Making room for affordances

September 30, 2009 · Philosophy
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Abstract

This is a conceptual paper about ‘affordances’. It is inspired by Gregory Bateson (1972) who argued that consciousness is a person/environment interactive process; we will focus on how relationships between environments and organisms lead to perceived possibilities, actions, and cognition. Both the relationships between environments and persons, and the relationships between persons and environments count. The connection between world and consciousness is dynamic. There is a mutual causal link between circumstances and organisms. We argue that the world via affordances presents itself to consciousness. Emergent possibilities afford; complexity affords. Scott Kelso’s ‘complementary relating of contrarieties’ affords. Affordances are the dynamic reciprocal relationships between animate persons and their environments. Affordances are in-between—their cognition is situated and contextual. Affordances are the a next frontier for organization studies.

Introduction

Profundely influenced by Micheal Foucault and Jacques Derrida, most social complexity theory has focused on the knowing languaged-based subject (Cilliers, 1998). In Foucault’s terms, (social) cognition is grounded in the historically specific episteme. Complexity scholars have asserted that the contemporary episteme is complex—that is, it is emergent, dynamic and resembles a strange attractor. The episteme characterizes the dominant way of seeing, and operates as a very socially and economically powerful hermeneutic. The contemporary episteme, Foucault argued in the mid-twentieth century, has centered on ‘discipline’ and ‘power’—i.e., it focused on the ways of structuring physical and mental existence prerequisite to the development of technology and industrialization, physical and social science, bureaucracy and globalization, material wealth and post-Fordist capitalism. Derrida focused specifically on how texts emerge from one another, refer and defer to one another, and form complex webs of signification. Text-based consciousness (which includes art, music, mathematics, etcetera—i.e., a great variety of forms of text)—it is asserted, is the only form of consciousness that we (can) know. Text is emergent, dynamic and operates in webs of relationship and pre-assumptions. While a social complexity theory grounded in Foucault and Derrida is revelatory; it is very perception and consciousness directed. The danger is that ‘world’ gets lost in some sort of consciousness studies. Without wanting to trash the Foucault-Derrida interpretation of complexity theory, in this article we focus on ‘affordances’—i.e., not on language, but persons and circumstances. It is our conviction, with Bateson, that complexity involves a multi-dimensional ecology of world and consciousness, objects and perception, opportunities and language.

We examine here the concept of ‘affordances’—the assumed mechanism(s) whereby complexity presents itself as (weak) signal(s) to consciousness. The “World”, in the form of affordances, invites response by subjects. Affordances act as attractors drawing humans into action. Humans are not in a universe of dead material (hyle), but live in a world of active subject-world inter-relationship(s). The world acts, makes occur and initiates possibilities. ‘Affordance’ is a word for this activity.

This article does not debate epistemological or research methodological issues. Obviously experience would remain unheard of and unanalyzed if it could not be named. As Karl Weick keeps repeating, what actually is cognized and named undergoes sensemaking after-the-fact (Weick, 1997). But as Bateson insisted, language and existence (i.e., knowing and world) are two dimensions (or two sides of the coin) of the same existence. Of course, the world that we can know at any one point is deeply determined by our assumptions, thought processes and mental characteristics; but our mental structure(s) have to do with the materiality of the brain, the makeup of our environment and the history of our universe. Weick’s one-sided attention to language based cognition entails putting the material world into the abstract, and produces a mentalist phantasm. Narrative(s) are language-based cognition and language is not the physical, material and living ‘world’. The naming of the ‘affordances’ is not the same thing as the affordances themselves. But it is really meaningless to debate whether affordances give rise to experience, or human perceptual and social assumptions define the affordances. It is both at once. Assumptions, models and speech, resonate with situations, organizations and events. Affordances point toward opportunities and actions—affordances give direction to the potentially unlimited space(s) of (proximate) development. Affordances facilitate the human movement towards world and action. Affordances are what points to the adjacent possible

The theory of affordances rejects the idea of the incommensurability of the known and knower. It embraces Bateson’s ecology of the mind (1972), asserting that the known and the knower are mutually originatory, generative and epistemologically primary. Affordances are about subject/object relationship, interaction and complementarity. Affordances are about opportunities, dangers, and possibilities that call organism, consciousness and environment, to activity and sense-making. Getting the balance right of the ‘something out there’ and the ‘consciousness of the actant’ may be a philosophical nightmare, but we do it every
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Affordances in Ecological Psychology

Affordances occur when self and other, perceiver and perceived, objects and persons meet in actionable combinations. Affordances are relationships—in affordance there is connection, interaction and bonding. Mutually determinative relatedness between life and environment, self and world produces coevolution through action. Persons and situations, information and environments, activities and identities, interact in what is afforded. In particular, we are interested in organizational affordances, or in how physical, individual, and economic environments come together in collective activity. Such activity is emergent; it is neither mechanistic nor voluntaristic. Affordances are neither solely subject driven, nor situationally determined. Affordances are complex and interactional; they mobilize subject and object, consciousness and environment into activity.

