The Affordance of Practice

John Weeks

and

Anne-Laure Fayard

* Assistant Professor of Organisational Behaviour at INSEAD, Boulevard de Constance, 77305 Fontainebleau Cedex, France, john.weeks@insead.edu

** Polytechnic University, Brooklyn, NY 11201, USA, alfayard@poly.edu

A working paper in the INSEAD Working Paper Series is intended as a means whereby a faculty researcher's thoughts and findings may be communicated to interested readers. The paper should be considered preliminary in nature and may require revision.

Printed at INSEAD, Fontainebleau, France. Kindly do not reproduce or circulate without permission.
Introduction

Any theory of practice must negotiate—or, rather, reject—two dualisms. First, voluntarism and determinism. Practice, in its performance, requires agency and permits discretion, but is patterned and constrained by social and physical forces. Second, subjectivism and objectivism. People are not cultural dupes, their understandings of the practices they enact are consequential, but those understandings are incomplete because practice is powerfully shaped by factors that are taken-for-granted or misrecognized. Practice theory seeks the terrain between the easier, simplistic extremes of these dueling poles. If this terrain is often treacherous, it is indicative of the fact that practice resists theorizing and that we must resist over-theorizing practice. The study of practice should remain firmly grounded in concrete description of actual practices. Where theory can help is to provide a better language for describing how particular practices are shaped and patterned by structure and setting.

The writings of Pierre Bourdieu, especially in *Outline of a Theory of Practice* (1977) and *The Logic of Practice* (1990), are a useful starting point for constructing this conceptual language. Specifically, his notion of *habitus* provides a way to conceptualize how social structures influence practice without reifying those structures and without falling into the traps of voluntarism, determinism, subjectivism, and objectivism. Bourdieu’s work has been influential in the study of organizational practice, and for good reason, as we will argue in this paper. Bourdieu’s theorizing, however, especially as it is cited in organization theory, takes as its focus the social and the symbolic. The result is that we have a better
understanding of how social and symbolic structures shape practice than we do of how the material environment, as it is socially and physically constructed, does so. Bourdieu has taught us how to talk about the influence of structure, but we must turn elsewhere to better understand how to describe the influence of setting on practice. The work of the ecological psychologist, James Gibson (1986), and his theory of affordances, offers a useful way of thinking about how practice is patterned by setting that neatly complements Bourdieu’s theory of habitus. For Gibson, the concept of affordances allow us to describe how the physical and socially constructed environment govern, but do not determine, the practices that occur there in a way that escapes the false dichotomies of voluntarism versus determinism and subjectivism versus and objectivism. Our objective in this paper is to show how affordances neatly complement habitus and together provide a more complete way of describing practice. To do this, we will explain Gibson’s theory of affordances and how it can be extended to apply to organizational practice; we will show how affordance and habitus fit together well because of the philosophical underpinnings by Bourdieu and Gibson; and we will illustrate the application of affordances by presenting the empirical example of the practice of informal interaction around the photocopier.

**Theory of Affordances**

Gibson’s concern in developing his theory was not practice but rather visual perception. The affordances of an object or environment are the possibilities for action called forth by it to a perceiving subject. Thus, to humans, handles afford grasping; paths afford locomotion; slippery slopes afford falling. Gibson’s claim is that what we perceive when we look at an object or environment are its affordances, not its qualities. We can discriminate abstract qualities such as substance and surface, color and form if we are prompted to do so, but what we normally pay attention to—
and what studies by Gibson and his colleagues show that infants pay attention to—is what the object or environment affords us. With conscious effort, we may perceive a scene photographically but, Gibson argues, most of the time, as we are moving about and acting in the environment, our visual system does not operate like a motion picture camera projecting a movie on the back of the retina observed by some little homunculus in our brain. Perception, having evolved to help the organism survive and thrive in its environment, is economical. Perception readies us for action. There is experimental evidence that the perception of object affordances—the handle of a cup, for example—automatically triggers the action in our mind (Tucker and Ellis 1998; Grezes and Decety 2002; Tucker and Ellis 2004).

The radical implication of this ecological approach to visual perception is that the world around us is always already imbued with meaning for the observer. We may be wrong about what an environment affords us, as when we misperceive a closed glass door as affording passage and attempt to walk through it, but our perceptions are always laden with meaning. Further, this meaning, the affordance of the environment, is relative. A small hole that affords concealment to a mouse does not afford the same thing, and will not be perceived in exactly the same way, to a human adult. Gibson (1986: 41) explicitly rejects the absolute duality of subjective and objective and argues that considering affordances—which are real and external to the perceiver yet relative to the perceiver—allows us to escape this philosophical duality and provides a powerful way to conceptualize the relationship between actor and environment.

Gibson’s ecological approach to visual perception and theory of affordances have been influential in psychology and cognitive science. Elements of the theory remain controversial in those fields (Gardner 1987). Specifically, some researchers argue against the strong form of Gibson’s claim that affordances are perceived directly: i.e.,
without the need to invoke beliefs, attitudes, or mental processes (Ullman 1980). Gibson, these critics claim, neglects the information-processing problem of how, exactly, affordances are recognized as such. Others have, in turn, defended direct perception on conceptual and empirical grounds (Turvey et al. 1981). This is an important issue for cognitive science, but from the perspective of the sociology of organizations, the amount of mental processing involved in the perception of affordances is not an issue.

