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Emotion as a Connection of Physical Artifacts and Organizations

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This paper documents emotion as integral to stakeholders' sense making of a key organizational artifact, demonstrating that emotion toward artifacts blends into emotion toward the organization. Multiple stakeholders were interviewed about an artifact of a large public transportation organization. Sense making of the artifact is shown to involve emotion in interpretations that consider three dimensions of the artifact—instrumentality, aesthetics, and symbolism. Instrumentality relates to the tasks the artifact helps accomplish, aesthetics is the sensory reaction to the artifact, and symbolism regards associations the artifact elicits. The analysis demonstrates that sense making of these three dimensions includes unsolicited emotion both toward the artifact and toward the organization. Emotion that surfaces in sense making of organizational artifacts is, thus, suggested to be what links interpretation of artifacts and attitudes toward organizations. This paper lays foundations for a theory of organizational artifacts that can guide both thoughtful research and effective management of artifacts in organizations.

Key words: artifacts; instrumentality; aesthetics; symbolism; emotion

In October of 1999, the public transportation company of Israel embarked on a campaign of painting its fleet of approximately 3,800 buses green. The campaign was intended to improve the organizational image by associating the organization with nature and environmentalism. There was little pretesting of this campaign by the organization, and it attracted unexpected and highly charged reactions (State Comptroller 2002). Criticism was directed both at the green colored buses and at the organization that chose and displayed the buses (which we refer to as The Company). What went wrong? We use the story of the green colored buses as an opportunity to elaborate a theory of the multidimensionality of organizational artifacts suggested by Rafaeli and Vilnai-Yavetz (2004), and to develop the idea that emotion is central to how artifacts are interpreted. Our analysis argues that emotion helps link sense making of artifacts and attitudes toward organizations.

As an introduction, we review available research on organizational artifacts. Our empirical study then analyzes narratives of stakeholders' sense making of the green bus case to develop and illustrate the thesis of emotion as a connection of physical artifacts to organizations.

Sense Making of Organizational Artifacts

Physical artifacts are cues in the social and physical environment in which people operate, and are therefore likely to call up a sense-making process (Gioia et al. 1994, Weick 1995). Artifacts provide people with points of reference (cf. Gioia and Chittipeddi 1991, Jackson and Dutton 1988, Smircich and Morgan 1982, Weick 1995) and can be viewed as "seeds" that evoke open-ended and ongoing interpretations (Weick 1995). Sense making is inspired and somewhat restrained by so-called objective qualities of an artifact—for example, by its size or color—but individuals have latitude in how they view these qualities and may therefore differ in how they interpret the same physical artifact (Jones 1996, Ornstein 1986). The distinction between what an artifact "is" and how it is interpreted is rarely recognized (Yanow 1998), yet artifact interpretation is critical to organizations, independently of presumably "objective" qualities (Berger and Luckman 1967, Strati 1998). Sense making of artifacts, therefore, needs to be considered independently of objective or intended qualities.

However what is the qualitative nature of such interpretations? What happens when people visually "meet" a physical artifact? We suggest emotion as a critical element of artifact sense making. Physical artifacts are known to generate a multitude of responses, including emotion (Baron 1994, Bitner 1992, Oldham et al. 1995). Sense making is also known to involve emotion (cf. Daft and Weick 1984, Starbuck and Milliken 1988), so sense making of artifacts can also be expected to involve emotion. Identifying the emotional tone of artifact interpretation can help advance the understanding of what artifacts "do" for organizations, contributing to the theoretical understanding of the impact of artifacts on organizations.

Although artifacts repeatedly appear in organizational scholarship, there is no solid theory about how they operate or how they can be managed. Authors have argued that physical artifacts convey organizational values (e.g., Schein 1990, Trice and Beyer 1993)

and influence constituent behavior (Bitner 1992, Russell and Mehrabian 1978). However the question of how or why artifacts accomplish this is still unclear. Available evidence that artifacts evoke emotion (e.g., Bitner 1992, Russell and Mehrabian 1978) provides little insight as to the qualities of artifacts that evoke emotion. Thus, little guidance has been offered to both students and managers about how to study or select organizational artifacts. A gap exists between the extent to which artifacts are used by organizations (which mirrors the repeated references to the importance of artifacts) and the theoretical understanding of the roots of this use (Ewen 1988, Gagliardi 1992, Hatch 1997).

Building on Weiss and Cropanzano (1996), we suggest that an exposure to an organizational artifact is an "affective event" that provokes a process of affective reactions. According to Weiss and Cropanzano's (1996) Affective Events Theory, events in organizations elicit spontaneous emotional responses in employees that add up to more general attitudes and emotions toward the organization. Extending this idea to an extraorganizational context, an encounter with an organizational event or artifact (e.g., seeing a green bus) can be argued to elicit emotional reactions, which can directly or indirectly inspire emotions toward the organization displaying this artifact.[1] In what Walsh (1995, p. 285) labeled a "bottom-up" approach, the encounter with one aspect of the organization—its artifact—would be suggested by our extension of the theory to evoke attitudes toward it, as well as toward the larger organizational context.

Thus, continuing the logic that artifacts evoke "affective events" (Weiss and Cropanzano 1996), emotion may be a halo that artifacts project onto their hosting organizations. Interpretations of an artifact construed as hampering individual performance may, for example, be an "affective event" that inspires negative emotion toward the performance of the organization. Consistent with this idea, sense making of organizational events has been found to tint sense making of the acting organization. Dutton and Dukerich (1991) described, for example, how generally pleasant feelings that organizational members had toward an organization were dampened by constituent interpretations of organizational actions toward the homeless. Isabella (1990) reported that sense making of organizational change inspired feelings and emotional reactions toward the organization. In this vein, sense making of organizational artifacts can also be expected to evoke emotion both toward the artifact and toward the organization.

A view of sense making of artifacts as "affective events" is consistent with Weick's (1995, p. 47) suggestion that "emotion is what happens when an expected sequence of actions is interrupted." An encounter with a physical artifact can be viewed as a form of interruption to the previous sequence of events (i.e., the sequence prior to the encounter with the artifact). Weick (1995) would predict that when the artifact (e.g., "a green bus") is encountered and interpreted, emotions will surface. However, the idea that these emotions may regard the artifact (e.g., "I love this green bus") and the organization (e.g., "I hate the organization that presented this green bus") helps advance the importance of such emotions. Identifying emotion as transcending from artifacts to parent organizations can provide a key to understanding what "connects" artifacts and organizations. It may help explain what transpires when multiple constituents encounter organizational artifacts (Bitner 1992, Russell and Mehrabian 1978) and suggest that what good artifact management does for organizations is evocation of desirable emotions (cf. Aaker and Myers 1987).

To guide the development of the theory about emotion as a connection of physical artifacts to organizations, we next provide, a brief summary of the dimensions of artifacts that may evoke emotion.