Affordances invite participation, action and response. When circumstance invites reaction, context demands a response, or the situation offers opportunity, something is afforded. In affordance, perception, information, and activity are related in a manner that seems to beg for action. Affordances are not just labels—i.e., the product of a subject's naming something. Nor are affordances retrospective—i.e., a quality of reality identified after-the-fact. Affordances are prospective—context invites action, environment points to activity. In the ascribed sense-making of Karl Weick, action is not prospective, circumstance does not invite action and the environment is not proactive. In affordances, world, situation and location, point to action, shout for response and offer opportunities for attainment.

The term “affordance” was first coined by the perceptual psychologist J.J. Gibson (1977, 1979); it referred to actionable properties between the world and an actant (person or animal). To Gibson, affordances are relationships. They exist: they do not have to be visible, known or desirable. Affordances entail the possible relationships amongst actors and objects; they are properties of the world. For instance, affordances are what objects or things offer people to be done with them. Affordances are bestowed by the environment. They are what it offers, provides and supplies. Affordances invite activity, reaction and point to possibilities. An affordance is a relationship between something in the world and the intentions, perceptions and capabilities of a person or persons.

When used in this sense, the term ‘affordance’ refers to the perceived and actual properties of things—primarily those properties that determine just how the thing could possibly be used. A chair affords support and therefore affords sitting. A chair can also afford supporting things and can therefore afford being used as a ‘table’, or it can afford being used as a stepladder, or it can afford being used as decoration, or as an art object (among many other possibilities). Affordances extend across users and vary with them. “An affordance is an action possibility available in the environment to an individual, independent of the individual’s ability to perceive this possibility” (McGrenere & Ho, 2000). But if the connections between perceiver and perceived, i.e., humans and their environment, are fortuitous or absurd; then affordances merely produce senseless illusions, hyper-real absurdities, and postmodern disorder. Sense-making can be illusory, or at its worse, nonexistent. Asserting that an affordance exists does not necessarily mean an avowal of any positive mutuality in perception between self and world. Affordances are adjacent possibilities, but not all possibilities should be acted upon.

Gibson’s ecological psychology studied perception as interaction between living beings (mainly humans) and (their) environment(s). The four distinguishing features to his theory are:

1. Perception is an adaptive process that steers 1. physical (biological) and social (cultural) activity;
2. Perception—for instance, of structured 2. light and sound—specifies opportunities or ‘affordances’ for (inter-)action;
3. Perception reveals (realist) ‘information’ in 3. dynamic interaction with the perceptual environment of surfaces, objects, places and others;
4. Attunement to (potential) affordances is 4. regulated via evolutionary design, individual history, intentionality and context (Based on McArthur & Baron, 1983).

Gibson’s point of departure is his rejection of traditional psychology’s effort to explain perception as stimulus/response or as a communication and computational achievement. The problem with stimulus/response theory is that it really has nothing to say about perception. There is no awareness or mind in the S/R schema—the conscious relationship of a self to a world is not thinkable in S/R terms. Communication and information processing model(s) conceive of perception as a process between sender, signal and receiver. How ‘world’, ‘circumstance’ or ‘reality’ are transformed by a ‘sender’ into ‘signals’, and/or how these
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‘signals’ are re-transformed by a ‘receiver’ into ‘knowledge’ ‘information’ or ‘awareness’, is here an unsolved and unsolvable dilemma. How does a particular circumstance get encoded into ‘signals’ and how does another person ‘decode’ those ‘signals’, back into a ‘representation’? Gibson dismisses ‘representation’ as a confusing and needlessly complicated concept. His assertion is that the circumstances is directly perceived. Perception is of, and in the world. Perception does not depend on mentalist abstractions such as ‘representations’.

