate effect for

<sup>7</sup> This measure can be conceptualized as a measure of “emotional polarization,” since it captures the extent to which a document is “clearly” positive or negative. We prefer this measure to one that simply takes the ratio of emotion words to all words in a document (i.e., a “subjectivity score” (Annau, 2015; Zhang & Skiena, 2010)), since, in the case of the latter, a document that has a lot of positive and negative words can still be considered “neutral” insofar as the document author doesn’t stake out a clear emotional claim in the story. We ran a series of random effects models using variations of the subjectivity score as our outcome; however, Breusch-Pagan Lagrange multiplier tests (Breusch & Pagan, 1980) consistently suggested that variation in these variables did not vary significantly across settings ( $p > 0.05$  for all tests). We therefore focused attention on our emotional polarization variable, given that its variation decomposed significantly and all of our independent variables (except for reported dollar amount and stated resistance) are setting-level variables.

<sup>8</sup> It should be made clear that “media attention” is not the same as “cognitive attention”—the latter of which is a focus of the present study. While public attention refers to the general acknowledgement of a subject in the public sphere and subsequent civic discourse on the subject, cognitive attention refers to the prioritization of stimuli for information processing (Matthews and Wells 1999, 172; Posner and Petersen 1990, 35).

<sup>9</sup> Our theoretical justification for using heightened emotional arousal as an indicator of media reception makes no assumptions about the conditions under which such arousal will be positive (e.g., joyous, happy, or hopeful) or negative (e.g., sad, fearful, or angry). It is for this reason that we chose the dependent variable that we did, which focuses only on whether or not emotional language is present—not the “direction” (positive or negative) that it takes. Of course, this is not to say that some characteristics of object-settings are not more likely to promote positive audience evaluations while others are more likely to promote negative audience evaluations. These sorts of differences in emotional arousal should be the focus of future research and theorizing.

<sup>10</sup> Further elaboration on the interpretive coding strategy is available upon request.

**Table 3**  
Cross-Tabulation between Perceptibility and Legibility.

	Less L	More L	Total
Less P	56	65	121
More P	112	25	137
Total	168	90	258

Note:  $\chi^2 = 35.59$ ,  $p < 0.001$ .

each of the “levels” of enunciation (see Table 1 above).

The variance inflation factors for these two variables was low, as Table 2 illustrates. Further, a cross-tabulation between the two dummy variables—shown in Table 3—suggests a non-random relationship between them ( $\chi^2 = 35.59$ ).

#### 4.2.3. Controls

We also include a number of control variables. First, though our sample consists of 258 distinct newspaper articles, a number of the articles cover the same event. To that end, we used named-entity recognition—specifically the NER annotator from the CoreNLP Bash tool (Manning et al., 2014)—to code each event based on the PERSON NER tag. This resulted in 104 unique events. We also included controls for reported dollar amount (in U.S. dollars),<sup>11</sup> object-setting space (0 = private space, 1 = public space), resistance (0 = the article says nothing about resistance on the part of the payee, 1 = resistance is stated in the article), target (0 = individual received payment, 1 = collective of individuals received payment, 2 = organization received payment, and 3 = state agency received payment), and, finally, instigator (with the same value labels as the payee variable). We collapsed the state and organization categories for the instigator variable, given that only one article included a state agency as the entity with the debt. We also included an interaction effect between the instigator dummy variables and reported dollar amount, given that differences in media sentiment between stories with different types of instigators might vary depending on the amount of money that is at stake (e.g., individuals that protest might receive more emotional language when they attempt to pay with larger sums of money than, say, organizations).<sup>12</sup>

#### 4.3. Analytical model

Our dependent variable (media sentiment) is a news article-level continuous outcome, while our main predictors (levels of perceptibility and legibility) are event-level (or “object-setting” level) predictors. As such, we use random effects ordinary least squares (OLS) regression models to generate unbiased coefficients. Like fixed effects models, random effects models explicitly account for nested data; however, random effects are more flexible in that they allow the analyst to model the effects of level-2 predictors (Alison, 2009; Firebaugh, Warner, & Massoglia, 2013).<sup>13</sup> Such flexibility is necessary in the present study given the cross-level effects.