Three Dimensions for Analyzing Physical Artifacts

Organizational research typically views artifacts as symbols (cf. Jones 1996), focusing on the cultural and organizational values that artifacts are intended to communicate (Gagliardi 1992, Hatch 1997, Schein 1990, Trice and Beyer 1993, Yanow 1998). This view cannot fully capture how artifacts are interpreted or explain what or why artifacts produce emotion because sense making of artifacts may refer to things other than their symbolism. To illustrate, sense making of a chair may regard how comfortable it is, clearly, a different issue from its symbolism. On the other hand, classifying artifacts as either solely aesthetic or solely functional can be inaccurate and misleading (Strati 1992). For example, pictures are typically classified as "aesthetic" and chairs as "functional," but chairs can be considered as more or less aesthetic (cf. Fiell and Fiell 1997) and pictures can be viewed as functional (consider the picture on an employee identification or passport, Lloyd 2003). Only a few authors have recognized that artifacts can be considered according to both how expressive and how instrumental they are (e.g., Canter 1997, Frost and Morgan 1983, Lang 1988). In this spirit, Rafaeli and Vilnai-Yavetz (2004) integrate three disparate bodies of literature that study artifacts to suggest a comprehensive model of three separate but simultaneous dimensions of artifacts. This model, as briefly summarized next, connects research on human factors engineering (e.g., Howell 1994, Nielsen 1994) with research on product and industrial design (e.g., Heskett 2002, Nasar 1994), and with research in marketing and semiotics (e.g., Aaker and Myers 1987, Hatch 1997). Given the breadth of these bodies of research, we assume that together they represent the diverse perspectives that sense making of artifacts can take. Our empirical study then illustrates how these dimensions help integrate people's sense making of the green bus case, and the emotion that it produces.

Instrumentality, or the effects on related tasks and goals, is one dimension of sense making of artifacts. Assessments of instrumentality consider whether or how artifacts support or hamper desired activities (Gibson 1979). Norman's (1988, p. 1) provocative analysis of "the psychopathology of everyday things" illustrates how artifacts can be considered according to the ease with which they can be used. Canter (1997) similarly evaluates the influence of physical places on goal attainment and Garling and Golledge (1989) and others connect artifacts to productivity, as part of the human factors tradition of engineering of physical artifacts (see also Howell 1994 and Nielsen 1994). In short, instrumentality is a first dimension on which artifacts can be considered.

A second dimension of artifacts, *aesthetics*, prevails in a second body of literature and practice—product and environmental design. Aesthetics refers to sensory reactions to an artifact in the context in which it is presented. Aesthetics is a critical element in sense making of physical things in general (Nasar 1994), so aesthetics of organizational artifacts is but a specific case (Gagliardi 1996, Strati 1992). Research in environmental psychology (cf. Bateson 1995, Nasar 1994) and in experimental psychology (Takahashi 1995) supports the importance of aesthetics. Strati (1992), Gagliardi (1996), and Dean et al. (1997) argued for the importance of the aesthetic experience of an organization, which can include architectonic features or the relationship among multiple artifacts (Lang 1988).

Aesthetics is noted independently of the instrumentality of artifacts (Berleant 1988), although it cannot be divorced from organizational goals (Strati 1992). To illustrate, the same bright and colorful curtain may be viewed as aesthetic in a coffee shop or a pediatric office, but as unaesthetic in a funeral home. In both cases, however, the curtain may be equally instrumental in keeping out the sun or providing people with privacy. Thus, the aesthetics of the curtain is conceptually separate from its functionality, and is a second and separate element of the way artifacts can be experienced.

Symbolism—the third dimension claimed by Rafaeli and Vilnai-Yavetz (2004) to underlie views of artifacts—regards the associations elicited by an artifact. Symbolism is central to analyses of artifacts in organizational studies and in marketing and advertising (Aaker and Myers 1987, Dandridge et al. 1980, Gagliardi 1992, Hatch 1997, Pondy et al. 1983), but symbolism is a result of learned associations (Rafaeli and Worline 2000) that can come to accompany even mundane things (Csikszentmihalyi and Rochberg-Halton 1981). Schein (1990) and Trice and Beyer (1993) positioned artifacts as the visible part of an invisible set of values and assumptions comprising organizational cultures.

Through symbolism, artifacts communicate a rich set of messages (Czarniawska and Solli 2000, Davis 1984, Pratt and Rafaeli 2001, Stern 1988), and can facilitate efforts intended at creating brand names and images (Aaker and Myers 1987, Swartz 1983). Bromley (1993) and Fombrun (1996) identify symbolism as an element of corporate image and reputation, which connects artifacts to the critical notion of organizational identity (Dutton and Dukerich 1991). However symbolism does not regard whether an artifact promotes or hampers task performance, or whether an artifact is aesthetically pleasing, suggesting that it unravels aspects of artifacts other than those involved in aesthetics and instrumentality.

This brief review, therefore, identifies three separate dimensions of artifacts, and interpretations of artifacts can be expected to regard any or all of these three dimensions. Additional aspects of artifacts may be suggested; yet considering the breadth of literature that these three dimensions integrate and the analyses reported by Rafaeli and Vilnai-Yavetz (2004), we suggest these three dimensions as constructing a parsimonious model for analyzing organizational artifacts. Importantly, our point is that the dimensions complement each other in any analysis of artifacts, so that considering only one of the dimensions would provide an incomplete understanding of how an artifact may be interpreted.

Using the three dimensions model, our goal in this paper is to examine how emotion may enter into the sense making of an artifact and whether emotion drawn by the dimensions connects to reactions to the organization that presents the artifact. We build on the general idea that artifacts evoke emotion (Rafaeli and Vilnai-Yavetz 2004) and connect it to the idea of artifacts as affective events (Weick 1995, Weiss and Cropanzano 1996).

Emotion evoked by artifacts can be a spontaneous primary reaction to the artifact, or it can be a secondary reaction to the cognitive awareness of the artifact. Spontaneous emotional reactions, as discussed by Zajonc (1984), are likely to be reactions to a focus on aesthetics. For example, the statement "This building is beautiful; I love it!" is a spontaneous reaction expressing a direct emotional reaction to the aesthetics of the building (Nasar 1994). Second-order emotional effects follow the cognitive processing described by Lazarus (1984) and Smith and Ellsworth (1985), and most likely stem from symbolism. For example, negative emotions toward uniforms may stem from military associations (Joseph 1986, Pratt and Rafaeli 1997). These differences in how emotion is evoked could not be unraveled in this study.

Our data show that individuals who reflected on an organizational artifact ("the green bus") considered the three dimensions in their interpretations. In an inductive process, we further show that the emotion evoked in these interpretations regarded both the artifact and the organization. This insight helps unravel how artifacts influence organizational constituents' attributions to organizations and why artifacts hold such an important role for organizations (Schein 1990, Trice and Beyer 1993).

Thus, continuing the line of work begun by Rafaeli and Vilnai-Yavetz (2004), we document that emotion surfaces when people make sense of an organizational artifact. We add significant rigor to the initial report of the three dimensions suggested by Rafaeli and Vilnai-Yavetz (2004) and contextualize it to research on organizational artifacts. Our inductive analyses also add the important theoretical insight that emotion in sense making of artifacts generalizes to emotion toward the parent organization.

Method

The green bus—our artifact of study—is simple yet ideal for an in-depth study of physical organizational artifacts. First, it is clearly and distinctly an organizational artifact. A bus is the property of the organization, represents the organization to multiple constituents, and multiple stakeholders enact a relationship with the organization within and around this bus. Drivers spend their work time in the bus, and what the organization essentially sells to customers is "bus services." Each bus is in a sense one of The Company's "offices," making its design a critical organizational artifact. Importantly, the artifact was the green bus (which is unique and distinct from both a red bus and a green truck). Color is seemingly simple to define and central to human sensing (Lakoff and Johnson 1999), yet likely to carry multiple meanings and influences (cf. Frank and Gilovich 1988, Sassoon 1992).