| An affordance cuts across the dichotomy of subjective-objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behavior. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer (Gibson, 1979/1986: 129). |

Gibson insists on ‘direct perception’. It is asserted that perception occurs directly, instantly, and non-inferentially. ‘World versus perception’, and subject/ object’ dualism are rejected. Commonly it is assumed that world and perception are two very different orders of things. For Gibson, perception is direct and immediate. He assumes the “ontological homogeneity of perceptual experience and reality” (Oytm & Neilson, 2007). The only world that exists is the world that is perceived. There is not some sort of Being or truer reality behind perception. Ontological dualism—for instance, between the surface and depth levels of experience, or between ‘throwness’ and ‘Being’—is rejected. The authenticity of perceptual lived-existence is incorrigible. Gibson embraces ‘epistemological realism’ in a culture that has accepted skepticism, and wherein the ‘seen’ is thought to be mere ‘appearance’ and the ‘experienced’ is only ‘doxa’, and the ‘lived’ is ‘hyperreal’. For Gibson, to exist is to perceive—existence is the stream of consciousness. Mind and sensible objects are in the act of perceiving, a single phenomena.

The inner sense of place and direction in Gibson is part and parcel of human ambient existence—because humans move constantly about, they inevitably experience an ever-changing stream of perceptions—i.e., an existence that is continually moving about. Perception is not static or stable; it is direct and immediate. For Gibson, experience and ontology are the same thing. Sensible reality just Is. Gibson’s ontology is a radical phenomenological ontology wherein motility and temporality play a crucial affording role. Time and space are not idealized pre-structures of reality; motility and duration are direct experiential qualities of lived circumstance. In the ‘real’, there is spatial as well as temporal movement. Time and space as abstract pre-conscious qualities of mind, destroy the person? world dynamism: for Kelso (see below) ‘? means mutually related and inextricable connected. In Gibson’s theory of affordances, perception or (what he calls) ‘information’ is unequivocally perceived as if world, event, or circumstance directly addressed themselves to the subject. ‘Information’ is ‘invariant’—i.e., the relationship of the ‘here to there’ of the landscape just Is (Gibson, 1979/1986).

In Gibson, ‘affordances’ are specific aspects of the physical and cultural environment that directly address themselves to the user. The user is characterized by a particular form of attunement that has coevolved in relationship to the environment. The subject <> environment relationship is co-defined; humans are suited to sight, the seen world informs human existence. Self <> world are co-determinant. Humans are defined by how they inhabit and contribute to the sustenance of their environment. Gibson’s point was that perception should not be conceived of as psychology was wont to do—that is as a passive internal matter of representation. Perception is not a matter of reactive senses merely receiving physical sensations. It is a living action of an open system that by its very nature is attuned to interact with its environment. Gibson insisted that perception is coevolutionary. For instance, perception is a quality of motion; and motion makes perception necessary.

For Gibson the relationship of a species to its affordances is dialectical. The species is characterized by what it makes of its affordances (or environment), and its affordances (or environment) provide it with its niche or opportunities for living and existing. An opportunity is only proven to be an opportunity if a species actualizes it. For Gibson affordances exist on the species and not on the individual level. An affordance is a possibility of perception, action and existence, whether or not that opportunity is presently actualized. But at this point, Gibson’s theory runs up against an epistemological barrier—how does the individual researcher know if something is or is not an affordance? If affordances are unknowable, the theory becomes fairly irrelevant. How could an individual observer claim species wide awareness? The answer is that he or she cannot do anything of the sort. Gibson limited his research into affordances, to basic, very abstract perceptual themes. On this level of universality, he could avoid epistemological dilemma. But epistemological problems became very visible when for instance Gaver (1993) and Norman (1988) applied the theory of affordances to design, or when Costall (1995) and Gombrich (1999) tried to analyze social and cultural factors.