**Affordance and Habitus**

At first glance, the work of Gibson and Bourdieu may seem to have little in common. Certainly, the normal ontological, epistemological, and methodological assumptions underlying American psychology and French sociology could hardly be more different. Neither Gibson nor Bourdieu is typical of his field, however, and the philosophical underpinnings they apply to their different areas of study are remarkably similar. It is this that makes habitus and affordance so compatible. Bourdieu defines habitus this way:

> The conditionings associated with a particular class of conditions of existence produce *habitus*, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends. . . (Bourdieu 1990: 53)

There are two key elements of similarity between habitus and affordance applied to organizational practice. These have to do with the stance the two authors take to the key dualities of voluntarism and determinism—how practice is shaped—and subjectivism and objectivism—how practice is understood by those enacting it.

A central tenet of the theory of affordances is that when actors enter a setting they perceive cues about what behaviors it affords and these perceptions shape behavior without determining it. Studies of the affordances of technology and everyday objects
by Norman (1988; 1993) and others have demonstrated, for example, that the design of an object impacts how people use it. This work in the area of human-machine interaction (HMI) has led to findings in three areas that suggest the applicability of affordance theory to the present question of the relationship between organizational settings and social interaction. First, these studies have shown that we perceive the function of an object—from a door handle to the control panel of a nuclear power station—from visual cues in its design. Objects tend to be used as their designers expect when they are designed in a way that exposes their functionality. Norman’s work documents myriad examples where the opposite obtains: from door handles that give no indication by their shape whether they should be pushed or pulled, to aesthetically impressive control panels of identical knobs and dials, symmetrically arrayed, that give no distinguishing visual indication of what they do. In such cases, conscious thought, and even training, on the part of the user is required or else the unrecognized, or unremembered, functions go unused.

Bourdieu argues the same is true for habitus. Habitus regulates behavior by making “possible the free production of all the thoughts, perceptions and actions inherent in the particular conditions of its production—and only those” (Bourdieu 1990: 55). Thus, given a set of conditions, habitus affords an actor some thoughts and behaviors and not others, but that actor ultimately decides what to do. Often this decision occupies no conscience thought, but Bourdieu (1990: 53) makes clear that it is “never ruled out that the responses of the habitus may be accompanied by strategic calculation tending to perform in a conscious mode.”

Habitus and affordance operate in the same way, but the conditions that generate them are very different. Affordance arises from the encounter of a person characterized by certain physical attributes and certain social and biological needs,
desires and intentions with a socially and physically constructed material environment. Habitus arises from the encounter of history embodied by a person as second nature with what Bourdieu (Bourdieu and Wacquant 1992: 97) calls a field, a set of relationships between positions occupied by actors and institutions. In any given situation, then, the material environment will afford an infinite, but strictly limited, set of thoughts and behaviors as will the field. These will be the possibilities for action that show up, either consciously or unconsciously, for the actor.

The second element of similarity has to do with the extent to which people acknowledge and are aware of affordances and habitus. This question is independent of the question of how aware we are of the possibilities for action afforded by an environment or field. It has to do with the understanding the actor has about why certain thoughts and behaviors are made possible and others are not. In the theorizing both of Gibson and Bourdieu, the answer is that the understanding the actor has is consequential—it shapes their practice—but it is not necessarily correct. This possibility that the actor him or herself may not fully understand why he or she is led to think and behave in certain ways, it should be pointed out, creates the legitimate need for social science to provide that understanding.

Gibson (1986) is clear that an affordance exists regardless of whether it is recognized as such by the actor (or, indeed, animal, since affordance theory applies equally well to any sentient being). While Gibson was inspired by the notion of “demand character” introduced by the Gestalt psychologist Koffka (1935), he nevertheless rejects the idea that the meaning of something is assumed to change as the observer changed (Gibson, 1982, p. 409). “The affordance of something does not change as the need of the observer changes. Whether or not the affordance is perceived or attended to will change as the need of the observer changes but, being
invariant, it is always there to be perceived.” (Gibson, 1982, p.78). In that sense, affordances are real although they go beyond value-free descriptions of the environment as they are relational and express environmental attributes relative to human. In organizational contexts, HMI studies have shown that the affordances of objects and workspaces perceived by the people actually using them may be subtle and unrecognized by users, designers or managers until change occurs. Many crucial aspects of behaviors, especially social behaviors tend to implicit and difficult to articulate and capture. Studies show that new technologies are often disruptive, unveiling the subtleties of the existing practices and the affordances on why they rely and the affordances of the new technology. Hutchins (1995), for example, studied the effects in airplane cockpits of the replacement of the interconnected mechanical control wheels used by pilot and co-pilot with more modern individual joysticks. The joysticks were designed to have all of the functionality of the old control wheels and more. It was discovered, however, that pilots had come to rely upon an affordance of the old system that hadn’t been recognized by designers: when the pilot turned the control wheel, the co-pilot’s wheel turned as well. This was an accident of design, not an intended functionality, but it had the effect of signaling the pilot’s moves to the co-pilot without the need for explicit conversation or instrumentation. Similarly, Mackay et al. (1998), found that attempts to modernize the IT systems used by air traffic controllers failed in part because the new system replaced the paper flight strips that controllers used to represent individual aircraft with on-screen representations. Though the electronic versions contained the same information, they lacked other affordances of the paper strips that supported the personal memory, peripheral awareness, and collaboration of the controllers. Unintended consequences can result from designs, or redesigns, that do not reflect a full understanding of the affordances.
involved. Unintended consequences can result from designs, or redesigns, that do not reflect a full understanding of the affordances involved. The role of the affordances in the environment becomes obvious when a new piece of technology, with a new set of affordances that do not support the current practice is introduced.