Research Context

Our data are reactions of multiple stakeholders to the dark and homogeneous green bus that the public transportation company of Israel (The Company) introduced in 1999 as part of a public relations campaign intended at improving the corporate image. The green bus drew unexpected responses, including the following criticism by the State Comptroller.

> At the end of 1999, The Company decided to paint its buses green, as an indication of adopting "green" values . . . . Toward this end, The Company spent 7.5 million NIS, more than half on advertising. . . . [but] the color was not tested with focus groups or surveys . . . [or] from a safety standpoint (State Comptroller 2002).

That the color was introduced without pretesting provided an unusual opportunity to examine sense making of an artifact that was introduced in a real-life setting but was not—as often happens—shaped to meet expectations of various constituents. We began collecting data the week the color was announced, and continued for three months. The Company knew about our study, but we did not hold any consulting or other formal role. Our analyses were motivated only by a research interest with two foci: (1) to validate the idea that three dimensions underlie sense making of organizational artifacts and (2) to examine the emotion that enters this sense-making process.

Data Collection

Multiple stakeholders were interviewed about the artifact—the green colored bus. Interviews were intentionally kept open-ended to allow both the three dimensions (instrumentality, aesthetics, and symbolism) and emotion to emerge naturally. However, the data collection process was motivated by our desire to examine the idea that the three dimensions are both relevant and sufficient to capture informants' sense making of the artifact. The interview schedule was therefore designed with the three dimensions in mind, but did not mention the specific names of the dimensions so as not to contaminate the data collection with demand characteristics. Qualitative methodology was deemed most appropriate as a way to collect data in and of a completely natural setting, while allowing issues and ideas to emerge naturally (Locke 2001).

Informants. Our informants were individuals assumed to hold some stake or attitude toward organizational artifacts in general and especially the artifact of study. For complete theoretical sampling, we sought both informants with some formal relationship with the organization and informants with no formal connection. The number of informants was determined by theoretical saturation; we continued to interview informants in each group (see below) until additional data did not seem to add new insights (Strauss and Corbin 1990). The sample was comprised of the following.

(1) *Employees of The Company* ($n = 32$) included bus drivers ($n = 20$), administrative staff ($n = 9$), and management ($n = 3$).

(2) *Marketing professionals* ($n = 15$) included individuals involved in advertising and public relations campaigns, only some of which were employed by The Company (i.e., public relations and advertising consultants, $n = 5$).

(3) *Design professionals* ($n = 12$) included individuals involved in artifact design, including advanced design students ($n = 6$) and professional designers with at least five years of experience ($n = 6$).

(4) *Technical professionals* ($n = 45$) comprised individuals trained in engineering of buses and included members of the technical support staff of The Company (i.e., engineers, mechanics, $n = 10$) and students and faculty in the fields of civil and transportation engineering ($n = 35$).

(5) *Passengers or potential passengers* ($n = 70$) were individuals from the general public recruited for the study through ads in a large city in Israel.

Procedure. Informants were informally approached by one of the two authors; everyone approached agreed to be interviewed. Not all informants had actually ridden the buses, but use of the artifact was not judged to be a critical requirement because our focus was on sense making of the exterior design of the bus. Preliminary

interviews confirmed that all informants knew of and easily related to the idea of the green bus, except for some potential passengers. As a precaution, passengers and potential passengers were shown a picture of the green bus as they were interviewed. Interviews were tape-recorded and transcribed, lasted 40–90 minutes, and produced 2–10 typed pages of text each.

Interview Protocols. An interview protocol was designed with the idea of the three dimensions in mind, the intent being to encourage informants to consider the artifact from multiple perspectives. The protocol did not explicitly present the idea of the three dimensions to avoid demand characteristics of the data collection, but did encourage informants to consider the artifact from multiple perspectives. All interviews began with the following questions; but interviewees were allowed and encouraged to roam freely in their responses, and were probed whenever possible (Spradley 1979).

- Have you seen the green buses? Please describe in detail what you saw and what you think about this color.
- What functions do you see the green color as serving? Why? If you were asked to redesign the buses, what would you suggest? Why?
- Is there anything else you would like to tell us about the green bus?

Our intent was to show that emotion surfaces spontaneously, so we intentionally did *not* ask people for their emotions about the bus or the organization. Had we asked people how they feel about the green bus, we could not argue that emotion is a natural element of sense making of artifacts. We thus approached people intellectually, asking them to describe the bus, to assess its functions or to redesign it (Taylor 2002). Similarly, our intent was to show that even without explicit mention of the dimensions, and with a cognitive focus in the interview, the three dimensions and emotions would spontaneously surface. During the data collection, the separation between emotion toward the artifact and emotion toward the organization was not yet central to our theoretical framework. Emotion, and the idea of the target of emotion (artifact or organization), was thus *not* emphasized in any way in the interviews.

Modest variations in the protocol above were introduced to recognize the expertise of specific informants (Walsh 1995). These variations were guided by the connection between bodies of expertise and specific dimensions that our literature review identified. Engineers were probed more about usability (Nielsen 1994), designers about style (Heskett 2002), and marketing professionals about symbolism (Aaker and Myers 1987). As suggested by Strauss and Corbin (1990), the protocols were reviewed and revised after initial interviews, and after approximately 10 interviews, the protocols appeared comprehensive yet sensitive enough to capture individual sense-making nuances.

Data Coding and Analysis

We followed the process of axial coding and model development recommended by Strauss and Corbin (1990). Data were first coded for the constructs about which we had theoretical clarity—the three dimensions of the artifact (Stage I). Then, the data were coded for mentions of emotion (Stage II). Initially, this coding process noted any mention of emotion in the narratives. During the second round of coding, we realized that two types of emotions were expressed—toward the artifact and toward the organization. Recurring visits to both original and coded data then brought about the insight that this emotional spillover identifies the important theoretical connection between sense making of the artifact and emotion toward the parent organization.

Stage I: Coding of Themes and Artifact Dimensions. Themes in the data were identified using the dictionary definition of a theme as "a subject or topic of discourse" (Hornby 1974, p. 912). All the themes mentioned by each informant were noted. Coders were asked to identify as many themes as possible, but also to assess the relationship among themes. A new theme was noted when a new idea was evident in a new string of speech, which could be a word, a sentence, or a paragraph, depending on the informant and coders' judgments. Coders worked through typed transcriptions of the data, noting themes such as "the bus cannot be seen at night," "a green bus is nice," or "green symbolizes jealousy." The coding process continued as the data were being collected, until no more new themes emerged in newly collected data and we decided we had reached theoretical saturation (Strauss and Corbin 1990). This stage led to 36 themes (see Table 1).

