The Interpretation of Design-Based-Cues: A Processual Approach

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The Interpretation of Design-Based-Cues: A Processual Approach

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The Interpretation of Design-Based-Cues: A Processual Approach

Abstract

We advance current understandings about the nature of interpretative processes unique to design-based-cues—elements in the organizational environment, such as colors or textures—that affect institutional processes by shaping behaviors and emotions. The implicit assumption in extant work is that because these cues are salient, they are tightly-coupled with distinct meanings. We argue, however, that interpretation in the context of these cues is processual rather than linear or finite. We explain this argument by exploring the interpretation of design-based-cues given tensions along three planes. First, tensions between individual and intersubjective levels of interpretations. Second, tensions among the multiple cues that co-exist in organizational workspaces, whose interpretations may reinforce or contradict each other. Third, tensions emanating from the ways the design-based-cues themselves transform over time due to deliberate and natural change. On the basis of these arguments, we reveal the inherent complexity and dynamism of interpreting these cues. The chapter, therefore, suggests that while it may seem intuitive that design-based-cues have the potential to facilitate the institutionalization of emotions, behaviors, and meanings, design-based-cues are actually less likely to stabilize, carry, and maintain taken-for-granted interpretations in organizational settings.

The Interpretation of Design-Based-Cues: A Processual Approach

In recent years, organizational scholars have become increasingly interested in the role of design-based-cues as a foundation of institutionalized emotions, behaviors, and meanings (Drori, Delmestri, & Oberg, 2016; Jones & Massa, 2013; Jones, Anthony, & Boxenbaum, 2013; Jones, Meyer, Jancsary, & Hollerer, 2017; Meyer, Hollerer, Jancsary, & van Leeuwen, 2013; Meyer, Jancsary, Hollerer, & Boxenbaum, in press; Zilber, 2017). Design-based-cues—intentionally designed elements in the organizational environment, such as colors, shapes, or textures—work as cues that convey information both by facilitating a set of uses and functionalities and by evoking emotions and associations (Eisenman, 2013; 18; Rafaeli & Vilnai-Yavetz, 2004; Ravasi & Stigliani, 2012; Verganti, 2009). Because these are salient cues, in that they are material and can be perceived visually and in a tactile manner, scholars expect, at least implicitly, that, as interpretable symbols of broader ideas, design-based-cues should have a distinct effect on emotions, behaviors, and meanings (e.g., Bell, Warren, & Schroeder, 2014; Eisenman, 2013; 2018; Jones & Massa, 2013; Jones, et al., 2017; Meyer, et al., 2013; Meyer, Jancsary, Hollerer, & Boxenbaum, in press; Pratt & Rafaeli, 2001; Puyou, Quattrone, McLean, & Thrift, 2012; Scott, 2003; Utterback et al., 2006; Verganti, 2009).

Our paper offers a more complex conceptualization of the relationship between design-based-cues and institutionalization in that it accounts not only for the information embedded in the cues and the interpretative processes working to understand this information, but also emphasizes that cues and interpretations are processual rather than finite because they vary over time and they interact with each other. Therefore, we suggest that while it may seem intuitive that design-based-cues have the potential to facilitate the institutionalization of emotions, behaviors, and meanings, achieving such effect is actually more complex and less likely than the literature suggests.

Indeed, the literature on general interpretative processes within organizations has already demonstrated that these processes are not necessarily finite (Taylor & van Every, 2000; Maitlis & Christianson, 2014; Taylor & Robichaud, 2004; Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). Additionally, institutional theorists also highlight that processes of institutionalization are not necessarily finite (e.g., Philips, Lawrence, & Hardy, 2004; Reay & Hinings, 2005; Zilber, 2008). However, this insight has not yet fully filtered into institutional studies of organizational materiality. Here, we build on past work showing that designs, and particular to our context, workspaces, consist of multiple cues. Within these designs, the same cues can be interpreted in multiple ways and along multiple dimensions (e.g., Elsbach, & Pratt, 2007; Rafaeli & Vilnai-Yavetz, 2004; Stigliani & Ravasi, 2012). Additionally, we suggest that design-based-cues are also inherently dynamic because cues can change in ways that are more natural (i.e., deterioration) or more intentional (i.e., users' deliberate adaptation of cues). The potential interactions between the interpretations of the cues, their multiplicity, and changes to the cues, interact with the inherent dynamism of interpretative processes. To the extent that cues persist over long durations, cues are more likely to change and their interpretations are more likely to interact. Based on these arguments, we suggest that the interpretation of design-based-cues is dynamic and open-ended.