Similarly, Bourdieu (1977; 1990: 59) argues that habitus typically goes unnoticed except in times of crisis where the field to which the habitus is attuned suddenly changes, or when we are confronted by people of a different class, i.e., someone who, because of the different conditions of their history, has a different habitus. Bourdieu goes further to note that sometimes active misrecognition of the way in which habitus shapes behavior is a prerequisite for that behavior. This is partly because introspection and interpretation disrupts the natural flow of the performance of the practice, but it is also because sometimes the practice itself depends on actors’ misrecognizing the actual reasons underlying the practice, pretending other reasons obtain. Thus, for example, “the harder it is to exercise direct domination, and the more it is disapproved of, the more likely it is that gentle, disguised forms of domination will be seen as the only possible way of exercising domination and exploitation” (Bourdieu 1990: 128). Gibson neither explicitly considers, nor says anything to contradict the possibility of the active misrecognition of affordances, but we consider it below.

Beyond the similarities of affordance and habitus, there may be a more direct link between the concepts. There is evidence from HMI studies that the perceptual cues of affordances can be learned as social convention. While Gibson’s (1986) original experiments focused on the perception of affordances via cues that he believed were innate to the species—terrain features that afford locomotion, for example, or physical properties of objects that afford grasping—research has shown that affordances,
especially of man-made objects, are linked to a complex web of cultural knowledge and conventional rules regarding use (Hutchby 2001). Furthermore, once we learn associations between perceptual signals and specific affordances, we transfer that knowledge from one domain to another. Having learned the complicated set of associations between window, icon, mouse, and pointer in one computer program, for instance, users apply it to new programs they encounter and are frustrated by inconsistencies (Dix et al. 1998). In other words, the affordances of an environment arise from its social meaning, and conventional rules regarding use—its social construction—in addition to its physical properties. Conversely, Bourdieu is clear that habitus is not merely cognitive but embodied, literally, in our movements, gestures, and posture (Bourdieu 1990: 70). Yet Bourdieu’s theorizing tends to exclude the physical reality of the environment, considering the physical world primarily in terms of its symbolic meaning. Thus affordance and habitus complete each other, bringing together the social and physical in an integrated theory of practice.

**An Empirical Example**

These conceptual tools—habitus, affordance, field, class, and the rest—are best measured not on logical or conceptual grounds, Bourdieu and Gibson alike warn us, but by how well they help us to understand phenomena of interest. Bourdieu’s work is well known within organization theory and many examples within the literature attest to its pragmatic value. Gibson and affordances have received more limited coverage in this literature, however, and so it is worth showing how the theory of affordances can help us describe a particular practice. In general, an explanation of the affordance of a particular social behavior by a given setting would answer two questions. The first question is what are the environmental requirements of the
practice? The second question is what are the physical and social characteristics of the setting that may fill those environmental requirements and signal the affordance to perceiving actors.

In this case, the practice is that of informal interaction: the discussions around the water-cooler or next to the photocopier that have been identified as a key element of management work (Dalton 1959; Kotter 1972; Mintzberg 1973), a factor shaping the rate of innovation (Allen 1977) and cooperation (Pinto et al. 1993) in organizations, and the basis for social network formation (Raider and Krackhardt 2001; Brass et al. 2004). As we discuss below, in the case of informal interaction, prior theory has identified two environmental requirements. People must come into unplanned contact with others (propinquity), and people must be able to control the boundaries of their conversation (privacy). The theory of affordances helped us identify in our data a third environmental requirement: people must feel that it is socially acceptable to stop and talk to each other in this setting (social designation). Thus, settings must have the correct propinquity, privacy, and social designation to afford informal interaction. The question of what are the physical and social characteristics of the setting that may fill those environmental requirements is an empirical question and to answer it in the following sections we draw upon previous studies as well as our own qualitative study of informal interactions. We find that the key characteristics fall into three dimensions: architecture, geography, and function.

The data and analysis we describe are drawn from a larger study of diffuse collaboration in three organizations. Observing that informal interactions played a key role in diffuse collaboration, and noticing differences in the patterns of interactions at these three sites, we were led to try to understand better why some settings trigger more informal interactions than others. By definition, informal
interactions cannot be planned or regulated by fiat, but the likelihood of their occurrence can be influenced through indirect means. Research examining these effects, though, has produced contradictory results (Allen and Gerstberger 1973; Oldham and Brass 1979; Sundstrom et al. 1980; Szilagyi and Holland 1980; Hatch 1987) and we lack, however, a good theoretical understanding of exactly how setting influences informal interaction. We believe that affordances provide a relevant lens of analysis and a medium way that allows us to analyze the ways the physical characteristics and social processes are intertwined. We illustrate this with the empirical example of the affordances of informal interactions.