Once the full list of themes was produced, coders went through this list and considered whether and how each theme would fit with the three dimensions (instrumentality, aesthetics, and symbolism). Thus, the three dimensions were used at this stage as key categories (Strauss and Corbin 1990) and the coding process involved a combing of the data to see if themes in it converge into these categories. Coders, therefore, performed the multiple steps of axial coding suggested by Strauss and Corbin (1990). First, they identified themes. Second, they classified themes into theoretical categories (the three dimensions). For instance, coders connected the themes "wavelength," "car accidents," and "visually impaired people" to the issue of bus safety (cf. Hakkert 1994), which is one aspect of the instrumentality dimension. In axial coding terms (Strauss and Corbin 1990), the wavelength of the artifact is a causal condition; this condition brings drivers, pedestrians, and visually impaired people (who represent a certain context) to not see the bus, which can produce car accidents (a consequence).

In this stage, the three dimensions identified by Rafaeli and Vilnai-Yavetz (2004)—instrumentality, aesthetics,

Table 1 Themes in Perceptions of Artifact Categorized by Dimension

Dimension of artifact			
Instrumentality	Aesthetics	Symbolism	
Too much heat, excessive use of air conditioning, which means energy waste and air pollution (F)	Beauty, ugliness (F)	Environmentalism (F)	Scenery, trees, greenery, nature (F)
Not safe, cannot be seen at night, which can produce traffic accidents (F)	Vividness, homogeneity of colors (f)	Terrorism, terrorist groups (F)	Hospital, emergency rooms (f)
Invisible, no contrast to background (f)	Shades of green (dark, light, grass, bottle, mold) (f)	Natural materials, synthetic materials, recycling (f)	Military, camouflage (f)
Absorbs light waves (f)	Design logic (f)	Domesticity, family, homeliness (f)	Commands obedience (f)
Visually impaired cannot see bus (f)	Dominance, saliency (f)	Detachment, remoteness (f) Cleanliness (f) Suffocation (f) Quality of life (f) Professionalism (f) Sports team (f) Dullness (f) Competition (f) Movement, flow (f)	Jealousy (f) War and fascism (f) Customer service (f) Death (f) Noise (f) Garbage truck (f) Freedom (f) Spring, blooming (f) Friendliness (f)
Total F themes = 2 Total f themes = 3 Total themes = 5	Total F themes = 1 Total f themes = 4 Total themes = 5	Total F themes = 3 Total f themes = 23 Total themes = 26	
Total number of themes = 36			

Note. f = themes mentioned 1–2 times.
F = themes mentioned 3 or more times.

and symbolism—were thus verified empirically. As elaborated below, however, our analyses (reliability tests and a comparison of data from experts and nonexperts) provided additional rigor to the validation of the three dimensions model.

Stage II: Coding and Analysis of Emotion. Once the viability of the theoretical model of the three dimensions was established, coders went through the data a third time to look for emotional expressions. At this stage, coders were asked to note any of the emotional terms identified by Feldman-Barrett and Russell (1999) and/or Smith and Ellsworth (1985). Coders noted (1) the type of emotion (e.g., hate, anger), (2) its valence (positive or negative, according to previous models), and (3) the context in which it appeared, i.e., whether it included a reference to one of the dimensions of the artifact (see Table 2). At this point, we had not yet realized that the target of an expressed emotion—the artifact or the organization—might be an important pivot for our coding.

Table 2 Emotion Expressions Associated with Dimensions of Artifact

			Dimension of theme where emotion was mentioned		
Emotion term	Valence	Total appearance (%)	Instrumentality (%)	Aesthetics (%)	Symbolism (%)
Joyful, calm, restful, good, happy, arousing, fun, peaceful, strong, pleasant	Positive	24	0	22	33
Repulsive, disgust, fear, awful, irritation, evil, stress, worry, anxiety, revulsion, unpleasant, melancholic, appalling, heavy, shame, fury, bad vibes, bad feeling, bad energy, depressing	Negative	76	100	78	67
	Total	100	100	100	100

After this coding phase the emotion evident in the data was examined inductively with continuous revisiting of the raw data. This process was a trigger for brainstorming that was then grounded by scanning the data tables. We reviewed the data tables individually and then shared insights about alternative ways to structure the data. Periodically, we returned to the data tables to test novel insights. At this stage, the existence of two targets of emotion in the data was identified: (1) emotion toward the artifact itself (e.g., "This color is gay and friendly") and (2) emotion toward the organization (e.g., "I hate the corrupt organization that chose such a color"). The three dimensions were further identified as connecting between these two sets of emotions, because the emotion toward the artifact mostly appeared in immediate association with one of the dimensions. Thus, sense making of the three dimensions was found to involve emotion that transcended to emotion toward the organization.

Reliability of Data Coding. By collecting data on all dimensions from multiple informants, we obtained what Kirk and Miller (1986, p. 42) labeled "synchronic reliability" or reliability across multiple observations. A key reliability test was whether different coders would code data from different informants into similar elements of the theoretical model. Following Krippendorff (1980, p. 72), coder training was initially targeted at familiarizing coders with the "peculiarities of the recording task" and minimizing error variance. Two coders, who were familiar with pertinent literature, began by independently coding one interview for the themes it brings up and the dimensions into which these themes fit (Stage I). Coders discussed disagreements, continued to the second interview, and so on until operational definitions of each coded category were reached. After four interviews, coders had developed a shared understanding of operational definitions and thus each coder independently coded half of the remaining interviews. This process was repeated a second time when the data were coded for emotion (Stage II).

To compute reliability between judges, both coders coded all the data collected from passengers. Two sets of correlations were computed: (1) between the number of expressions coded as representing each dimension in each response by different coders and (2) between the numbers of expressions coded as representing positive and negative emotion in each response by different coders. Correlations were as follows: 0.74 (instrumentality), 0.78 (aesthetics), 0.83 (symbolism), 0.82 (positive emotion), and 0.88 (negative emotion), all of which were deemed satisfactory (Kirk and Miller 1986).

In sum, our data analysis combined validation with theory development. We validate the three concurrent dimensions in sense making of the organizational artifact by multiple and varied constituents. We also develop theory about emotion as a connection between individuals' sense making of the artifact and emotion toward the organization.

Findings

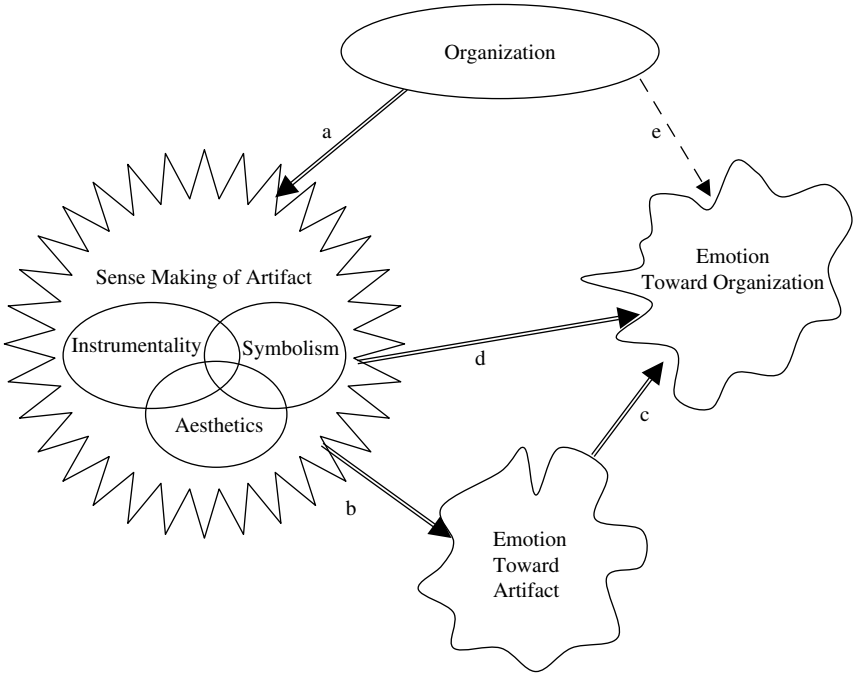
Our findings, as summarized in Figure 1, make three key assertions: (1) sense making of organizational artifacts by multiple organizational constituents refers to three dimensions, (2) this sense-making process evokes emotion toward the artifact, and (3) this sense-making process also evokes emotion toward the organization.