We structure this chapter by building our argument in three parts. A first section focuses on interpretation of design-based-cues. A second section emphasizes that that interpretation within organizational workspaces involves multiple rather than single cues and that this multiplicity increases the potential for tensions among interpretations. A third section explores the effect of time on design-based-cues and their interpretations. The ideas developed in these three sections allow us to explain the inherent dynamism that characterizes the processual interpretation of design. In our discussion, we demonstrate the ways in which our conceptualization advances

current understandings of the relationship between design-based-cues and processes of institutionalization.

Individual and Intersubjective Interpretation of Design-Based-Cues

Our conceptualization of the interpretation of design-based-cues as dynamic identifies interpretative processes, the cues themselves, and changes to the cues over time as potential sources of dynamism. The following sections elaborate these ideas and the ways in which they interrelate. We begin with discussing the interpretation of design-based-cues.

The significant body of research on interpretative processes in organizations has shown that organizational life brings forth a continuous array of cues, ranging from natural disasters such as fires to patterns of deference and facial expressions in the context of meetings, for example. Organizational stakeholders extract these cues through both sensory and cognitive channels and give meaning to them (e.g., Taylor & van Every, 2000; Weick, 1995).

Because individuals interpret cues in multiple ways, their interpretations are not likely to lead to a clear cumulative interpretation. Additionally, individuals with different cultural backgrounds or from different social strata as well as those interacting in various social contexts interpret information differently (Eco, 1965). Thus, within an organizational setting, there are several sets of interpretations that draw from the mutual embeddedness of individuals in a particular cultural or class-based background or in a particular situational context such as membership in a functional group. So despite being ongoing, interpretative processes also rely on fixed cognitive backgrounds that are resilient to expeditious changes.

Furthermore, interpretative processes occur not only as individual level processes, but also as intersubjective processes. Intersubjective interpretations involve negotiations over the meaning

of a cue and as such, individuals participating in the process are able to suggest their individual interpretations and affect each other's interpretations (Taylor & Robichaud, 2004; Weick, Sutcliffe, & Obstfeld, 2005). Thus, interpretative processes are ongoing. Some of these interpretations may become taken-for-granted over time to the extent negotiations resolve while others may not resolve (c.f., Maitlis & Christianson, 2014).

Here, we wish to apply these general insights about interpretative processes to understand how the unique and inherent aspects of design-based-cues distinguish their interpretations. Our first argument is that we need to consider both individual and intersubjective levels of interpretation. By and large, past work has focused on finite and individual interpretations by focusing on how cues such as light, motion, size, shape, symmetry, color, or gloss, in that they are aesthetic in nature, are interpreted in an innate, immediate, and sensory manner (Gagliardi, 1996; Rindova & Petkova, 2007; Strati, 1999; Ulrich, 2007). Other scholars focused on the cognitive processing of these cues, as they are symbols with discrete meanings that evoke a broader set of associations at the individual level (Verganti, 2009).