*Theories of Privacy and Propinquity*

Existing theories of the relationship between informal interaction and setting can be divided into two strands: theories of privacy and theories of propinquity. Theories of privacy hypothesize that enclosed spaces foster informal interactions because people feel more comfortable to talk when they can control the boundaries of their conversation. Thus, walls, partitions, and other forms of inaccessibility and privacy are predicted to correspond with increased levels of informal interaction.

Theories of propinquity, in contrast, hypothesize that open spaces foster information interaction because they bring people closer to each other. There is evidence that the physical distance separating people at work is likely to decrease exponentially the amount of spontaneous, informal contact among them (Homans 1954; Allen 1977; Keller and Holland 1983; Davis 1984). Open-plan offices, by removing the walls and partitions that separate people and make it more inconvenient for them to encounter each other, then, should correspond with increased levels of informal interaction.
The empirical evidence supporting each theory is contradictory and lends support to both of these incomplete theories. In favor of theories of propinquity, there is evidence that the physical distance separating people at work is likely to decrease exponentially the amount of spontaneous, informal contact among them (Homans 1954; Allen 1977; Keller and Holland 1983; Davis 1984). Studies of the behavioral impact of open-plan office layouts by Oldham and Brass (Oldham and Brass 1979), Oldham and Rotchford (1983), and Hatch (1987) have found similar results: lower levels of informal interaction among people working in open-plan offices. In contrast to this, studies of the behavioral impact of open-plan office layouts by Allen and Gerstberger (1973), Ives and Ferdinands (1974), and Szilagyi and Holland (1980) provide evidence that open-plan office architecture is associated with more, not less, informal interaction among workers.

Beyond the contractions: affordances

While space has been ignored in most organizational studies, which tend to focus on power and culture to analyze social interactions in organizations, we claim that space is an important element to consider and that social interactions can be analyzed as a sign of complex material influences. As authors such as Zalesny and Farace (1987) and Hatch (1991) have indicated, there is a need to build on existing social relations and sociotechnical approaches to reconcile these contradictory results and to take into account the ways in which the meaning of physical characteristics are socially constructed and the ways in which social understanding and individual perceptions are shaped by the physical environment. Both privacy and propinquity have social as well as physical entailments. For example, privacy, is partly a function of the visual and acoustic isolation of a space, partly a function of the social definition
of the place (Buttimer and Seamon 1980; Gieryn 2000). Similarly, propinquity is partly a function of physical proximity and partly a function of social norms. While theories of propinquity presuppose that a decrease in distance between two people is associated with an increase in their obligation to communicate with each other (Sykes et al. 1976; Schutte and Light 1978), interaction obligation, however, has social, not physical origins, and its contours are socially defined. Further, as Hall (1966) shows, there are national, regional, and ethnic cultural differences in the relationship between physical distance and interaction obligation.

Moreover, we believe that the second step towards a reconciliation of the conflicting findings in the literature is to remove the presumption of physical or social determinism and bring the individual back in. Where interaction obligation socially exists, it may be resisted by individuals. The result will be an awkward social situation: uncomfortable, probably, but not uncommon. Individuals may always decide to violate social norms about the sort of interaction behavior appropriate in a given situation—they may be rude, in other words—and they may decide to go ahead and speak even when their conversation can be overheard. This agency is not an error term, it should be explicitly taken into account by our theorizing. The notion of affordances as described above is a powerful tool to understand why certain settings trigger informal interactions, and sometimes even obligate it. The notion of affordance allows us to bring agency back into our theorizing while still recognizing that the physical and social characteristics of an environment pattern the behavior within.

As exposed below, we conducted observations of informal interactions in photocopier rooms in three organizations reveal a set of physical and social characteristics that create an environment fostering informal interactions. These
studies illustrate how the concept of affordance provides a relevant lens to understand the relationship between a particular environment and the behavior of actors within it, and to provide an analysis recognizing both the physical and social aspect of an environment. Our observations showed different interaction patterns. From a purely deterministic perspective, according to which forms of space actively cause social interactions, the three copier rooms are too similar to explain the differences. Social constructivists approaches have highlighted the importance of power, culture in the negotiation and construction of meaning and social interactions in organizations. However, our observations showed that some of the physical characteristics of space constrained social interactions, e.g. if a room is completely remote and far from any traffic, there is little chance that informal interactions would occur in it, even if it is officially designated as a room for social interactions.

**Research design and settings**

The data collection began at the first site, a department within the research center (RC) of a publicly-owned utility in France. The research was inductive and initial observations centered around collaboration involved in making copies department within the research center (RC) of a publicly-owned utility in France, with a general focus on the impact of technology on office work and organizational behavior. The photocopier room was a public space where an observer was not intrusive, as she was, for example, when she observed people working in their offices.