As evident in Figure 1, the flow we propose positions artifacts as a product of organizational design and choice (Arrow a). The artifact reflects sense making by the people in the organization who are responsible for its selection and design. This sense making itself can consider the three dimensions, although it most likely reflects managers' selective perception, which may not recognize the full set of artifact dimensions (Walsh 1988). An artifact selected may have objective qualities (e.g., size or color), but our analysis could not examine these qualities and they are not central to our thesis. We found that sense-making narratives of multiple constituents regarding the artifact involved the three dimensions that our introduction identified: instrumentality, aesthetics, and symbolism.

Our analysis further documented that these three dimensions were associated with emotion toward the artifact (Arrow b) and with emotion toward the organization (Arrows c and d). Our data could not separate causality, however. For example, people might have disliked the aesthetics of the green color and, consequently, expressed negative emotion toward the green bus or toward the organization. Alternately, people might have had a dislike for The Company and as a result may have come to view the green bus in a certain way. Assuming the logic of viewing artifacts as an affective event (Weiss and Cropanzano 1996) and the "bottom-up" affective process it suggests (Walsh 1995), we suggest the specific flow depicted by the bold arrowheads in Figure 1, although our data collection and analyses could not test for or document causality. Causality is also not central to our assertion because the flow in Arrows b, c, and d in Figure 1 is most likely in both directions. Our key point is that emotion toward the artifact evoked by sense making of that artifact is connected to emotion toward the organization. What flows between the two entities—artifact and organization—is emotion.

Obviously, additional aspects of the organization and its management may produce emotion toward the organization (Arrow e), but this as well was not a part of our current analysis. Thus, an encounter with an artifact is suggested by our analysis to be an "affective event" that involves both affect toward the artifact and affect toward the organization (Weiss and Cropanzano 1996), and suggests an emotional connection between sense making of the artifact and attitude toward the organization.

Figure 1 Emotion as a Connection of Physical Artifacts and Organizations



Note. Objective qualities of an artifact are not a part of the figure because our data and analytic frame focus on sense making or interpretations of artifacts. Broken Arrow e denotes that organizational behaviors and features other than the artifact likely produce emotion toward the organization, but this emotion was not included in our analysis. The direction of causality may be the opposite of that suggested by the bold arrows, wherein emotion toward the organization tints interpretations of and emotion toward the artifact. The presented direction follows the logic of artifact sense making as an affective event. Identifying the exact causality could not be accomplished in this analysis.

Three Dimensions in Sense Making of Organizational Artifacts

The data included 36 themes that were reliably classified into the three theoretical dimensions (see Table 1), thus supporting the three dimensions model of artifacts suggested by Rafaeli and Vilnai-Yavetz (2004).

As further elaborated below, the managerial view of the artifact overlooked a significant set of potential interpretations. The process of selection and design of the artifact did not recognize the idea of multiple dimensions; that multiple other informants did recognize the multiple dimensions, however, challenges previous considerations of artifacts as unidimensional, such as the view of artifacts as symbols (Jones 1996, Schein 1990, Swartz 1983, Trice and Beyer 1993).

The data, as evident in Table 1, also suggests that the symbolism of an artifact is difficult to predict, more so than instrumentality and aesthetics. The number of themes associated with symbolism was significantly larger than the number of themes associated with instrumentality and aesthetics (chi-square $= 22.76$, $\mathrm{df} = 2$, $p < 0.001$) and the breadth of symbolic associations to the relatively simple artifact—a green bus—is striking. Associations include greenery, environmentalism, and nature, which were the themes driving the organizational choice of the artifact, but other associations surfaced as well, including hospitals, jealousy, military camouflage, war, death, and garbage trucks, to mention but a few. An engineer, for example, said, "Green is a color for a garbage truck, and also represents a certain sports team," and a passenger said, "Green reminds me of a hospital and the emergency room." The specific context in which an organizational artifact is presented seems to add to the complexity of symbolism. Referring to the fact that The Company operates in Israel, a bus driver argued, "Green is not our color! Green for us is the color and flag of local terrorist groups," and a designer claimed that "in a country such as ours, the connotation of a vehicle that is colored completely green is the military; a camouflage color." The implication is that the symbolism of an artifact is an especially difficult dimension to predict.

The findings in Table 1 thus present two challenges to the common view of artifacts held by organizational scholars (Jones 1996, Schein 1990, Trice and Beyer 1993). First, the general model suggests that artifacts cannot be considered only as symbols because informants also consider additional dimensions in their interpretations (instrumentality and aesthetics). Second, considerations of symbolism require careful attention to avoid oversight of alternative symbolic interpretations that may be outside a decision maker's frame of mind.

To further validate the three dimensions model, we examined its applicability to people who hold some expertise in one of the dimensions and to nonexperts. Experts are likely to have a deep understanding of

a specific dimension, but expertise may also lead a person to ignore other perspectives (Kaplan and Kaplan 1983, Walsh 1995). If experts—presumed to focus on or think along one of the dimensions—are shown to display a more profound consideration of this dimension, the argument that the dimensions are conceptually distinct would receive some construct validity. If experts engage all three dimensions, then our argument for three dimensions as integral to sense making of artifacts appears valid under especially trying conditions. If data collected from experts and nonexperts reveal the three dimensions, then the argument has been proven with respect to multiple stakeholders in multiple levels of rigor.

Of the 171 informants, 72 (42%) could be considered experts on one of the dimensions: engineers, mechanics, and technicians were viewed as experts of instrumentality because they are trained to focus on task performance (Nielsen 1994). Designers were viewed as aesthetics experts because their training focuses on aesthetics (Heskett 2002). Marketing professionals were categorized as symbolism experts because their practice involves using artifacts to elicit messages through associations (Ewen 1988). Passengers and employees (other than technicians) were considered nonexperts in this analysis.

As would be expected according to the three dimensions model, experts and nonexperts differed in both terminology and content focus (Abbott 1988, Bazerman and Paradis 1991). Consistent with the idea of distinct professional foci that the model recognizes (Walsh 1995), experts provided more cognitively elaborate responses on their dimension of expertise. To illustrate, expertise of an engineer is evident in his safety concerns.

> The color is dangerous . . . dark green is not visible. An important element in visibility is contrast, a difference between object and background. When it's dark and you pass through a junction and a large black object 12 meters long passes by, [it's a problem].

In contrast, aesthetics language and concepts are evident in the response of a designer.