An elaborate development for understanding individual interpretations of design-based-cues, and one which we will draw on moving forward, was put forth by Rafaeli and Vilnai-Yavetz (2004). They explained that design-based-cues can be interpreted along three distinct and independent dimensions. An aesthetic dimension, pertaining to the emotions and affect the cues elicit, an instrumental dimension, pertaining to the ways in which the cues facilitate or hinder a task, and a symbolic dimension, pertaining to the associations the cues evoke. They studied the introduction of newly designed, and distinctively green, buses to the fleet of a prominent bus company. Their findings documented a range of interpretations for the green color on each of these dimensions. For example, buses evoked a range of reactions in the context of the aesthetic

dimension: respondents considered green buses both beautiful and ugly. Or in the context of the instrumental dimension, respondents considered green buses difficult to see and so, unsafe, or as requiring excessive air conditioning and thus energetically inefficient. And in the context of the symbolic dimension, respondents associated green buses with nature, hospitals, military uniforms, terrorist groups, or garbage trucks. This analysis demonstrated that design-based-cues are particularly polysemous because each of these three dimensions can lead to multiple interpretations. Yet despite the polysemous nature of these cues, research tends to overlook the ongoing nature of interpretation that these cues trigger and tends perceive interpretations as finite and individual interpretations.

We suggest that such finality is in fact unlikely, particularly in the context of workspaces. More specifically, workspace designs embed cues that enable members of an organization to understand their material environments through ongoing conversations and negotiations about the meanings of the cues within these environments (Siebert, Wilson, & Hamilton, 2017). In this context, organizational workspaces enable the ongoing social presence that is the foundation for the social interaction joint interpretation requires because they co-locate members both with each other and with the design cues. As a result, members have many opportunities to sense each other's emotional reactions and to engage in discussions about the design-based-cues. Accordingly, design-based-cues trigger processes that lead to intersubjective interpretations of cues (Stigliani & Ravasi, 2012; Wasserman & Frenkel, 2011). Importantly, different groups within the same workspace interpret cues differently at an intersubjective level because these interpretations are culturally embedded (Wasserman & Frenkel, 2015).

Therefore, a first layer in our conceptualization is the ongoing transition between individual and intersubjective levels of interpretation, and the suggestion that the dimensions introduced by

the Rafaeli and Vilnai-Yavetz (2004) framework should be expanded to include the intersubjective level. Specifically, we suggest that members of the organization can arrive at an intersubjective interpretation in the context of the aesthetic dimension when members sense and mimic each other's emotions and moods (Barsade, 2002). Indeed, empirical research supports the idea that individuals interacting together in the same space often communicate their emotional responses in a way that turns personal reactions into an intersubjective response. For example, Warren (2006) showed how employees' frustration with designs intending to make their workspace 'fun' and 'playful' was contagious and that it intensified over time.

Moreover, in the context of the instrumental dimension of design, members can explicitly discuss, exalt, or complain about the ways in which aspects of the design hinder or support various functionalities. A review of data collected by Wasserman and Frenkel (2011; 2015; Research Notes),[1] in in their study of the newly designed Israeli Ministry of Foreign Affairs, revealed that, over time, interpretations along both the instrumental and symbolic dimensions were intersubjective. Specifically, in the instrumental context, their data revealed extensive discussions about the windows in the building. These windows were initially sealed, to make the space more secure and more energy efficient, but members of the organization perceived the design of the windows as not allowing fresh air to circulate. The intersubjective interpretation was that windows were a hindrance from an instrumental point of view. In the symbolic context, data revealed how a luxurious space initially designed for formal ceremonies, and as such, intended to be a symbol of luxury positioning the ministry as having high status, was interpreted intersubjectively as wasteful and symbolic of the ministry's lack of respect for public funds. These intersubjective

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[1] Throughout our exposition, we use examples from this rich context, believing that offering a broad swath of examples from the same context fortifies our argument that these interpretative processes co-occur in relation to a given workspace design.

interpretations coalesced in the context of conversations among members of the organization inhabiting the space and responding to the cues surrounding them.