Three intriguing and unexpected findings emerged from the data. First, while observing the job of making copies, we realized that although usually thought of as an individual act with little place for collaboration, in fact making copies is usually a collective activity involving the joint activity of a number of people. This
collaboration is diffused in the sense that it takes place at no single point in place or
time, or between identified participants. Moreover it often goes unnoticed, and even
becomes invisible (Nardi and Engestrom, 1999)

A second unexpected and intriguing finding emerged from these observations, and
that was the degree to which people interacted with other people in the photocopier
room. These social interactions were sometimes related to the copying job (e.g. how
the paper is loaded into the machine to prevent jams or how the toner cartridge is
installed, how to get access to different resources), or to the use of other artifacts such
as the fax machine, or the printer, but not always. We indeed observed people were
observed turning to each other for help in operating the photocopier, watching each
other to learn more about how to operate the machine, and commenting on its
operation. We also observed people negotiating access to the copier or ot the fax
machine, but we also observed people talking about common projects, gossiping
about the organizations, or talking about personal matters, e.g. The nature of the task
might help as photocopying is also a relatively mindless task that allows conversation
during its operation.

Intrigued by the evidently social nature of photocopying, the first author
conducted studies of photocopier rooms in two additional organizations—departments
with a commercial publishing house (PH) and a business school (BS), both in
France—to gather comparative observations. Similar to the first site, in the second
and third sites the photocopier room was a special-purpose room containing the
photocopier, fax and printer (see annexes 1, 2 and 3 – maps and descriptive tables).

The third intriguing finding was the differences in the interaction patterns. While
we observed many interactions with and around the copier at the Research Center and
at the Publishing House where there were often several people in the copier room,
either lining up to make copies, or picking up printed jobs, sending faxes, etc., we observed only a few interactions at the Business School. Copies were mainly made by secretaries, most of the time standing alone in the copier room. Hence, our analysis focused on understanding why these different settings were affording, or not affording informal interactions.

**Data collection**

A qualitative field study is the appropriate way to investigate the affordances of informal interactions for two reasons. First, affordances may be subtle, and often are not recognized consciously by actors themselves, and there is a need to go beyond the commonsense ideas that have led to the unintended consequences experienced by organizations when trying to design settings to increase informal interaction. The direct observation of informal interactions in three comparable organizational sites is the correct vantage point for this. Second, to understand the effects of the jointly physically and socially constructed environment, and to move beyond simple models of causality to a model of affordance, a holistic and interpretive approach is called for that is more easily achieved in qualitative work. Furthermore, the field study helped us build theory by allowing us to unpack the categories of privacy, propinquity, and social designation—which were deduced from the literature and identified in the data—in order to uncover the actual physical and social characteristics that constitute them.

Observations were conducted by the second author over an 18-month period in the Research Center and the Business School and over a 3-month period at the Publishing House. The researcher spent one or two days a week in the copier room, observing and taking detailed notes. Thirty-eight hours of videotape were also taken and were
used as a backup to the written notes. In-situ interviews were conducted with 16 subjects. The protocol was to ask the subject about their most recent social interaction in the photocopier room and then ask them to reflect on their more general views about why the photocopier room either was or wasn’t a place where informal interactions regularly occurred. The interviews were short, five to ten minutes, and conversational. Commonly, subjects spoke about previous informal interactions in the photocopier room and drew comparisons to interactions patterns of other sites. After we had begun to analyze the data and had tentatively identified the core categories of our theory, we re-contacted three informants who had been helpful during the field study to check our understanding and ask them more specific questions about the social and organizational context.

Analysis

We analyzed the data in three phases. Having shifted the fieldwork from a focus on person-to-machine interactions to person-to-person interactions, we were nevertheless still concentrating during the first phase of analysis on the effects of the machines and other elements of the physical environment—the architecture and geography of the photocopier rooms, the technical characteristics of the machines present—on interaction behavior. We constructed narratives of episodes observed in the three sites and detailed descriptions of each site. It became clear that physical characteristics alone were not sufficient to explain what we were finding, and that they certainly did not exert a deterministic influence on social interaction. Specifically, we observed strikingly different patterns of informal interaction at BS compared to RC and PH that we could not account for physically. Consistent with the advice of Strauss (1987) and Becker (1998), we turned to the literature and
existing theory to help us focus our coding and analysis in the second phase. Recognizing the theoretical importance of privacy and propinquity for informal interaction, we coded the data for these two categories (see Appendix for the full coding tree we generated during our analysis). This meant listing the elements of the sites that had a positive or negative effect on privacy and propinquity. Specifically, these were: architectural elements such as windows, doors, and partitions; geographical elements having to do with where the photocopier room was located and how it was situated; and functional elements concerning the objects in the rooms—photocopier, fax, printer, but also in some cases bulletin boards, supply cabinets, and mailboxes—and their technical and social function. Then we divided the data into discrete moments of interaction, or potential interaction—what we labeled, near-misses—to understand the role of our listed elements of the environment in each. We focused especially on moments where privacy seemed to be an issue—for example, people suspending a conversation when a third party entered the room or when the room quieted—and the same for propinquity—for example, people encountering each other and either interacting or not and people nearly encountering each other but failing to do so.