Gibson tried to overcome the subjective/objective divide by studying the material conditions of human activity. An affordance, for him, is a physical attribute; such as, rocks afford: throwing, catching, injuring, collecting, etcetera. But surely a subject never responds to all the possible affordances at once. Affordances always stand in relationship to an actor and human actors are inevitably social. Affordances are not pre-social or universal, but are part and parcel of concrete events and interactions (Costall & Still, 1989). Culture is not located in the head, but in the everyday affordances of practice. The socially constructed environment hides some affordances, emphasizes others, and continually creates new opportunities for action. As Alan Costall has argued, there is no conflict between affordances and culture; quite the opposite, the socio-culturally structured environment, provides humanity with a large portion of its affordances. Gibson wanted to illustrate the subject’s involvement in the materiality of the everyday world. In Gibson meaning as ‘information’ is not generated either by subject or object, but in the space in between them. But Gibson’s only described individual consciousness confronted by an affording environment (Costall, 1995).
There's no explicit acknowledgement in Gibson of social affordances or of how persons collectively produce and consume what they afford one another. Gibson limits himself to relationships with the physical environment and objects. Tools, culture, and humanly mediated circumstances, get short shrift.

Social Affording / Affording the Social

Affordances explain how perception and activity entail mutuality between actor and environment. The focus is on how living beings live in and thanks to their relationships with circumstance. They are in a world that supports, stimulates, and nourishes them. The mental and physical worlds are not separate domains. They merge:

You are a jazz musician playing in a small improvisational group, a quartet, say. You are the undisputed leader of the group. While others may be featured from time to time, you are the one that generally controls the flow of the music. A number of points describe your situation.

1. Action is unavoidable. As the music progresses, you are continually playing, either as the featured player or, occasionally, as part of the back-up. Playing is action. Even if you are not playing, during a brief respite after a long solo, you are still in action, since you are not playing and leading the group at that time also has consequences for the group’s playing.

2. Detached reflection about action is impossible. It is not possible to simply analyze your actions during the course of playing. Actions must take place immediately in order to respond to the group’s playing. After the song is over, you may of course think to yourself that you should have played a series of notes differently, taken a faster tempo, and so on.

3. Action effects are unpredictable. Even if it were possible to step back from the situation and analyze potential outcomes of your actions, the effects of these actions cannot be predicted. If you suddenly change the nature of your playing, perhaps you change rhythm or key, the rest of the group may conceivably be inspired by this innovation and play with renewed rigor. It is also conceivable that the group may dislike your changes, losing their playing energy. You must simply … go with the flow.

4. Stable representation of the situation is impossible. There is no musical score, no written notes. You are simply improvising. After the song ends, you may be able to represent the situation: this solo did this, followed by that solo doing that, and so on. During the song, however, such an analysis is impossible, since you do not have a complete picture of the situation.

5. Representation is interpretation. Even though it is possible to form a representation of the situation after the fact, after the song is over, this representation is still a relativist interpretation. After a really good set, you might want to attempt to write down some of the music for future reference. Your transcription of the music is surely influenced by your current experiences and mood state. If another member of the group, less enamored of the set than you, were also to write down the music, his score would undoubtedly be different from yours. Each of you has the potential to interpret the song differently (Zahorik & Jenison, 1998).
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The person (i.e., the jazz musician) is ‘thrown’ into the situation of the jazz performance. The person is part and parcel of circumstances. For the person, ‘world’ exists as ‘readiness-to-hand’—i.e., the musical instruments, knowledge of jazz melodies, stage and lights, etc., are all absorbed into the activity-at-hand. This metaphor extends well beyond Jazz.

Circumstances are not analytically transparent to the participant; a circumstance is an event, interaction and involves direct participation. Via a deliberate effort, it is possible to reflect on our position in the physical and social environment. But normal ‘knowledge’ is ‘active’—that is grounded in processes of lifelong and continuous interaction. Most of the time, the subject is linked to direct encounters with circumstances and practical tasks. Via ‘affordances’, we live the quotidian reciprocity of self and surroundings. ‘Affordances’ are what the social and physical environment ‘affords the animal, what it provides or furnishes, either for good or ill [and thus] it implies the complementarity of the animal and the environment’ (Gibson, 1979/1986: 127). Reciprocal relations coevolve: they form ecosystems or niches of physical and social existence. Put in physical terms—certain places, offering a knee high surface of support, afford sitting. In mental terms, the musician who starts to play a favorite (jazz) musical theme affords improvisation.