In sum, we argue that design-based-cues trigger unique processes of interpretation, as they can be interpreted along three distinct and independent dimensions (aesthetic, instrumental, and symbolic). While they can be interpreted in a finite and individual manner, they are more likely to be subject to intersubjective interpretations that are ongoing, especially in the context of workspace design. The ongoing nature of the interpretation is driven both by the join presence of individuals and cues within workspaces, which are spaces that encourage intersubjective interpretations and by the understanding that three distinct dimensions of interpretation exists and may potentially interact. We now turn to highlighting the effect of having multiple cues within workspaces on these ideas.

The Multiplicity of Design-Based-Cues

The interpretative processes we have described are further complicated by the presence of multiple design-based-cues. This idea was developed by Elsbach and Pratt (2007), based on their review of the literature on the effects of workspace designs. Their review suggested that cues embedded in designs have desirable outcomes, (from the organization's point-of-view), for example, open space cubicles may make employees more effective because they facilitate informal interactions. But cues also have undesirable outcomes because open space cubicles make employees less effective as a result of more interruptions and overstimulation. They attributed the simultaneous presence of both types of outcomes to the inherently inconsistent nature of design-based-cues and to the potential for cues to be in oppositional tension, which they defined as a reaction to the multitude and complexity of cues and the ways they interrelate.

More specifically, Elsbach and Pratt's (2007) linked the tensions to potential contradictions between the three dimensions Rafaeli and Vilnai-Yavetz (2004) outlined. For example, partitions made by potted birch trees elicited positive emotions along the aesthetic dimension and conveyed a sense that the organization is committed to the environment along the symbolic dimension. But at the same time, these partitions failed to block out noises and as such, failed to be a useful partition from an instrumental standpoint (Elsbach & Bechky, 2007). Beyond the potential for tensions between each of the three dimensions identified by Rafaeli and Vilnai-Yavetz, there also may be contradictions between several manifestations of the same dimension, such as cubicles that have the potential to both make employees more and less effective in their work (Elsbach & Pratt, 2007). Further, there may be different interpretations of the same dimension by different groups within the organization (Elsbach & Pratt, 2007). For example, Wasserman and Frenkel (2015) showed that designers used minimalistic and subdued design cues to convey professionalism. This visual representation resonated with women of higher classes, who perceived order as professional. However, it did not resonate with lower class women, who perceived order as cold.

To add more complexity, interpretation occurs in the context of two distinct, but interacting systems: an emotionally driven experiential system and a rational system (Epstein, 1994; Kahneman, 2003). In the context of the emotional system, information is processed intuitively, automatically, nonverbally, and experientially, with little effort. In the context of the rational system, information is processed consciously and analytically, it requires processing effort and is typically governed by rules. While the aesthetic dimension of cues suggests that they are subject to more intuitive and innate processing, the instrumental and symbolic dimensions and the overall multiplicity of cues reduces the ability of the emotional system to receive and process information in an 'uninterrupted' manner. The capacity for mental effort is limited and effortful processes tend

to disrupt each other (Kahneman, 2003). Therefore, in the context of the multiplicity of cues embedded in the design, a possible outcome is a potentially reduced ability of design-based-cues to elicit individual level emotions, affects, or sensations in a manner that is sensed as innate. Furthermore, this multiplicity may hinder organizational members' abilities to resolve their negotiations about their interpretations of the design-based-cues. Such hindrance can either prolong the interpretative process in general or even prevent it from achieving a resolution. The complexity of these interpretative processes suggests they are more likely to be open-ended than finite.

We turn next to incorporating the effect of time on these interpretative processes. Building on the dynamism emanating from the shifts between levels of interpretations and the tensions between dimensions of cues and their multiplicity articulated above, we highlight time as a critical force for understanding the likelihood that interpreting design-based cues is dynamic and open-ended rather than finite.

Time and the Inherent Dynamism of Design-Based-Cues

Interpretative processes, in that they involve ongoing negotiations, necessitate ample time. While the role of time in processes of interpretation has been acknowledged (e.g., Taylor & van Every, 2000; Weick et al., 2005), the effect of time on design-based-cues has rarely been articulated (but see Jones et al., 2013 and Jones et al., 2017 for notable exceptions). We suggest that cues themselves, and the array of cues in a given setting, are subject to change over time. These changes add to the dynamic nature of design and its interpretation.