The effects of perceptibility and legibility on media sentiment are estimated with the following equation:

$$a_{ij} = \gamma_{00} + \gamma_{01}P_j + \gamma_{02}L_j + \gamma_{03}(P \times L)_j + \beta_{nj}X_{ij} + \gamma_{0n}Z_j + \mu_j + \varepsilon_{ij} \quad (2)$$

where  $P$  is the money’s typical level of perceptibility in object-setting  $j$ ;  $L$  is the money’s typical level of legibility in object-setting  $j$ ;  $X$  is a vector of covariates pertaining to news story  $i$  in object-setting  $j$ ;  $Z$  is a vector of covariates pertaining to object-setting  $j$ ;  $\mu_j$  is the object-setting-specific (level-2) error term; and finally,  $\varepsilon_{ij}$  is the news story-specific (level-1) error term.

An important point to consider is that the data come from a non-probability sample. As such, statistical inference based on hypothetical sampling distributions and subsequent approximations of population parameters is inappropriate. To handle this, we sidestep the standard “population model” of statistical inference and instead make use of the “randomization model,” where the goal is to estimate  $p$ -values from permutation tests rather than standard errors based on parametric assumptions (Ernst, 2004; Ludbrook & Dudley, 1998). The main idea is to calculate the observed model coefficients from Eq. (2) above, permute the values of the dependent variable a set number of times, recalculate the model coefficients for each permutation, and then tally the number of times the coefficients from the permuted models are of the same absolute magnitude or greater than the observed coefficients before permutation.<sup>14</sup> This tally, when divided by the number of permutations, provides an empirically-derived  $p$ -value—a number we expect to be high if the effect of a given variable is not systematic since, under the null hypothesis of no effect, the observed values across cases should be a product of pure chance.

<sup>11</sup> We say *reported* dollar amount because, in certain cases, journalists reported different amounts of money for the same protest. Rather than “guess” which story reported the appropriate dollar amount, we chose to simply treat this variable as a story-level (i.e., level-1) measure. Of course, these disagreements in reporting did not happen frequently; the vast majority of variation in this variable (over 99%) was at the setting level.

<sup>12</sup> A note on interrater reliability can be found in Appendix A.

<sup>13</sup> Though this comes with the often untenable assumption that the level-2 error term is uncorrelated with observed predictors (Allison, 2009). See footnote 15 for how this assumption relates to the present study.

<sup>14</sup> In the case of experimental or quasi-experimental studies, or for observational studies adopting the counterfactual framework (Morgan & Winship, 2007), a common strategy is to permute treatment assignment — not the outcome variable. However, since we have multiple “treatment” variables — plus an interaction between them — we permute the dependent variable to minimize computational complexity. This is similar to Manly’s method (1997), with the exception that we treat the tally the coefficients rather than the test statistic (given that the latter necessarily makes assumptions about the distribution of a population error term that we seek to avoid).

**Table 4**  
Random Effects OLS Predicting Media Sentiment.

	Model 1: Perceptibility	Model 2: Legibility	Model 3: Interaction
More Perceptibility	0.048 (0.089)		–0.009 (0.826)
More Legibility		–0.015 (0.593)	–0.063 (0.129)
$P \times L$			0.149* (0.021)
Constant	0.219 (0.988)	0.278 (0.961)	0.270 (0.944)
$R^2$			
Overall	0.043	0.035	0.069
Between	0.109	0.088	0.135
Within	0.003	0.003	0.003
$sd(\mu_i)$	0.047	0.057	0.042
$sd(\varepsilon_{ij})$	0.169	0.169	0.169
ICC	0.072	0.101	0.059
$N$	258	258	258
Events	104	104	104

Note:  $P$ -values (in parentheses) based on 1000 Monte Carlo permutation tests. Controls included across all models but not reported. The empirical standard error for the  $P \times L$  term  $p$ -value is 0.005, and the associated 95% confidence interval is  $0.013 \leq p \leq 0.032$ . See Table B in Appendix B for the full model.

\*  $p < 0.05$  (two-tailed tests).