> In the colorful vividness of our country, to impose one consistent color on a bus, on a complex such as a bus, on such a big complex such as a bus, and such a green, is simply appalling.

Symbolic associations are, in turn, evident in the report of an advertiser.

> Green symbolizes nature, symbolizes environmental friendliness, greenery, shrubbery, this is what they [The Company] wanted to communicate . . . [not] an image of an environmental polluter [but] an image of an environmentally friendly body.

The tendency of experts to be more elaborate when discussing their dimension of expertise provides certain construct validity to the argument that the three dimensions are conceptually independent. Separating the responses of experts and nonexperts, however, did not produce negation of the idea of multiple dimensions of artifact interpretation. To the contrary, both experts and nonexperts referred to multiple dimensions, the only difference being the elaborateness of responses. For example, instrumentality and symbolism experts repeatedly mentioned aesthetics considerations, using comments such as the following.

> The color is simply ugly. (Instrumentality expert)

> A lighter green would be much nicer than a dark green. (Symbolism expert)

Thus, even individuals who could be expected to maintain a narrower frame of professional reference tended to call up more than one dimension of the artifact. Nonexperts were as likely as experts to refer to each of the dimensions; the only noticeable difference was the elaborateness of the response regarding the dimension of expertise. While aesthetic experts were likely to provide elaborate responses about artifact aesthetics, as illustrated above, other experts and nonexperts were both equally likely to refer to aesthetics in brief and short responses. The following two passengers (nonexperts), for example, clearly called up aesthetics.

> The design of the green bus is just not good.

> The green color is too dominant.

Only a small minority of both expert and nonexpert respondents mentioned only one dimension in their responses, while most (84%) of the respondents called up more than one dimension. Thus, even under the most stringent conditions, informants' sense making of the artifact was shown to recognize three dimensions of the artifact. By extrapolation, a full understanding of the artifact must consider all three dimensions.

Connecting Sense Making of the Artifact to the Organization

Table 1 further reveals that narratives about the artifact referred not only to the artifact, but also to the organization. In discussing instrumentality, for example, informants spoke not only about the task of the artifact (to pick up and transport passengers safely), but also about the tasks of the organization (to provide good customer service, to save costs, or to avoid environmental pollution). Informants connected their comments about whether the bus can be seen or not both to the task of the artifact and to the task of the organization. The first connection pattern is evident in the following comments.

> The green color makes it very difficult for drivers and pedestrians to see in the dark and this can raise the number of road accidents. (Engineer)

> This color isn't visible. We just can't see the bus. (Passenger)

The second pattern is evident in the following comments.

> The heat inside a bus is a function of its color. The lighter the color, the more light reflected, and the darker the color, the more light absorbed. The green color caused an elevation of up to four degrees. This will undoubtedly cause energy waste during the summer. (Engineer)

> Dark green makes the bus really hot. Don't they [The Company] care about the energy waste [due to added air conditioning]? (Passenger)

These latter comments do not regard the roles of the artifact per se, but rather the role of the transportation company to provide a comfortable ride, to avoid air pollution, and to save customers' expenses. In this spirit, narratives of multiple informants, including engineers, designers, and passengers connected the green color to customer discomfort, excessive air conditioning needs, and the associated higher pollution and organizational costs.

Although the artifact we studied clearly "belonged" to The Company, our data collection was targeted at the artifact and did not ask about The Company. The inclusion of attributions and interpretations of The Company, therefore, was not called for. However, the analysis of the emotion in the data helped unravel what motivated such connections between informants' references to the artifact and their references to the organization. Although our data collection intentionally did not ask for emotion, our data were saturated with emotion. The data included the following expressions of emotion toward the artifact.

> This color is repulsive, disgusting. (Driver)

> This green is pleasant. [It] communicates movement and flow. [It] invites participation, less subordination, and is not imposing. (Designer)

> [The color] creates fear and anxiety. A transportation company should convey power and security. (Advertiser)

> I like this dark green color. It creates calmness. It is pleasant. (Passenger)

However it also included the following emotion toward the organization.

> I am angry with them. (Passenger)

> They are so careless that I am disgusted. (Designer).

That emotion surfaced in spite of the fully cognitive and rational focus of our interview protocol validates the argument of Rafaeli and Vilnai-Yavetz (2004) that emotion is integral to sense making of physical artifacts. It also supports our analysis of an encounter with an artifact as an "affective event" (Weiss and Cropanzano 1996) and, thus, contributes to the understanding that sense making of artifacts is imbued with emotion (Weick 1995). The finding that the focus of emotion was both the artifact and The Company advances the ideas of Rafaeli and Vilnai-Yavetz (2004) toward the key assertion of this article—of emotion as connecting sense making of artifacts to attitudes toward organizations. As summarized in Table 2, the data included both positive and negative emotions, but negative expressions prevailed (76% of emotions expressed were negative, binomial test, $p < 0.001$). Emotion surfaced in the context of all three dimensions, but mostly in the context of the aesthetic dimension (58% of the emotion in the data, chi-square $= 17.26$, $\mathrm{df} = 2$, $p < 0.001$), for example: "This color is ugly" or "The color is nice and fits the road." This finding bolsters assertions of others, such as Nasar (1994) and Strati (1992), that aesthetics is highly related to affect.

A sense-making focus on instrumentality of the artifact seemed to produce emotion when the artifact was viewed as damaging performance (9% of the emotion in the data). For example, informants referred to the green bus as "catastrophically frightening from a safety standpoint" (Driver) and "a huge monstrous block that does not stand out at night" (Advertiser). Negative sentiments of constituents assessing the green color as maladaptive were echoed by The Company's spokesman.

> We received many furious emotional reactions from different bodies and from the general public about the safety hazard of the new color and about how difficult it is for semiblind people to see it.

The State Comptroller's review also reported people feeling "contentious . . . about the safety hazards of the color" (State Comptroller 2002, p. 364).

Emotion associated with symbolism, however (33% of the emotion in the data), began to clarify why sense making of the artifact was connected to attitudes toward the organization. In the context of symbolism, emotion expressed by informants related not to the artifact itself, but to the associations with the artifact instead. Positive associations appeared to be coupled with pleasant emotions, while negative associations appeared to be coupled with unpleasant emotions, as in the following two examples, respectively.

> It is fun to get on these green buses. The color communicates cleanliness and freedom. (Engineer)

> The color is crude, warlike, and military. It communicated bad vibes. (Designer)

Through these examples, we can see that sense making of the symbolism of the artifact was driven by the associations that the artifact triggered. Indeed, the green bus was selected precisely with the intent that it would evoke positive emotion through environmental awareness associations (Bansal and Roth 2000). The Company spokesman explicitly positioned such associations as the reason why the green was selected.

> We began the process with the intent of conveying commitment to quality of life and quality of service. The green represents environmental friendliness.

The organizational choice of artifact represented the accepted assumption in organizational science that artifacts are symbols (Schein 1990, Trice and Beyer 1993). However this choice process and the body of literature it represents overlooked the fact that environmentalism is but only one of the associations that the green bus elicited (see Table 1). Because the same artifact could draw alternative associations, some informants reported completely different and often negative emotions. An illustrative example was the symbolic association between the green bus and a terrorist group, which favors the color green. This association produced highly charged negative emotion as in the following.