To begin, design-based-cues change in response to intentional and unintentional actions as well as in response to exogenous forces. To the extent that designs, such as workspaces, endure,

the cues within these designs are more likely to change in a variety of ways. Primarily, over time, cues deteriorate and as such undergo unintentional change. Other changes may by intentional: For example, employees may jam doors that are meant to be sealed and in so doing alter the passage ways and spatial layout of the workspace (Wasserman & Frenkel, 2011). Or, the organization may design to repaint the walls. Other changes may be responses to exogenous forces, such as fashions that alter the symbolic associations to a cue. Therefore, we emphasize that reactions to and interpretations of design-based-cues are reactions to and interpretations of dynamic rather than finite cues.

Furthermore, and as we elaborate below, the initial interpretation of design-based-cues differs from the interpretations of these cues over time. Thus, the relative influence of each dimension is likely to vary. This argument allows us to suggest a potential hierarchy among the three dimensions identified by Rafaeli and Vilnai-Yavetz (2004) because they are unlikely to evolve over time in an identical manner. Specifically, we suggest that upon first encounter with a design-based cue, the aesthetic dimension is likely to be more central than either the instrumental or the symbolic one. As explained, responses to aesthetic cues are immediate and innate, they typically are sensory and do not involve cognitive processing in that they elicit emotions and affect rather than systematic, conscious analyses (Gagliardi, 1996; Rindova & Petkova, 2007; Ulrich, 2007). However, it may take some time to fully discern the affordances or hindrances of the instrumental dimension. And, these may involve some level of expertise (Rafaeli & Vilnai-Yavetz, 2004). So, it may take an employee weeks of work to realize that her chair cannot be adjusted in an optimal way or that the degree of lighting in a space is too dim and leads to headaches. Lastly, the symbolic dimension, in that it involves the evocation and processing of various associations,

requires making cognitive connections between symbols and as such may require more processing time.

To further explicate, in terms of the aesthetic dimension, design-based-cues may go through natural deterioration, in which case, they are likely to become less beautiful and to have their ability to elicit positive affect reduced. Alternatively, members of the organization are capable of removing cues that stimulate negative affect and emotions (Elsbach & Pratt, 2007). Such actions that unfold over time can neutralize cues that are the source of negative emotions.

From an interpretative standpoint, the influence of the aesthetic dimension is likely to fade, especially if it elicits positive affect because positive affect is difficult to sustain (c.f., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In other words, negative affect and emotions, in response to the aesthetic dimension of design-based-cues, is likely to persist over longer durations relative to positive affect and emotions. This means that the potential of design-based-cues to foster positive affect, is more likely to be a short term rather than an enduring effect and therefore, design-based-cues are more likely to have a neutral effect on workspaces (Kahneman, 2003).

In terms of the instrumental dimension of cues, the natural deterioration of cues suggests that they may become less useful. So, clear glass windows in areas that are supposed to take advantage of natural light, may become dirtier and less clear over time and subsequently, let in less light, hindering the performance of various tasks. Alternatively, members of the organization, overtime, may find various improvisations and workarounds that circumvent and alleviate instrumental issues, again referring to circumventing the use of hallways that were inconvenient by jamming doors that were meant to be locked and altering the available passageways (Wasserman and Frenkel, 2011).