For this analysis, we use Monte Carlo permutation tests to generate 1000 random samples of the possible permutations of the media sentiment variable across the 258 valid cases. The  $p$ -value we used to establish statistical significance for each the perceptibility, legibility, and perceptibility  $\times$  legibility terms in the  $i$ th permuted sample is defined as (Ernst 2004, 679):

$$p = \frac{\sum_{i=1}^{1,000} I(|\gamma_n| \geq |\gamma|)}{1,000} \quad (3)$$

where  $\gamma_n$  is the coefficient from the permuted sample (which could also be  $\beta_n$  for level-1 controls),  $\gamma$  is the observed coefficient before permutation, and  $I(\cdot)$  “tallies” the  $\gamma_n$  when its absolute value is greater than or equal to the observed coefficient (since the test is two-tailed). For example, a  $p$ -value of 0.03 under the randomization model would indicate that only 3% of the permuted samples generated a coefficient of at least the magnitude of the observed coefficient—a number we would assume to be higher if the dependent variable value was, in fact, independent of the value for that predictor among those cases observed in the data.

## 5. Results

Random effects OLS coefficients are presented in Table 4 across three models.<sup>15</sup> Controls are included in all models but are not displayed here.<sup>16</sup> The full table with controls can be found in Table B1 of Appendix B. Though we use a permutation model of statistical inference, we rely on the standard significance levels of 0.05, 0.01, and 0.001 and denote them accordingly. The full model is also reported with asymptotic standard errors in Table C1 of Appendix C for reference—the main findings, however, remain mostly the same. The reference categories for the perceptibility and legibility variables are “less perceptibility” and “less legibility,” respectively.

According to Model 1, more perceptibility alone did not account for significant variation in an article’s media sentiment score ( $p = 0.089$ )—meaning that whether money typically demanded automatic or deliberate attention in the object-setting did not aid in predicting whether the sentiment of the article would be more positive or negative. Model 2 tells a similar story, but with legibility as the primary predictor rather than perceptibility. According to the model, money having more legibility alone does not predict variation in media sentiment ( $p = 0.593$ ).

Model 3 is the full model and includes an interaction between perceptibility and legibility. The cross-product term was statistically significant and positive ( $\gamma = 0.149$ ;  $p = 0.021$ ), as our hypothesis above would suggest. More specifically, the effect of perceptibility depended on the salience of the intended meaning of money in the object-setting, while the effect of legibility similarly depended on how much attention money typically required in the object-setting.

The relative effect sizes of the cross-product term and the main coefficients make the substantive significance of this interaction more explicit. While the perceptibility coefficient is both statistically non-significant and small in object-settings where money typically requires deliberate sense-making (low legibility) (with a 0.009 decrease in media sentiment), the perceptibility coefficient

<sup>15</sup> A Hausman test (Hausman, 1978) supports a random effects model specification over fixed effects. Further, a Breusch-Pagan Lagrange multiplier test (Breusch & Pagan, 1980) supports the random effects assumption that the variances across events ( $\mu_i$ ) are not zero.

<sup>16</sup> We ran a series of different versions of Model 3 with a variety of specifications among the control variables. The size and direction among the core variables of interest (i.e., perceptibility, legibility, and their cross-product term) were fairly stable across the various models: for instance, settings where money is typically more perceptible and highly legible consistently generated the highest predicted media sentiment. We chose this particular specification among the control variables because it generated the largest between-setting  $R^2$  (13.49%) and one of the smallest root mean squared error statistics (0.1734)—though the difference in these model fit statistics was mostly negligible. The results using different specifications among the control variables are available upon request.



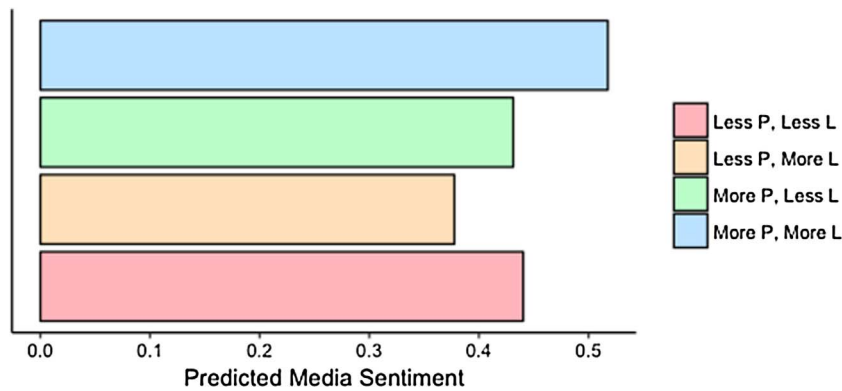


Fig. 1. Adjusted Predictions with Perceptibility-Legibility Interaction.