From this second phase of analysis we concluded that the categories of privacy and propinquity explained much about why environments characterized by certain combinations of geography, architecture, and function fostered informal interactions, but not everything. Something was missing. Drawn to think of the ways in which the people we were studying might find their photocopier room to be a natural place for informal interaction for similar reasons that we, as researchers, found photocopier rooms to be natural places for observation, we began to consider the ways a physical environment, as Hillier (1996: 190) puts it, “creates a pattern of normal expectation
about people. These expectations guide our behavior. Where they are violated, we are uncomfortable and behave accordingly.” We found a parallel to the attention paid in studies of the affordances of technologies to conventions of use. The geography, architecture and function of a place not only bring people together and provide the opportunity and obligation to converse as well as the necessary control over the boundaries of the conversation for people to feel comfortable interacting, they also index certain cultural norms designating what is appropriate and expected behavior in a place like this. This led us to add a third dimension to our interpretation: social designation.

The final phase of our analysis was to go back through all of the episodes of interactions and near-misses to test whether our categories saturated the data: that is, whether every episode could be explained in terms of the privacy, propinquity, and social designation of the photocopier room by virtue of its geography, architecture, and function. For episodes that were complicated or equivocal, we contacted informants at the three sites to help us with interpretation. We found that the theory adequately explained the influence of the environment, the photocopier room, on the interactions and non-interactions, though there were some interactions that it couldn’t explain. Our interviews revealed instances, for example, where people were in a hurry but said they otherwise might have stopped to chat, or where people confided that they didn’t like the person they had encountered and that is why they didn’t interact with him or her, or where they might not have stopped to interact but they were feeling a little bored or lonely. The photocopier rooms at RC and PH afforded certain kinds of informal interaction, but didn’t determine them, and the photocopier room at BS afforded far fewer, though didn’t prohibit them. The qualitative data allow us a thickly detailed understanding of what this means.
Below we describe more in details the three characteristics that have to be present for spaces to informal interactions: propinquity, privacy, and social designation.

**Propinquity**

The first and most obvious characteristic of a space that fosters informal interaction has to do with its location. Informal interactions occur only in spaces where people can encounter each other. The space must be easily entered and exited. It must also be central in the sense that people pass by regularly and can see each other. They may stop to chat without fear of feeling trapped and having to stay longer than they intend. Centrality is not only a matter of geography, it also depends on the functions of the setting itself – why people have to go this space or not – and how close it is to other functionally important locations, e.g. staircases, elevators, bathrooms.

Taken together, we can see these different elements of centrality producing much of variation observed among the three copiers at RC, PH and BS. At RC, the copier is located centrally and people always check who is the room as they pass in the hall. Heavy traffic passes by it because of its position very near the elevator and the meeting room also used as a coffee room and next to the mailboxes. Similarly in PH, where we also observe a high level of interaction action around the copier, the photocopier room is centrally located near offices. People can see through its open door and through its window onto the corridor at a lively scene in the mornings as people get their coffee from the kitchen and take it into the photocopier room to get their mail. The presence of people attracts others. This stands in stark contrast to the pattern at BS where the photocopier room was out of the way and thus had no
incidental traffic past it, no window to make it easy for passers-by to see who might be in the room, and little observed informal interaction.

The social and technical functions of the three copiers also explain the different patterns of interactions. When we think of other archetypal locations that foster informal interaction, many of them share the characteristic of housing a shared resource or technology that provides legitimacy: the water-cooler, the coffee machine, the mailboxes, the cafeteria, the restroom. At both RC and PH, the photocopier room shelters all the shared machines (copier, printer and fax) and certain information resources (bulletin board at the RC; mailboxes and bulletin board at the PH). Therefore, as we saw in the example above, many social interactions not necessarily linked to the copier take place around the copier. On the contrary, in environment such as at BS, where the secretaries did most all of the copying and because they could easily coordinate among themselves to avoid waiting at the copier, there was little legitimacy being in the photocopier room except to make copies or pick up faxes or printouts. It was a source of surprise and note if others—even those with the ostensible right to use the copier, as indicated by their possession of a copy card—were discovered by a secretary in the photocopier room making copies.

Privacy

The sensitive nature of many informal interactions and the possibility that any discussion may eventually lead into sensitive areas make a degree of privacy an essential characteristic of a space that fosters informal interaction. What is important is that people be able to control the boundaries of their conversation—be heard by only those they want to hear them and be sure they are not overheard. Informal interaction in the absence of such privacy—talking in a corridor, for example—risks
being silenced or broken up by the appearance of others with concerns raised about what the person might have heard.

The photocopier rooms at RC and PH provided a good level of privacy. They are examples of what Alexander (1977) calls “half-private” spaces, like alcoves. Indeed, they were spaces with good visibility so that actors can see in advance when they are about to have their privacy interrupted and can stop talking in time to avoid embarrassment. The presence of windows onto the corridor (at PH) and open doors has an important, but subtle, influence on the perceived privacy of organizational spaces in situations where actors want the content of their informal conversations to remain private but they don’t mind the fact of the interaction being publicly known.