> It is a dreadful [name of terrorist group] color, simply disgusting . . . disgusting! (Passenger)

> It is very negative. The terrorists may find the color nice. Ask them, and they will like it. But for everyone here it is awful! (Driver)

Recognition of multiple associations with the artifact makes symbolism a relatively complex dimension of sense making of an artifact. This complexity reveals an important gap in prevailing discussions of artifacts as symbols (e.g., Jones 1996, Schein 1990, Trice and Beyer 1993), which typically do not recognize, or at best gloss over, multiple symbolic associations.

A particularly important associative process evident in the sense-making narratives was between the green bus and the organization presenting the artifact—The Company. This association allowed emotion toward the green bus to be generalized to emotion toward the organization, as suggested by our analysis of the need to make sense of the artifact as an "affective event," and it begins to suggest what artifacts do for organizations: They seem to produce emotions in multiple stakeholders. Our data collection asked about the artifact (the green bus), yet our data included emotion expressed by informants not only toward the artifact itself (e.g., "I love the green bus"), but also toward the organization (e.g., "I hate The Company"). Theoretically, emotion toward the organization can be independent of emotion toward organizational artifacts. However organizational constituents involved in sense making of the artifact (as were our informants) connected this sense-making situation to expressing their reactions to the organization. The emotion expressed toward the artifact tended to spill over to The Company.

The three dimensions of the artifact were important to the flow of emotion from the artifact (the green bus) to the organization (The Company). Emotion expressed by informants consistently included a reference to one of the three dimensions of the artifact. From there, informants continued either to express emotion to the artifact, to express emotion toward the organization, or both, as summarized in Figure 1. For example, drawing on symbolism, the following passenger connected the pleasantness of a certain association to his general positive emotion toward the organization.

> I am . . . happy to travel with a company that has the positive intentions the green represents. (Passenger)

Similarly, for the following passenger, poor instrumentality of the artifact blended into emotion toward the organization as a service provider.

> This color does not stand out at night, and [The Company] knows it. I'm angry! They are so careless about passengers! (Passenger)

As evident in these examples, the expression of emotion toward the organization did not necessarily include an expression of emotion toward the artifact. As suggested by Figure 1, sense making along each of the three dimensions could trigger emotion toward the artifact (Arrow c) but could also directly trigger expressions of emotion toward the organization (Arrow d). The emotion expressed toward the organization was not limited to any specific context but was rather applied to a wide set of organizational actions. In the spirit of Weiss and Cropanzano's (1996) Affective Events Theory, the encounter and need to interpret the artifact is but one experience of our informants, and this experience is coupled with additional knowledge informants have about the organization. The complete set of experiences seems to produce the overall attitude toward the organization. However the need to make sense of the artifact triggers this process.

Particularly striking and salient in the data was emotion provoked by a discrepancy noted by multiple informants between the symbolism of the artifact and other organizational actions. This pattern manifests Weick's (1995) view that emotion occurs when there is some disturbance because discrepancies are known to be cognitively disturbing (Festinger 1957). The following statements, for example, convey these informants' negative emotions toward the organization.

> I resent their cynicism; they use a green color of environmentalism, but they continue to pollute the environment. (Passenger)

> Buses are known polluters of the environment. [I am] furious about this cynical use of the green color. (Engineer)

> This is an act of hypocrisy meant to say, "Hey, look, I am not what you thought, I am not the bad guy that pollutes the environment. I am a good, warm, and caring body who cares about this environment." But this is unfounded and unreliable. (Advertiser)

In this case, therefore, the artifact creates an emotional episode (Weiss and Cropanzano 1996) and the

incongruity that this episode represents to constituents is disturbing and provokes negative emotions toward the organization (Karliner 2002).

Informants expressed emotion toward a wide variety of organizational aspects and actions, but most of the time, narratives that included emotional expressions also referred to one of the dimensions of the artifact (85% of the mentions of emotion in the data were directly associated with one of the dimensions). In the above examples of negative emotion, because of attributed hypocrisy of the organization, poor instrumentality of the green color is connected to negative emotions toward the organization. In the following excerpts, symbolism is connected to negative emotion about abiding by traffic laws and bad customer service.

> The Company is a corrupt monopoly. They couldn't care less about anyone and anything. So they just paint the buses *green*. (Driver)

> The Company with the campaign "*Green* is growth, blooming and renewal" [needs to be reminded] of the cost of human lives caused by disregard of traffic laws.... Maybe the new *green* color will remind bus drivers to stop being wild on the road and to pass only when the light is *green*. (Passenger)

> The color was supposed to be the swallows that herald the coming spring of relations between The Company and its passengers. But the swallows are here while the spring of relations is tarried. (Marketing consultant)

In short, the three dimensions of the artifact emerged as central both to the sense making of the artifact and to the expressions of emotion toward the organization. The three dimensions seem to be foundations of the connections informants made between interpretations of the artifact and emotion toward the organization displaying the artifact. As summarized in Figure 1, in some cases, emotion toward the artifact mediated between sense making of the three dimensions of the artifact and emotion toward the organization. In other cases, narratives about the three dimensions directly connected to expressions of emotion toward the organization.

Discussion

Perhaps the havoc about the green bus could have been ignored, assuming people will get used to this artifact. Indeed, artifacts have not received much theoretical or managerial attention, at best being viewed as symbols (cf. Gagliardi 1992, Jones 1996, Trice and Beyer 1993). Our goal here was not to reprimand The Company or its decision makers. Rather, our intent was to show how what may appear to be a straightforward decision of enhancing the corporate image through a physical artifact requires attention to multiple dimensions—instrumentality, aesthetics, and symbolism—because the choice can lead to emotionally loaded interpretations by constituents. Our analysis of the green bus story helps reveal the myopia of previously limited views of artifacts (Walsh 1995), suggesting multidimensionality and emotionality in the impact of artifacts on organizations.

Continuing the integration of three currently disparate bodies of research proposed by Rafaeli and Vilnai-Yavetz (2004), we have confirmed that sense making of the seemingly simple artifact we set out to study—a green bus—involved three dimensions. We add to the theoretical analysis of Rafaeli and Vilnai-Yavetz (2004) that the emotion embedded in the interpretations of these three dimensions connects sense making of the artifact to attitudes toward the organization. In doing so, we position the exposure to artifacts as an "affective event" for constituents, an event that can have subsequent direct and indirect effects on attitudes and behaviors of multiple constituents toward the organization (Rafaeli and Vilnai-Yavetz 2003, Weiss and Cropanzano 1996). We also help explain how artifacts come to influence individual behavior and attitudes toward organizations (Bitner 1992, Russell and Pratt 1980). We further assert that through the emotions that artifacts' interpretations evoke, they might evoke attributions toward organizations (Hatch 1997, Schein 1990, Trice and Beyer 1993).

Our analysis confirms that there is no obvious "reality" of physical artifacts (Berger and Luckman 1967) because artifacts, like any other notion, are organizational occurrences that involve sense making (Weick 1995). Sense making can lead to multiple views regarding symbolism, instrumentality, and aesthetics, and is likely to involve emotion (cf. Isabella 1990). An artifact intended to create one impression may in actuality create other impressions (Tedeschi and Melburg 1984), and the assumption that an artifact is a symbol that represents a specific value to a specific set of constituents is clearly too simplistic (Rafaeli and Vilnai-Yavetz 2003). Dimensions other than the three we used may be suggested by others, but we offer two related sources of validation for the parsimonious model of these three dimensions.