Note: Confidence intervals are not included because inference was based on empirical permutations rather than asymptotic standard errors. Standard errors from permutation tests are with reference to the  $p$ -values, the relevant ones of which are reported in the footnote to Table 4.

becomes significant and substantively larger (about a 0.140 increase in media sentiment [ $-0.009 + 0.149$ ]) in object-settings that typically require automatic sense-making (more legibility). Similarly, while the legibility coefficient is non-significant and small in object-settings where money requires automatic attention (less perceptibility) (a 0.063 decrease in media sentiment), the coefficient becomes both significant and larger (about a 0.086 increase in media sentiment [ $-0.063 + 0.149$ ]) in object-settings that require deliberate attention (more perceptibility).

The adjusted predictions using the coefficients from Model 3 in Table 4 (altering only the value of perceptibility and legibility with the controls held at their observed values) in Fig. 1 further illustrate the substantive significance of the effects. While the distinction between perceptibility levels tends to only produce different marginal effects when money requires automatic sense-making (more legibility) and the difference between legibility levels tends to produce different marginal effects when money demands deliberate attention (more perceptibility), it is also clear that, on average, object-settings in which money requires *both* deliberate attention (more perceptibility) and automatic sense-making (more legibility) are more likely to be associated with the highest media sentiment.

## 6. Discussion

### 6.1. Summary of the argument and results

In this paper, we demonstrated that the affordances of material objects carry meaning, and although the possible meanings are not infinite, they are also not singular. That is, while materiality restricts interpretive processes, actors (as instigators) may use such constraints to actively create new meanings in social situations. In this article, we focused on object-settings where a condition is usually satisfied with the use (or disuse) of particular material objects, but can nonetheless be satisfied with different yet *unexpected* objects. We examined how instigators are able (or not able) to *intentionally communicate an alternative meaning of an object to an audience by using it in an unexpected way*—but in a way that nonetheless satisfies the conditions of the situation. This is a phenomenon that we refer to as *purposeful enunciation*. We showed how the relative impact of purposeful enunciation on audiences depends, in its turn, on two key relational features of object-settings: Perceptibility and legibility. Drawing on the cultural materialist theory put forward by McDonnell (2010, 2016), we argued that the distinction between perceptibility and legibility can be further enriched via dual-process models of attention and sense-making.

Specifically, we contend that more perceptible objects demand conscious modes of attention while less perceptible objects draw primarily on unconscious modes. In the same way, more legible objects can be interpreted by relatively effortless types of sense-making, while less legible objects required more effort to be made sense of in a given context. We hypothesized that purposeful enunciation would have its more resonant effects on audiences when instigators use highly perceptible objects in settings where these objects are also considered highly legible by audiences. In essence, purposeful enunciation is more likely to generate resonance when people use objects to create new meanings that stand out to audiences but which they do not have to think too hard about in terms of their functional role in that setting.

To test the empirical implications of the theory, we coded a corpus of newspaper articles involving people paying with large amounts of coins or small denomination notes as a form of protest. We argued that the greater media sentiment of articles is associated with the extent to which the event fits the schema of a good story. If, on the one hand, money is more perceptible, then it presents itself as something unusual and demands storytelling. When money is highly legible, a clear meaning imposes itself; however, when combined with a lack of saliency, the story is at worst not newsworthy and at best boring. When money is more perceptible, however, being also more legible means that both the conflict is clear and the incident is remarkable. As such, when money is typically both more legible and more perceptible in the setting, the protest attempt should garner the most media sentiment because it is the best fit for the schema of a good story.

Our results support this hypothesis. Journalists tend to cover protest events using higher sentiment vocabulary when money

requires deliberate attention (more perceptibility) and automatic sense-making (more legibility) in the setting where the protest is attempted. On the other hand, journalists tend to use less emotional language in their coverage when money typically requires automatic attention (less perceptibility) and automatic cognition (more legibility). In other words, journalists are more likely to use more emotional words to document a protest involving money as the focal object when (1) the presence of money is not a typical expectation in that setting and (2) the *intended meaning* of money in the setting is typically clear conditional on it being present. However, journalists are relatively less likely to emotionally document the protest when (1) the presence of money is a default expectation in that setting (and thus recedes to the background), and (2) the intended meaning is typically clear. The other possible combinations of perceptibility and legibility fall between these extremes.