**Social Designation**

We found that the location, the number of walls and windows, the type of resources made the space more or less accessible (propinquity) and provided the participants more or less control (privacy). Yet, our observations showed that the difference between the three sites we observed was more than the balance between propinquity and privacy. We realized that for a space to afford informal interactions, it has to be perceived as natural, comfortable places for informal interactions. In other words, people must not fear embarrassment or discredit if they are discovered in the space. The space must offer some reason for people to go there, to stay there for a period of time, and to talk to one another while they are there. In office settings where everyone makes their own copies, the copier machine offers almost an ideal situation of legitimacy for people in the photocopier room. Making copies is a legitimate act of work as is waiting to make copies. Meanwhile, operating the
machine requires constant physical presence but little mental energy. Conversation under those circumstances is natural.

This last characteristic of affordances is captured by what we call the social designation of space, i.e. how people perceive the space as an “appropriate” space for informal interactions. Social designation involves both physical characteristics play a role – whether the space is spacious enough, whether it offers several types of resources, e.g. and social processes (practices, interpretation and negotiation of what is appropriate, etc.).

Affordances are both functional - in the sense that they are constraining and enabling, and relational - they may vary depending on species in nature, and on the organizational culture in organizations (Hutchby, 2001). In our study, the functional aspect of affordances involves the physical characteristics of the space that enable and constrain informal interactions. Social designation corresponds to the relational aspect of affordances. It is interesting to note that because affordances are relational, in some cases the range of affordances is not fully and immediately available and the social designation has to be made more explicit. Hence, in some cases, even if the space seems to have the right set of functional characteristics to offer interactions, management needs to indicate that the use of the space afforded by the functional characteristics is acceptable, even desirable in the organization (Horgen et al. 1999: 214).

**Discussion and conclusions**

This paper argues that Gibson’s (1986) theory of affordances offers a useful way of thinking about how practice is patterned by *setting* that neatly complements Bourdieu’s (1990) theory of habitus, which provides a useful way of thinking about how practice is patterned by *structure*. Habitus and affordance fit together to provide
a more complete understanding of practice. Indeed any theory of practice must negotiate between voluntarism and determinism on the one hand, and subjectivism and objectivism on the other hand, and both Bourdieu with the notion of habitus, and Gibson with the notion of affordance do negotiate with both dualisms, hence providing a powerful language for describing practice and allowing us to consider seriously the role of practice.

As it is usually formulated, Gibson’s theory is limited, because of its psychological origins, by its individualism. Where ecological psychology considers social interaction at all, it tends to be in terms of the affordances of other people perceived by an agent. As with other elements of our environment—space, artifacts, technology, etc.—our perceptions of other people arrive immediately with information about the opportunities they afford for acting, interacting, and being acted upon—physical threat, sexual availability, cooperation, communication, etc. (Zebrowitz and Collins 1997). What has been missing is attention to social affordances: how the social construction of a physical environment impacts the practices afforded by that environment. It is here that Bourdieu’s work fits and that the concepts of affordance and habitus come together.

Habitus and affordances are complementary. Bourdieu highlights the importance of the body and the role of the environment. Bourdieu argues that habitus does take the objective conditions of existence directly into account. However, what he has in mind are structural issues (objective conditions such as status, power, wealth, etc.). Where affordances makes a nice contribution is in considering the physical objective conditions of existence. Affordances recognize the social construction of the setting but focuses more on the physical characteristics of the environment.
Yet, let not think that the key distinction between habitus and affordance is a more physical or a more social focus. The key difference is between structure and setting or field and setting. Indeed, while habitus helps us understand how the field patterns behavior, affordance helps us understand how the setting shapes behavior. A field is the network of relationships that create the conditions that condition the habitus (Bourdieu and Wacquant 1992: 94-97). It is the set of objective conditions that triggers this set of relationship between people. It presents (affords?) them an infinite, but strictly limited, set of possible actions. Similarly, the setting affords a set of possible behaviors and actions to people. These will be the possibilities for action that show up, either consciously or unconsciously, for the actor.

Our three studies illustrate how the concept of affordance provides a relevant lens to understand the relationship between a particular environment and the behavior of actors within it, and to provide an analysis recognizing both the physical and social aspect of an environment. Our observations of three copier rooms showed that neither proximity alone, or privacy alone could explain why some spaces triggered informal interactions and some did not. They also highlighted the importance of the social significance of space. The location, layout, and function of the photocopier rooms do something more to afford informal interactions than merely provide the necessary balance of privacy and propinquity. While space has traditionally been defined in terms of its structural and geometrical properties and as a passive host for the interactions occurring in it, we argue that the social meaning of the physical environment has to be recognized. We need to explain the space as a place where certain things are expected to happen (Buttimer, 1980; Gieryn, 2000) and the concept of affordance provides an interesting framework which allows to understand why certain interactions are expected to occur in certain environments.
The notion of affordance therefore provides organizational scholars with a relevant framework to study organizational space and understand its influence on social interactions. Space is socially shaped, but it also presents some constraints that are best understood as grounded in the affordances that a space provides. Affordances enable us to pay more attention to the material characteristics of organizations (space and more generally, artifacts and technology) and understand how this material aspect constraints and enables different types of interactions.