Our world affords looking; it invites ‘visual’ recognizance. It supports visual continuity, wherein the visual appears to give a more ‘universal’ or ‘consistent’ version of reality, than do sound, odor or touch. The visual appears to be ‘laid out before our eyes’ and to be ‘made available to our senses’. In the perceptual ecology of humans, circumstance or ‘reality’ is given or offered to be perceived. Erik Jonssen (2002) has persuasively described such spatial and visual affordances. But his concept of ‘affordance’ is not (entirely) Gibson’s. In his extensive description of the ‘sense of direction’, Jonssen has argued that humans orient themselves via implicit spatial cognitive maps. He asserts that people constantly understand themselves in their physical surroundings via an inner sense of where they are. They non-consciously know where other things are in relationship to where they now are. All of this is felt as a tacit sense of place. It is not analytic or cognitive, but relational and perceptual. It is a directly felt sensation of presence—‘here’ and ‘this place’ are spontaneously experienced via implicit inner navigation. Maps and compasses require abstract comparisons between cognitive models and circumstances. Inner navigation is direct, unmediated and immediately perceived. Such an inner implicit sense of direction, affords human being-in-the-world.

In Garver (1993) and Norman (1988), the application of affordances in a very un-Gibsonian manner looses the quality of radical mutuality:

... the term affordance refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used. A chair affords (‘is for’) support, and, therefore, affords sitting (Norman, 1988: 9).

Norman sees ‘affordances’ as the agency of materials and things—‘when affordances are taken advantage of, the user knows what to do just by looking: no picture, label or instruction is required’ (Norman, 1988: 9). Norman writes about things like stove controls, functions of telephones, light switches and doorknobs. On stoves it is rarely apparent which control is to be used for which burner. Telephones tend to have very few buttons and very many functions, whereby users do not know how to activate the functions. Often it is very confusing which light switch turns which light on or out. Whether a door has to be pushed, pulled, or (often the worst of all) slid aside is mostly unclear from the fixtures. Norman believes that good design should be self-evident; objects should unambiguously afford their functions.

In Gaver (1993), affordances become a form of (social) materialism—i.e., the world’s imprint on the human. Affordance refers to ‘facts of the physical world’ wherein ‘individual activities are shaped by the environment’. Gaver wants to reveal ‘how individuals ... orient to the relevant environmental attributes.’ ‘Affordances’ are primarily facts about the ‘constraints of our physical environment’. The objects are determinant. Affordances, as mutually formative processes, are not relevant here. Gaver examines ‘social interaction’, describing how a lawful physical world exerts material influences on behavior, without making use of ‘convention’ or culture as explanatory principles. Design he argues needs to focus on the material features relevant for behavior. He illustrates his approach by comparing the affordances in information transfer on paper, in comparison to those using electronic media. While paper combines the storage and display functions; in electronic media they are separate. Layers of significance—for instance, via marginal notes or marks of wear and tear—are spontaneously added, one upon the other, in a paper document; but not in an electronic one. With a (paper) book, one can see how far one is and one can literally feel the pages. Originality and authenticity are well served by paper. On the other hand, electronic documentation is much more changeable or adaptable, and supports co-presence and collaborative action. The differences in materiality, supposedly,
provide different sets of affordances. Gaver downplays cognitive structures, such as memory, problem-solving and culture, in order to stress physical factors. He focuses on how social activities are ‘embedded in and shaped by the material environment’. His ‘ecological psychology’ rejects mutualism and embraces a materialism wherein the physical is the determining aspect. Norman (1993) and Gaver (1988) escape the epistemological complexity of mutualism, by reducing affordances to functional or material first-causes, and by relegating consciousness either (Norman) to an epiphenomena, or by trying (Gaver) to avoid it altogether. Ecological psychology without mutual causality becomes just another materialism.

Costall (1995) and Gombrich (1999) make exactly the opposite move. They assume that human affordances are always social affordances, and thus that no concept of affordances can exist without a theory of social hermeneutics. Affordances are inherently interpretative; and interpretation is textual, cultural and illuminative. Gombrich insists that an ecological psychology has to be a psychology of flow or activity. Perception is understood as mutual action—i.e., a process of human interaction and of influencing. Affordances teach us that perception is action—a process of defining possibilities, opportunities and options. Perception is not passive or merely spectator-ial. Gibson’s theory of ‘invariant information’ is applied in a very limited way. Gibson makes use of a very particular concept of ‘information’. In concrete circumstance—i.e., in the world experienced as ‘readiness-to-hand’; some aspects of the situation are directly perceived. Aspects of the condition that are characteristic of it, or that define its affordances, are called ‘information’. ‘Information’ exists on a species level and is circumstantially invariant. Affordances are not particular or moment bound; they are general and ecological:

… Gibson’s assertion that we do not really see the individual aspects of things but their invariants perceived in the round is easily refutable. … Whether we are painters or merely nature lovers, we have the right to examine and admire the … view without wanting to become aware of affordances or indeed of our exact position in relation to these vistas. Enjoying the magic of a sunset we cannot be concerned with invariants. We may respond to its beauty, and this response can also be evoked by a painting, which may arouse a mood rather than a potential for active exploration. Gibson was right in drawing our attention to this latter function and purpose of our senses, but his account may still have to be supplemented by doing justice to the undoubted emotional effects of seeing, effects which may also be wrongly considered to be purely subjective (Gombrich, 1999).