## 6.2. Implications

The strength of this approach over possible alternatives is in highlighting the physical situatedness of meaning-making. Other cultural explanations of micro-level protest and contention (especially in social movement studies) tend to background the ecologies of settings in their respective approaches. For example, the framing literature (Benford & Snow, 2000; Snow, Rochford, Worden, & Benford, 2014) often consider physical objects and settings as malleable receptacles of meaning, while interaction ritual theory (Collins, 2004; Summers-Effler, 2002) portrays settings as passive contexts for situational action. We contend that the material affordances of objects and settings in which protest takes place play a significant role in determining how messages will fare. As objects are often “unruly” (Domínguez Rubio, 2014), their qualities in a state of decay (DeSilvey, 2006; Klett 2016; McDonnell, 2010), and their meanings (McDonnell, 2016) and appearances (Rose-Greenland, 2016) unstable, we contend that the range of possible meanings afforded by an object is never exhausted by a particular imposed meaning. This always leaves open the possibility for actors to enunciate alternative meanings—purposefully or not.

Folk understandings of situations of purposeful enunciation are often captured with the idiom “obeying the letter of the law, but not the spirit,” in which an instigator fulfills explicit criteria, but violates implicit (and arguably more important) criteria. To illustrate this, we focused on situations of protest, as using material objects to convey a counter-hegemonic meaning is a common practice—such as when animal rights activists use photos of abused animals to promote moral shocks (Jasper & Poulsen, 1995) or when non-elite 17th century Pueblo peoples developed active roles in cultural change by implementing revivalist practices in materially variegated ways (Liebmann, 2008). Although paying with large amounts of small denomination cash and coins is incredibly widespread, the outcomes are dependent on the audience and affordances of those objects in the settings in which protest takes place.

The general proposition that “affordances matter” has implications for social movement theory in that it suggests scholars studying the relationship between media attention and collective action (e.g., Andrews & Caren, 2010; Bail, 2015; Koopmans & Olzak, 2004) should pay greater care to the local and material conditions that promote or hinder how social movement organizations manage to resonate their messages with the news media and out into the public sphere. Looking at media resonance at the local level is important not only for calling attention to the role of material affordances in protest situations, but also for elucidating how journalists themselves—as audience members of the public sphere—are implicated in the media-movement link.

Although we focused here on journalists’ sentiments, the audience may demonstrate a range of responses from annoyance and laughter to anger and disgust. Take for instance a few more examples relevant to political sociology. In democracies around the world adhering to the explicit criteria that one should vote how they choose, dozens of non-human candidates have been elected to public offices. For instance, in 1958, in city council elections in São Paulo, Cacareco the Rhinoceros received more votes than any other party (but was ultimately denied candidacy) (Hogan, 2015). More recently, Duke the Dog became mayor of Cormorant, Minnesota, in 2014 (Gates, 2014). Under the veil of religious freedom, several followers of the (tongue-in-cheek) Church of the Flying Spaghetti Monster have won the right to wear colanders on their heads for license photos (Durando, 2015).

Of course, purposeful enunciation is not only restricted to the realm of politics. Examples from public art are numerous. In addition to Duchamp’s *Fountain* and in more recent years, what *TIME Magazine* referred to as “The Last Great Art Scandal” involved the public sculpture made by artist Paul McCarthy title *Tree*. His simplified interpretation of the shape of a standard Christmas tree became international news because it shared non-arbitrary features with a sex toy, prompting some audience members to slap McCarthy in the face in disgust (Lacayo, 2014). This case is a particularly straightforward example of when purposeful enunciation is likely to generate resonance, as the object is highly perceptible but also easily legible—and therefore a clear story that demands telling.