From an interpretative standpoint, the effects of the instrumental dimension are likely to solidify over time. So while the instrumental effect may not be clear when members of the organization first encounter these dimensions, these effects are perceived over time. For example, Wasserman and Frenkel (Research Notes) found that in the organization they studied, desks were initially screwed to the floor. It took some time for members of the organization to realize that the selected locations for the desks were inconvenient in that they interrupted the flow of work by obstructing people's line of vision to the areas beyond the workspace. Here again, we suggest that negative stimuli have more impact over the long term. In line with the well-documented tendency to retain negative information (c.f., Baumeister, et al., 2001), the complaints about the fixed desks persisted (and ultimately, led to releasing the screws locking them in place). Conversely, we suggest that to the extent that the instrumental dimension fulfils its purpose of facilitating an activity or function, for example, furniture that is comfortable and ergonomic, this facilitation is taken-for-granted. Here, Wasserman and Frenkel's data reveals that members of the organization did not discuss any aspect of the chairs in the new building, and indeed, these were high quality ergonomic chairs. Because instrumental facilitation is likely taken-for-granted and hindrance likely persistent, we suggest that, over time, frustration is more likely to become the basis of intersubjective interpretations of the space and even to drive changes to the cues.

In terms of the symbolic dimension, cues may change in response to exogenous shocks, such as fashions. For example, architectural styles may fall in and out of fashion (Jones, et al., 2012). Conceivably, members of an organization whose workspace is designed in a fashionable style may perceive their organization as modern and advanced. However, with time, the style will likely fall out of fashion, and its perception as a beacon of modernity will shift. Such shifts may also be affected by explicit conversations about the meaning of the symbol.

Relatedly, we posit that the impact of the symbolic dimension increases over time. To explain, some design-based-cues are understood as clear representations of more abstract ideas. For example, bigger, more luxurious chairs are commonly associated with higher status in workspaces (Strati, 1999). However, symbols that lend themselves to common interpretations are quite rare and in many instances signifiers are decoupled from the symbols they are meant to convey (c.f., Boxenbaum & Jonsson, 2008; Rafaeli & Vilnai-Yavetz, 2004). Therefore, we perceive the symbolic dimension of cues as existing on an interpretative continuum ranging from symbols that are commonly interpreted to those that are not. This continuum suggests that in the context of the symbolic dimension, some cues will be interpreted quickly and fairly easily while others are the basis for ongoing, and potentially unresolvable, negotiations that endure. Because symbols that can be interpreted in common ways are relatively rare, time is more central to the context of interpreting the symbolic dimension of cues relative to the context of interpreting the aesthetic and instrumental dimensions.

Discussion

The Dynamic Interpretation of Design-Based-Cues and Processes of Institutionalization

We emphasized that the interpretation of design-based-cues differs from the interpretation of cues that do not have an aesthetic component. The interpretation of aesthetic components elicits innate and sensory reactions at the individual level. These reactions are supplemented both by cognitive interpretations at the individual level and by intersubjective interpretations that are primarily cognitive. As such, interpretations are dynamic because they involve the resolution of two tensions in an ongoing manner: the tension between sensory and cognitive interpretations at the individual level and the tensions between the individual and intersubjective levels of interpretation. The cues

themselves are also dynamic forces. These cues are interpreted along three dimensions and the cues as well as the dimensions interact in ways that can contradict or reinforce each other. Additionally, designs, such as workspaces, involve multiple cues. Interpreting cues in relation to each other introduces another source of dynamism because the multiplicity of cues offers numerous potential combinations that require interpretation. In many instances, this dynamism is made more complex by having different sub-contexts of interpretation that lead to a variety of ongoing intersubjectivities within the same organization. In addition, cues and interpretations change over time, which requires ongoing interpretations of these changes and is another significant source of dynamism.

More specifically, the forces we have identified above suggest that interpretative processes of design-based-cues may be affected by a series of potential interactions: When a cue changes, it leads to a change in its interpretation, and these changes become part of the ongoing negotiation about the overall interpretation of other cues in the workspace. To the extent that multiple cues exist, the potential for these linked interactions increases. For example, workspaces may use large windows to bring in natural light, and this light affects the hue of colors used in the space. Time is a central force in these settings: If the organization does not maintain the windows, they bring in less natural light over time, and they increase the use of fluorescent light, possibly. The fluorescent light changes the hue of the colors in the space. Each of these events affects interpretations along each of the three dimensions. So, natural light or the particular hue of colors may lead to a positive affective response on the aesthetic dimension that may become less pronounced over time. The fluorescent light may be a hindrance from an instrumental perspective. And, the organization's inability to maintain the windows may be interpreted by members of the organization in a variety of symbolic ways, such as a lack of respect for employees or financial distress. Further, each of