Perception is an act and not an automatic or passive response. Perception is an achievement and not a reflex. Gibson understands perception as a successful interaction between the living being and its environment. Perception is a key aspect—for instance, in determining for humans’ their ecological niche. Perception provides a flow of ‘information’—that is, a stream of possible actions, probable opportunities and the anchorage (order and certainties) needed to be effective. Making contact with the world by exploring its affordances takes many different forms. The tabletop’s affordance may be for depositing things, but it can serve as a platform from which to address a crowd, or be an art object just to be looked at. Gibson’s realism is very problematic—how can one know what is and is not ‘information’?

For Gombrich, the object or tool that is ‘grasped’ with hands or eyes and is experienced as ready-at-hand is appropriated in terms of its affordances. There is no representation or ideation involved; there is a direct flow of perception, motion and action. If that flow breaks down—i.e., the tool doesn’t do what it was supposed to do, or the appearance suddenly takes on an unexpected aspect or significance; then the affordance has to be reviewed. Most often, non-analytical ready-at-hand cognition suffices—things just ‘are’. Most of the time, existence unfolds within the unproblematic perceptual affordances of everyday experience, but not all the time. When everyday affordances do not suffice, then aesthetic analytical and (self-)conscious thought has to take over. Blind response to affordances may suffice much of the time, but some of the time new events and remarkable circumstances demand more self-aware forms of perception.

The concept of ‘social affordances’ provides a unit of analysis, which potentially encompasses both the perceiver and the situated action, and which does justice to the human world. But, what is the nature of the middle ground wherein perceiver and perceived actually meet? To answer requires dismissing the mechanistic world-view, because in it ‘mechanisms do not act unless put into action by an external agency’ (Reed, 1996). But the problem for ecological psychology is: ‘How do persons put themselves into motion?’ Can one retain the Gibson-ian sense of ‘information’ and ‘affordance’, but also acknowledge autonomous agency? Perceivers are not simply perceivers. They have a ‘will’ and ‘do’ things. Affordances may indicate opportunities for action, but that does not alone explain activity. Which opportunity is seized upon and which is ignored? Which affordances define the human or social envelop of opportunity? Posing the question in this manner, parallels Vygotsky’s investigation of the ‘zone of proximate development’ (Vygotsky, 1962). Re-stated in Gibsonian terms, the ‘zone of proximate development’ is characterized by learning whose affordances originate in the physical and social environment. Perception and cognition are processes of change and activity. These processes are emergent—i.e., coevolve within the temporal flow. Reed liberates (Vygotsky’s) activity theory from its somewhat narrow socioeconomic concept of (historical) change by understanding affordances as inherently emergent. Cognition occurs inside an eventful and changing world. Cognition is neither cause nor effect, but both at once. Social affordances are cognition in the world. Perception, information and consciousness, all come together in affordances.

To make the analysis more concrete: the financial crisis of 2008 to the present is illustrative of the working of affordances. According to most observers it was the all-pervasive belief that housing prices could only rise that afforded easy lending and lax regulation, which in turn allowed the housing bubble to inflate. The belief in always-rising prices allowed lenders — supposedly
rationally — to look only to the value of the underlying asset (which the belief set asserted could only rise), rather than to the ability of the borrower to make payments. The same beliefs allowed regulators to be unconcerned when stories arose in the media regarding "liars' loans" (loans made to people who blatantly could not afford them and who lied on their mortgage applications). The belief in rising prices afforded the bullish lack of unease or of controls. Beliefs and stories provided a context that afforded resulting actions.