Rather than used to “call out” and generate resonance, however, materiality may also be used to quietly subvert authority. It is in this way that purposeful enunciation can be an effective tool for marginalized instigators when overt resistance is not a viable option—tools that are a form of what political scientist Scott (1985) refers to as “weapons of the weak.” For instance, in an age of concern about privacy, people may wear otherwise innocuous clothing to block surveillance or mask their appearances. Outside of the public eye, employees within organizations frequently engage in purposeful enunciation as a means of routine resistance (Gottfried, 1994; Murphy, 1998). Similarly, social movement actors frequently employ purposeful enunciation against large corporations in the form of “culture jamming”—where activists use a corporation’s own products to “recontextualize” their meaning in a humorous way—such as when an anti-sweatshop activist protested Nike Corporation’s purported use of sweatshop workers by attempting to order a custom pair of shoes embroidered with “sweatshop” while nonetheless following the guidelines of the shoe ordering process (Micheletti & Stolle, 2007; Peretti, 2006). Closer to our academic homes, purposeful enunciation also occurs when a student, tasked to write a six-page essay, uses wide margins, large headings, and thirteen point font to fulfill the explicit requirements of the assignment.

In addition to being a means of protest, purposeful enunciation can also be used to *restrict* protest. In the United States, the First

Amendment states that Congress can make no law that would “abridge the right of the people peaceably to assemble.” “Free Speech Zones” fulfill the explicit criteria by allowing people to assemble, but critics argue it violates the spirit of the First Amendment as zones are often “located far away from the targets of protest like a political convention” (Gillham 2011, 646). Such “spatial tactics” (Zick, 2005) are a common form of purposeful enunciation as “distance” is an often-overlooked dimension of materiality, but is nevertheless highly consequential for public protests.

For economic sociologists studying valuation and classification (Beckert & Aspers, 2011; Fourcade, 2011; Granovetter, 2017:112–4; Lamont, 2012; Stark, 2009), purposeful enunciation appears even more back-staged than making overt political or religious statements; and, rather than *subvert*, it is used to *divert* the circulation of goods from one sphere of exchange to another. In addition to the case of the Santa suits discussed in the introduction, another example would be the invention of the “bullet button”—a device used to permanently fix an otherwise detachable magazine to a semiautomatic rifle (Luckerson, 2015; Nakano, 2015). According to California state law, weapons which have a bullet button installed are not considered an “assault rifle” and are therefore legal. This is because the button cannot be pressed by a finger but requires a “tool,” and according to California law, a bullet or ammunition is considered a “tool.” Therefore, the small alteration in materiality moves an item from an illegal category into a legal one.

Taken together, these examples demonstrate that purposeful enunciation can invoke a range of responses from an audience. By using materials in ways that fulfill explicit criteria of a setting, but intentionally violate implicit criteria, instigators are able to convey many meanings by being obstructive, inefficient, ironic, or humorous. What is often overlooked in extant studies of these acts of meaning-making, however, is that a consideration of the physical qualities of objects and settings are indispensable for understanding the outcomes of such attempts.

## Appendix A. A note on interrater reliability

All variables that required by-hand coding (perceptibility, legibility, object-setting, space, resistance, target, and instigator) were coded by the first author. To verify that the coding strategy was reliable, the second author coded a 20% random sample of the 258 articles used in the analysis. The random sample consisted of only unique events – in other words, no articles in the sample corresponded to the same attempted protest. Fifty-two articles were coded in the sample. The second author coded this sample iteratively, corresponding with the first author when questions were raised about coding criteria. Table A1 reports Cohen’s  $\kappa$  statistics to assess interrater reliability (Cohen, 1960). As the table shows, all  $\kappa$  values are above 0.7, a widely used cut-off for satisfactory agreement (Banerjee, Capozzoli, McSweeney, & Sinha, 2016, 6; Landis and Koch 1977, 165). These values suggest that the codes were applied reliably between the two authors.

**Table A1**  
Interrater Reliability Scores for 20% Random Sample ( $n = 52$ ).

	Observed Agreement	Expected Agreement	Cohen’s $\kappa$
Perceptibility	88.46%	51.85%	0.76
Legibility	86.54%	50.44%	0.73
Space	98.08%	84.17%	0.88
Resistance	86.54%	50.74%	0.73
Instigator	90.38%	52.74%	0.80
Target	86.54%	38.94%	0.78

Note: First author coded the full corpus. Second author coded the 20% random sample to assess robustness of coding protocol.