The ecological perspective and the notion of affordance proposed by Gibson questions the tendency that traditional psychologists have to describe perceptual phenomena in terms of cognitive structures as memory and problem solving. The ecological perspective when applied to social phenomena challenges the tendency that many social scientists have to invoke sociological and anthropological concepts such as social convention "rather than recognizing the degree to which social activities are embedded in and shaped by the material environment" (Gaver, 1996). Once again, Gibson’s and Bourdieu positions are incredibly close. Bourdieu’s habitus provides a way to conceptualize how social structures influence practice without reifying those structures. Similarly, affordances provide a way to conceptualize how environment shape practice without reifying it.

Therefore, adding the notion of affordances to their conceptual toolkit will allow organizational and management scholars who are interested in understanding practice (Barley and Kunda, 2000; Orlikowski, 2002) to take into account the materiality of practice through an understanding of the affordances of the environment and of the artifacts. It offers a way to understand the situated nature of practice i.e. how people’s actions are highly dependent upon its material and social circumstances, influenced by the context of their specific situation (Suchman, 1987).
Figure 1: Research Center Overview

Floor Plan:

Technical Summary:

Space of department office: Distributed on two floors
Location of the photocopier room: Central
Pedestrian traffic past copier room: Heavy
Windows: On outside
Size of the department: 20 people
Number of users: 20: 12 frequent users; 8 less frequent users
Average number of people in the copier room when Between 2 and 3 it is not empty:
Percentage of time when it is empty: 30
Who makes the copies: Everybody
Is there someone in charge of the copier: Yes
Resources in the room: Fax machine, photocopier (also functions as printer), office supply cabinet, 2 bulletin boards
Figure 2: Publishing House Overview

Floor Plan:

Technical Summary:

| Space of department office: | One floor |
| Location of the photocopier room: | Central |
| Pedestrian traffic past copier room: | Heavy |
| Windows: | On the corridor |
| Size of the department: | 8 people |
| Number of users: | 8 |
| Average number of people in the copier room when it is not empty: | Between 3 and 4 |
| Percentage of time when it is empty: | 30 |
| Who makes the copies: | Everybody |
| Is there someone in charge of the copier: | No |
| Resources in the room: | Fax machine, shared printer, mailboxes, bulletin board, photocopier |
**Figure 3: Business School Overview**

**Floor Plan:**

![Diagram of the business school floor plan showing the location of the secretaries' office, mailboxes, elevator, photocopier room, fax machine, computer cabinet, supply cabinet, and staircases.]

**Technical Summary:**

- **Space of department office:** Distributed on two floors
- **Location of the photocopier room:** Isolated
- **Pedestrian traffic past copier room:** Light
- **Windows:** None
- **Size of the department:** 20 people
- **Number of users:** 3 frequent users (the secretaries)
- **Average number of people in the copier room when it is not empty:** 80
- **Who makes the copies:** Mostly the secretaries
- **Is there someone in charge of the copier:** Yes
- **Resources in the room:** Fax machine, shared printer, office supply cabinet, photocopier
REFERENCES

Allen, T. J. and P. G. Gerstberger

Allen, Thomas J.

Barley and Kunda

Becker, Howard S.
1998 Tricks of the trade: How to think about your research while you're doing it. Chicago: University of Chicago Press.

Bourdieu, Pierre

Bourdieu, Pierre

Bourdieu, Pierre and Loïc J. D. Wacquant

Brass, Daniel J., Joseph Galaskiewicz, Henrich R. Greve and Wenpin Tsai

Buttimer, Anne and David Seamon, editors

Dalton, Melville

Dix, Alan J., Janet E. Finlay, Gregory D. Abowd and Russell Beale

Gardner, Howard
Gaver, William W. 
1996  'Affordances for interaction: The social is material for design'. *Ecological Psychology* 8/2: 111-129.

Gibson, James J. 

Gieryn, Thomas F. 

Grezes, J. and J. Decety 
2002  'Does visual perception of an object afford action? Evidence from a neuroimaging study'. *Neuropsychologica* 40: 212-222.

Hatch, Mary Jo 
1987  'Physical barriers, task characteristics, and interaction activity in research and development firms'. *Administrative Science Quarterly* 32: 387-399.

Hillier, Bill 

Horgen, Turid, Michael Joroff, William Porter and Donald A. Schon 

Hutchby, Ian 

Hutchins, Edwin 

Koffka, K. 

Kotter, John 


Mintzberg, Henry 

Norman, Donald A. 
Norman, Donald A.

Oldham, Greg R. and Daniel J. Brass

Orlikowski, W.J.
2000  'Knowing in Practice: Knowing in Practice: Enacting a Collective Capability in Distributed Organizing'. Organization Science Vol. 13, No. 3

Pinto, Mary Beth, Jeffrey K. Pinto and John E. Prescott

Raider, Holly and David Krackhardt

Strauss, Anselm L.
1987  Qualitative analysis for social scientists. Cambridge: Cambridge University Press.

Schuman, L.

Sundstrom, Eric, Robert E. Burt and Douglas Kamp

Szilagyi, Andrew D. and Winford E. Holland

Tucker, M. and R. Ellis

Tucker, M. and R. Ellis
Turvey, M. T., R. E. Shaw, E. S. Reed and W. M. Mace
1981  'Ecological laws of perceiving and acting: In response to Fodor and pylyshyn'.

Ullman, Shimon