Construct validity of the three dimensions model may be obtained from the connection that this model represents between three currently separate bodies of research and professional areas, all of which look at and study artifacts. That experts in each of these professional areas provided more elaborate responses on the dimension of their expertise further confirms the conceptual differences between the dimensions. In connecting research on organizational culture and symbolism (Hatch 1997, Schein 1990), human factors engineering (e.g., Howell 1994), and aesthetics and product design (Heskett 2002, Strati 1998), the three dimensions model pulls together entirely disparate approaches; our data analyses show that all three dimensions surfaced in interpretations of the same artifact by both experts and nonexperts, and that they were all associated with emotion. Given that our analysis here was of a seemingly simple

artifact—a green bus—we propose inductively that this integration can provide a parsimonious yet comprehensive understanding of all organizational artifacts.

The main theoretical contribution of this analysis is the development of a grounded theory of organizational artifacts, which helps reveal the relevance of artifacts to various research arenas. Rafaeli and Vilnai-Yavetz (2003) showed that multiple and unexpected constituents stake claims about various organizational artifacts and generalize these claims to a broad set of organizational issues. Here, we show that emotion transfers between artifacts and organizations, linking artifacts to the study of emotion in organizations (Ashkenasy et al. 2002, Fineman 2000, Lord et al. 2002, Rafaeli and Worline 2001) and to the study of organizational impression management, organizational image, and organizational reputation (Bromley 1993, Fombrun 1996). Altogether, our analysis places artifacts in a more central location vis-à-vis other organizational processes.

In laying out the foundations of what we dare call "a theory of organizational artifacts," our analysis suggests that what artifacts create for organizations is emotion. The selection of appropriate artifacts has been noted by multiple scholars (Gagliardi 1992, Jones 1996, Pondy et al. 1983). Yet, a definition of what "appropriate" means or how it can be assessed is lacking. We suggest that appropriate means "eliciting desirable emotions." Analyses of artifacts, according to our theory, should therefore recognize the three dimensions of the artifact and the emotion that these dimensions elicit, both toward the artifact and toward the organization.

However, applying these new theoretical insights requires addressing additional research questions. For example: What are appropriate emotions in a certain organizational context? A simplistic answer may be that pleasant emotions are always more desirable than unpleasant emotions. However, such an answer would ignore the complexity that basic research on emotion has identified. Considering accepted frameworks of emotion, would a "good" artifact evoke high or low arousal emotions (Feldman-Barrett and Russell 1999, Russell and Pratt 1980)? And, will a "good" artifact evoke internal or external agency emotions (Smith and Ellsworth 1985)? Even more fascinating is the question of whether there is one distinct emotion that is desirable. Given the complexity of modern day organizations, it may be more appropriate to speak of an appropriate emotional profile for an organization, which may be a balance of positive and negative, high and low arousal, and perhaps other dimensions (Bagozzi 2003). There may be certain parameters that can help identify desirable emotional profiles for certain organizations. It may be that evoking high arousal is critical for dynamic organizations (e.g., a sports team), while evoking calmness is critical when organizational constituents need to be calmed down (e.g., a hospital) (Wirtz et al. 2000). Similarly, high power may be desirable in some places (e.g., a security organization), while it may be confusing in others (e.g., social services) (Joseph 1986). Additional research is needed to reach the emotional profile desired for different organizations, so that organizations' artifact selection process will have some guidelines to follow.

Particularly interesting in this context are the ideas raised by Bagozzi (2003) that the discussion needs to be in terms of the emotional profile appropriate for the artifact and the organization, rather than in terms of the one "best" emotion. Bagozzi (2003) notes that people can simultaneously feel positive and negative toward the same event, so interpreting events according to the emotions that arouse (Weiss and Cropanzano 1996) requires consideration of multiple emotions rather than one discrete emotion. Extrapolating this to the organizational level, constituents of an organization are likely to have a complex set of emotions toward a certain artifact and its parent organization. The important theoretical goal, therefore, becomes understanding how multiple emotions are counterbalanced and what the implications of this balance are. Our analysis, therefore, adds two ideas to Weiss and Cropanzano's (1996) Affective Events Theory. First, the incremental nature of the affect process they depict may also occur across organizational boundaries and across levels of analysis. It can help explain the reactions of multiple constituents to extraorganizational events, such as the public display of an artifact. Second, an affective event may provoke more than one emotion, so the profile and balance of multiple emotions and how they aggregate to broader reactions become a key issue.

By studying a seemingly mundane artifact, we hope we have conveyed that all artifacts deserve systematic attention regarding the emotion that their instrumentality, aesthetics, and symbolism invoke. Accidents, extra expenses, and negative emotions of customers and experts cannot be excused by managerial assumptions that green symbolizes environmentalism and is pleasant. The green bus joins employee dress, for example, which appears to be simple and mundane yet can envelope significant complexity (Pratt and Rafaeli 1997). Future research might continue to untangle relationships among the three dimensions. There may be a hierarchy among the dimensions, if symbolism (for example) is found to be more important for organizational research than aesthetics or instrumentality, or to be more powerful in evoking organizational-level emotions. This may help explain why symbolism has received so much more attention than the other two dimensions by organizational scholars. Alternately, and we believe more likely, analyses may reveal that the importance of one dimension or another is a product of a specific time, organization type, and context.

There may also be second-order effects of the three dimensions that we could not document here (Lakoff and

Johnson 1999). For example, both aesthetics and instrumentality may themselves be symbols that trigger associations and emotions (cf. Prasad 1993). First-order effects are direct effects of the artifact, such as the aesthetics or instrumentality of the green color. Second-order effects are the effects of first-order effects, for example, there may be symbolism in good aesthetics or aesthetics in good instrumentality, and there may be emotions evoked by all of these. Through second-order effects, artifacts seen as aesthetic might be viewed, for example, as symbolizing good customer service (Bitner 1992). Similarly, through second-order effects, symbolism may become instrumental, for example, employees' professional attire (symbolism) may help gain the respect of customers and help employees perform their jobs (Pratt and Rafaeli 1997).

Thus, ours was a qualitative study that can tell only one story; additional research can examine the versatility of our theory with other artifacts, other organizations, and other cultures, and can examine long-rather than short-term dynamics. Because our data were collected when the buses were first introduced, it could be that the predominantly negative emotions we observed were a result of resistance to change (Gioia et al. 1994). In Weick's (1995) terms, the disturbance may have been the change of the bus color rather than the actual green bus. Alternately, the negative emotions associated with the artifact might have been projections of emotions toward the organization onto the artifact. It could be that any artifact presented by this organization would have created havoc. The direction of emotion transfer could therefore be from the organization to the artifact rather than from the artifact to the organization. Our analysis cannot establish a causal link of emotional transfer from the artifact to the organization; but it does establish a link between emotions reported in sense making of an artifact to emotion regarding the organization. Regardless of the direction of causality, what is important here is that sense making of an artifact involves three dimensions—instrumentality, aesthetics, and symbolism—and that the emotion sense making evokes includes emotion toward the organization.

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Endnote

[1]We are indebted to an anonymous reviewer for suggesting this theoretical framework.

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