Complexifying Affordance(s)

The theory of affordances tries to provide a theory of perception that is not lopsidedly directed to mind or world, consciousness or brain, self or object. We believe that social complexity theory needs the concept of affordances to describe 'complexification' and to fill-in its coevolutionary theory of change. Social complexity theory is directed to the self-complexifying nature of individual and/or shared consciousness, and demands whether complexification is a material and/or inherent quality of life. Forewarned of the conceptual pitfalls of social affordances, we nonetheless (re-)assert that there are internal affordings relations between perceiver and perceived. These affordances are "equally a fact of the environment or a fact of behavior" (Gibson, 1979). Affordances produce experienced, perceived properties that create the possibility for certain kinds of behavior. But properties, at a higher level of complexity, cannot be directly ascribed to (lower level) component parts. Key properties do not belong to any single aspect of the organism or organization, but to the relationships between the parts in the whole.

Affordances are emergent. The whole happens—but it can be unpredictable, dynamic and creative. Organization is emergent; it is not a mere collection of pre-defined components. In organizing, the parts of the organization develop in relationship to one another. These parts only take on their identity through their relationship(s) to the whole—the parts and whole are mutually one another's causes and effects. Development of the parts depends on the development of the whole, and vice versa. Obviously the parts do not add up to the whole; the organization or organism is more than the sum of its parts. The organized whole—at whatever complexity or aggregation level—is semi-autonomous. Start-up ventures and entrepreneurs are afforded the opportunity for reward and failure by their (investors') belief in the prospects for success. But profits can depend on labor markets, exchange rates, taxation and regulation, technology, the economic climate, competitors' behavior, etcetera—organizational success of failure occurs in very complex ecologies, however simple the affordances may appear to be at any given moment.

Every aggregation level has its own rules. The genes of the living thing or the atoms of the object do not determine the living thing's identity or the object's characteristics. Context is crucial:

The function of the part depends on its context within the whole. One sees this on several levels involving the gene. First, what a gene "does" depends on its context. The function of a gene or gene product depends on its interactions with other genes and gene products. $?-Catenin can be an adhesion protein in the liver or a transcription factor in the skin. Lactate dehydrogenase can be an enzyme in the muscle or a structural crystalline in the eye. … the whole determines the function of the parts just as the parts determine the function of the whole (Gilbert & Sarkar, 2000: 6).

The environment can make all the difference in the organism's or organization's development. The living actant can make a big difference to its environment. The general law determines the specific instance, and the specific instance determines the general law. Actions and actants are linked in complex interacting systems.

Whatever may be the theoretical power of Gibson's ecological psychology and concept of affordances, in comparison to a theory of emergence, it is rather static. Affordances just are; consciousness and world coevolve of themselves. There is no agency in any of this.

Scott Kelso's theory of the 'complementary relating of contrarieties' provides us with a contemporary process theory of affordances that is more dynamic. Kelso adds a more explicit complexity perspective to Gibson. He focuses on the 'metastability' of relatedness, characterized by "the simultaneous realization of two competing tendencies: the tendency of the components to couple together and the tendency for the components to express their intrinsic independent behavior" (Kelso, 2008: 186). Kelso argues that "informationally coupled, self-organizing dynamical systems, like the brain and its complementary relation to mind," require the metastability of 'complementary relating of contrarieties' (Kelso, 2008: 187). Affordances provide this 'complementary relating of contrarieties'. They encompass both sides of any duality, such as: organism and environment, nature and nurture, mind and body, friend and enemy, living and dying. These terms are all 'mutually related and inextricably connected'. Kelso uses the '?' to express the complementaries between two factors: integration ? segregation, local ? global, individual ? collective, part ? whole, competition ? cooperation, creation ? annihilation, convergence ? divergence, dwell ? escape, states ? tendencies, symmetry ? dynamics, form ? function (Kelso, 2008: 184). The forces of attraction that pull entities or different facets of circumstance into relationship are the affordances. The complementarities of action/reaction, opportunity/response, self/other, are all provided by affordances. The coordination dynamics of contrarieties are what affordances are all about.

Kelso further argues that the same sorts of things occur on a material as well as on a consciousness level. Metastability is not
just a perceptual or action theory of affordance; it is also a concept of brain organization.

Perceiving is an interactive event involving patterns of relationship between widely distributed neural ensembles, as well as between subjects and their contexts. Areas of the brain are multiple and diverse, just as social relationships are manifold and various. Kelso stresses that the laws of multiplicity and relationship are just as relevant for the brain as for the mind. Dynamic metastability affords brain—consciousness, as well as actant—world relationships.