## Appendix B. Full regression table

**Table B1**  
Random Effects OLS Predicting Media Sentiment.

	Model 1: Perceptibility	Model 2: Legibility	Model 3: Interaction
More Perceptibility	0.048 (0.089)		– .009 (0.826)
More Legibility		– 0.015 (0.593)	– 0.063 (0.129)
$P \times L$			0.149* (0.021)
Space			
(0 = Private; 1 = Public)	0.075 (0.143)	0.072 (0.162)	0.058 (0.269)
Resistance	0.011 (.729)	0.011 (0.715)	0.019 (0.503)
Amount (USD)	– 0.000 (.334)	– 0.000 (0.094)	– 0.000 (0.156)
Instigator			
Collective	0.009 (0.837)	– 0.004 (0.935)	0.033 (0.464)

(continued on next page)

**Table B1** (continued)

	Model 1: Perceptibility	Model 2: Legibility	Model 3: Interaction
Organization	0.059 (0.472)	.038 (0.638)	0.027 (0.749)
Target			
Collective	0.075 (0.520)	0.051 (0.651)	0.115 (0.340)
Organization	0.136 (0.057)	0.120 (0.093)	0.130 (0.075)
State	0.096 (0.213)	0.067 (0.356)	0.099 (0.201)
Instigator × Amount			
Collective	−0.000 (.571)	−0.000 (.721)	−0.000 (0.445)
Organization	0.000* (.042)	0.000* (.020)	0.000* (0.013)
Constant	0.219 (.988)	0.278 (.961)	0.270 (0.944)
R <sup>2</sup>			
Overall	0.043	0.035	0.069
Between	0.109	0.088	0.135
Within	0.003	0.003	0.003
<i>sd</i> ( $\mu_j$ )	0.047	0.057	0.042
<i>sd</i> ( $\varepsilon_{ij}$ )	0.169	0.169	0.169
ICC	0.072	0.101	0.059
N	258	258	258
Events	104	104	104

Note: *P*-values (in parentheses) based on 1000 Monte Carlo permutation tests. The reference category for the Instigator and Target variables is Individual. The empirical standard error for the  $P \times L$  term *p*-value is 0.005, and the associated 95% confidence interval is  $0.013 \leq p \leq 0.032$ . \*  $p < 0.05$  (two-tailed tests).

## Appendix C. Full regression table with standard errors

**Table C1**

Random Effects OLS Predicting Media Sentiment.

	Model 1: Perceptibility	Model 2: Legibility	Model 3: Interaction
More Perceptibility	0.048 (0.034)		−0.009 (0.044)
More Legibility		−0.015 (0.033)	−0.063(.039)
$P \times L$			0.149* (0.058)
Space			
(0 = Private; 1 = Public)	0.075 (0.061)	0.072 (0.058)	0.058 (0.062)
Resistance	0.011 (0.033)	0.011 (0.032)	0.019 (0.031)
Amount (USD)	−0.000 (0.000)	−0.000* (0.000)	−0.000* (0.000)
Instigator			
Collective	0.009 (0.047)	−0.004 (0.048)	0.033 (0.048)
Organization	0.059 (0.125)	0.038 (0.123)	0.027 (0.122)
Target			
Collective	0.075 (0.053)	0.051 (0.051)	0.115 (0.064)
Organization	0.136 (0.127)	0.120 (0.123)	0.130 (0.123)
State	0.096 (0.125)	0.067 (0.122)	0.099 (0.122)
Instigator × Amount			
Collective	−0.000 (.000)	−0.000 (.000)	−0.000 (0.000)
Organization	0.000* (0.000)	0.000** (.000)	0.000** (0.000)
Constant	0.219 (.141)	0.278* (.129)	0.270 (0.139)
R <sup>2</sup>			
Overall	0.043	0.035	0.069
Between	0.109	0.088	0.135
Within	0.003	0.003	0.003
<i>sd</i> ( $\mu_j$ )	0.047	0.057	0.042
<i>sd</i> ( $\varepsilon_{ij}$ )	0.169	0.169	0.169
ICC	0.072	0.101	0.059
N	258	258	258
Events	104	104	104

Note: Robust standard errors in parentheses. The reference category for the Instigator and Target variables is Individual. \*  $p < 0.05$ ; \*\*  $p < 0.01$  (two-tailed tests).

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