these events is interpreted at both an individual level and an intersubjective one, as explained above. Moreover, these changing interpretations increase the likelihood that individuals will make changes to the cues and adapt them to the evolving interpretations (Wasserman & Frenkel, 2011). This reactive process demonstrates why design-based-cues should be viewed in the context of a dynamic system. The interpretation of design-based-cues is inherently dynamic and open-ended.

Theoretical Contributions

A core assumption in institutional theory is that social meanings become sedimented and objectified when sign systems become shared by members in a social group (Berger & Luckmann, 1967). Inherently, signs are interpreted and these interpretations are by and large maintained. In this chapter, we have suggested that in the context of sign systems based on design-based-cues, shared interpretations are dynamic and subsequently, their maintenance is unlikely. This argument extends current research working to understand how materiality affects institutional processes in and around organizations.

More specifically, recent work has made great strides in this direction by articulating the distinct ways in which verbal and visual sign systems work in the context of institutionalizing new ideas (Meyer et al., in Press). And while these authors acknowledged that visual information is based on multiple cues and has potential for polysemous interpretations, they relaxed this assumption in their development and prompted future work to further pursue these aspects. Additionally, the 2nd addition of the handbook on Organizational Institutionalism devotes a chapter to linking materiality and visuality to organizational processes (Jones et al., 2017). Here too, authors acknowledge the polysemous nature of material information, but the bulk of their analysis

focuses on the finality of interpreting material information as they emphasize how materials can form the basis of shared sign systems that are enduring.

Our work builds on these ideas, but rather than highlighting how materiality lends itself to suggesting, sedimenting, and maintaining meanings, we highlight why the inherent dynamism and processual nature of design-based-cues suggests that their interpretation may be subject to ongoing flux. We do so by outlining a variety of institutional contexts in which design-based-cues affect interpretation and by highlighting that multiple cues are present. These cues may or may not be congruent and are quite likely to be incongruent. In this way, our work addresses calls to examine how the relationship among material artifacts and the organizational context is tied to institutional processes (Jones et al., 2017).

Additionally, our work extends our understanding of the relationship between materiality and the durability of shared sign systems. We emphasize that over time, cues change. In this way, we build on current work that suggests that when studying material sign systems, we should acknowledge that materials differ and that subsequently, their ability to sediment and maintain shared meanings differs (Jones, et al., 2013; McDonnell, 2010). Our conceptualization allows us to treat the relative durability of design-based-cues in a more precise manner. As suggested in previous work, durability may mitigate some of the dynamism inherent in the system because cues and their interpretations may separate. Repeated exposure to certain stimuli, especially abstract ones, such as responses to dimensions of design, leads to nonconscious and automatic processing (Kahneman, 2003). Thus, design-based-cues may be tied to the institutionalization of new ideas when the positive effect of aesthetic dimensions of design is likely to neutralize, as argued. In such cases, positive behaviors and positive emotional states can become institutionalized. When designs elicit positive affect or behaviors, these emotions and behaviors are likely to endure not only when

the effect of design succeeds in eliciting these reactions each time, but also when these reactions are institutionalized. Hence, while the design-based-cues are dynamic, their affect need not be. For example, Google employees pursue creativity not by being excited by the colors of their workspace each morning but because the pursuit of creativity has become a taken-for-granted behavior that is likely to maintain. The same holds for the instrumental dimension. Design-based-cues that facilitate tasks are taken-for-granted. When a design hinders performance, members of the organization typically devise a 'workaround design' such as jamming a door (Wasserman & Frenkel, 2011). In this manner, the instrumental dimension is not evoked repeatedly, but rather, the response to the dimension becomes institutionalized.