We have argued that affordances follow what we, following Ricoeur (1992), call the logic of idem and ipse (Letcher, Lissack & Schultz, forthcoming). Idem focuses on continuity, stability and permanence; ipse centers on change, development and activity. Identity requires both continuity and change, stability and development. If identity moves too close to idem, self dies, experience dries up, and reification overwhelms. If there is an excess of ipse, identity disintegrates in chaos, and ‘self’ threatens to disintegrate. The ‘metastability’ of idem and ipse is what is required. Identity is not an either/or of idem and ipse, but an unstable both/and of them both. In Kelso’s work the key question about ‘affordances’ is what determines the ‘dwell ? escape’ dynamic(s) of relationship. ‘Dwell’ dominance leads to idem predominance; the supremacy of ‘escape’ turns into ipse chaos. Some instances of idem persist much longer than others, without the extremes of subject/object dualism arising. Likewise, the fluid and dynamic interrelations of ipse can move faster or slower, and more or less creatively away from past structures. Kelso, taking a metaphor from William James, says that the stream of consciousness is like the ‘perchings’ and ‘flight’ of a bird. Idem stability is juxtaposed to ipse movement. Both are needed to create a living, complexifying and emergent world of affordances.

Affordances reveal the human being coupled to its world in metastable relationships. Some connections dwell longer, sometimes escape is instant. The ‘stickiness’ of the affordances is crucial. How much attachment, relatedness, or attraction does an affordance exert? Affordances produce relational motion and the complementary relating of contrarieties. They replace mind / world; self / other; material / consciousness dualisms, with mind ? world, self ? other, material ? consciousness relatedness.

Discussion

Organism and organization are mediated, complex, and they resonate. Traditional dualism sees organization as a rational effort wherein the human will overmasters chaos and makes it possible to realize rational goals. Thereafter creativity is needed to reverse the ‘iron cage’ of rules and order. First the rational intentional subject is all-important; and then some sort of destabilizing reversal is required.

With affordances or of a theory of complementary relating of contrarieties, neither side of the dualisms ever predominates. Organization is neither an intentional manifestation of human will, nor a product of entrepreneurial destruction. Affordances are a matter of mind and circumstance, and of the resonance between them. Relationships between world and consciousness manifest themselves in concrete networks of activity. There is no single determining logic to these dynamic and emergent relationships. Possibilities, dangers, and spiritual beliefs all resonate with circumstances, others, and innovative actions. The effort to reduce all affordances to a few causal combinations, amounts to reduction ad absurdum.

There are thus critical lessons here for the ways in which we train managers to act. The use of rule based checklists, and of Demming inspired statistical controls, asserts a stasis to the world, which we do not find. Such a stasis would allow for the affordances to be predictable, the context to be controllable, and emergence to non-existent. Instead, we find that emergence is pervasive, context is seldom controllable, ecologies are emergent, and few affordances are predictable, other than in the abstract world of theory (or of a management school case study).

The absence of stasis means that you cannot predict and control affordances. One affordance will be violent and destructive, and another creative and fulfiling; the one can open up a field of fear and aggression, and the other an opportunity-space for generativity. When we tell stories and share languaging, the changing context can bring us from raw experience to the possibilities and limits of shared consciousness.
Affordances can bring us from a possibility space to an activity. In the relationships between persons and situations, the move from activity to consciousness and back again, can be co-shared and co-experienced. Affordances are in effect ‘complementary relating contrarieties’, providing the non-dualist logic needed in social complexity studies. One will be drawn out by affordances, made to do things by affordances, and confronted by possibilities by affordances. The logic of affordances is a logic of relationship and possibility. Affordances are about the could be and not the IS.

Management studies are geared around the retrospective reduction of what was to a set of rules. By contrast, a complexity inspired organizational studies would develop a language to describe multifaceted possibilities, or affordances—that is, to map the potential, resonating, inter-relating, and interacting events of relationship. Affordances are about possible maps of relationship and where they might lead one. Rationalization after-the-fact of the path already taken is what organizational and management studies now focus on. They have an infamous inability to be predictive, because they are analyzing retrospectively, avoiding the complexity of affordances.

A social complexity theory of affordances, at present, will only be descriptive and it will be with difficulty that it would even be that. Trying to ‘model’ social affordances is down right silly. We do not have the means to enumerate, let alone describe social affordances at present. Affordance-analysis allows for complexity recognition, description and some (critical) reflection. Affordances we assert are the next frontier for organization studies and a critical arena for management education.

References