Highlighting that cues can, in some circumstances, be dynamic and influential and in others taken-for-granted in a way that stabilizes their inherent dynamism advances our understanding of the relationship between materiality and processes of institutionalization. Here, we add a caveat suggesting that possibly, some design-based-cues may be ignored entirely, not participate in the dynamic system we have theorized, and may never affect emotions or behavior, or shape meanings.

An additional important extension we offer to the recent work tying processes of institutionalization to materiality is making the shifts between individual and intersubjective levels of analysis explicit. Much of the interest in design-based-cues is linked to understanding that, as aesthetic artifacts, they have the potential for eliciting emotional and sensory reactions (Siebert, Wilson, & Hamilton, 2017). Our understanding of these reactions draws from psychology, and as such, is at the individual level of analysis. Yet the interest in understanding how design-based-cues link to shared sign systems points to intersubjective interpretations. Our framework highlights the shifts between these levels of analysis and their role in setting a processual interpretative path.

Moreover, our framework applies three dimensions for interpreting design-based-cues (Rafaeli & Vilnai-Yavetz, 2004) at both levels of analysis.

Future Research Avenues

In closing, we suggest several avenues for furthering the investigation we have started here. First, our ideas should be evaluated empirically using longitudinal research designs. As time is a central aspect of our conceptualization, studies should be designed to assess its effects. Overall, workspaces expose members of an organization to the cues over long periods. However, settings vary in this context and our arguments may manifest differently to the extent that settings afford design-based-cues time to change, and allow people using and interpreting the cues time to notice these changes and interpret them.

Second, the presence of multiple culturally or socially embedded groups within an organizational setting is likely to increase the potential for multiple intersubjective interpretations that interact within that setting. These ideas are particularly applicable to the symbolic dimension as it is the most sensitive to the various types of social and contextual embeddedness of members of the organization. Our approach suggests that in response to design-based-cues, each group will negotiate its interpretations until a common intersubjective interpretation of the symbolic dimension surfaces. Also possible is that the fragmentation will limit the formation of any kind of intersubjective interpretation because joint interpretations of symbols require a shared taken-for-granted basis (Boxenbaum & Battilana, 2005). To study these ideas empirically, research designs should compare workspaces in organizations of various sizes and levels of diversity. Arguably, dynamism and open-endedness of interpretations are less likely to manifest in smaller, more cohesive, and local organizations because such organizations are likely to have fewer distinct

functional groups, fewer cultural sub-groups, or fewer people from various socio-economic groups, for example. However, to the extent organizations are large and varied, the open-endedness of interpretations is likely to be more extensive.

Third, applying the dimensions suggested by Rafaeli & Vilnai-Yavetz (2004) allows us to separate the aesthetic from the symbolic. In so doing, we are able to make distinctions between emotional responses to design-based-cues, that are more immediate, and cognitive responses. This distinction is important as most work on the underlying mechanisms of institutionalization focused on the cognitive interpretation of symbols. Only more recently have scholars turned their attention to the emotional aspects of institutions and institutionalization (Creed, Hudson, Okhuysen, & Smith-Crowe 2014; Voronov & Vince, 2012). Our detailed separation of these dimensions sets a foundation for future work that could explore the ways in which responses to design-based-cues are tied to the emotional facets of institutions in greater depth by maintaining the analytical distinction between the aesthetic and the symbolic dimensions.

Excitingly, much remains for scholars to explore as they continue to understand the ways in which materiality is tied to processes of institutionalization. What is clear is that material artifacts, in that they can elicit emotional and sensory reactions as well as in that they embed a range of affordances, work to create and maintain emotions, behaviors, and meanings in ways that are distinct from how we more typically understand institutions and the discursive processes that underlie them. Materiality introduces a range of complexity that has typically been relaxed in institutional research. Our goal in this chapter was to illuminate this complexity.

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