

## Behavioral Economics and the Transactional View

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### Introduction

What is behavioral economics? How does it relate to the transactional view? This essay proposes answers couched in terms of the old question that divides economists and other scientists: Is human action the product of incentives or well-entrenched norms?

The field of behavioral economics underwent a meteoric rise in the late 1990s. The ascent of the field into prominence was confirmed when the Nobel Prize committee awarded the 2002 economics prize to Daniel Kahneman (Psychology, Princeton University) and Vernon Smith (Economics, George Mason University), and when the American Economic Association awarded the 2001 John Bates Clark Medal to Matthew Rabin (Economics, University of California at Berkeley).

Critics of behavioral economics are many. The most vocal critic, Richard Posner, suggests that behavioral economics has yielded only anecdotal and arguably flawed evidence that supposedly contradicts the predictions of the standard rationality model. Certainly researchers in behavioral economics have been busy documenting countless biases and anomalies that challenge the basic tenets of the neoclassical, standard rationality approach. The number of uncovered anomalies is as dizzying as the number of subatomic particles discovered by physicists. Nevertheless, can we at least sum up or make any sense of these anomalies—or better yet, provide a theory that extends or rivals neoclassical economics?

This challenge is what prompted the Behavioral Research Council, a division of American Institute for Economic Research, to invite leading economists and psychologists to a July 2002 conference in Great Barrington, Massachusetts. These experts discussed whether the anomalies highlighted by behavioral economics could be reconciled with the standard rationality approach used so exten-

sively by economists.

This essay shows the possibilities as well as the limits of the standard approach and how the transactional view handles the behavioral anomalies. Section 1 identifies the core of behavioral economics that interests the Behavioral Research Council, namely, the importance of the *context* of choice. Section 2 clarifies why we should care about context. Section 3 illustrates how the context of choice generates “inconsistent” behavior. Section 4 reviews the fundamental divide between two theoretical camps in explaining context, viz., “self-actional” theories dominant in sociology and anthropology as opposed to “interactional” theories dominant in economics. Section 5 examines how self-actional theories, sometimes called “normative,” explain context. Section 6 shows how interactional theories, or “standard rationality,” account for context. Section 7 advances the main point of the essay: how the transactional view explains context. Section 8 suggests that the field of cognitive neuroscience may shed light on the transactional character of action. To navigate with greater ease, Figure 1 provides a summary of key terms employed throughout the eight sections.

1. Self-actional View (normative theories) vs. Interactional View (rationality theories):

*constraints as primary vs. preferences as primary*

2. Relativist View (postmodernist theories) vs. Objectivist View (modernist theories):

*constraints as primary vs. facts as primary*

Figure 1: Key Terms

To appreciate the transactional view,

one needs to identify the problem, locate the contesting explanations, and expose their shortcomings. There is a great difference between the two opposing camps: While the self-actional camp explains action mainly as a function of *norms* acting as constraints, the interactional camp explains action generally as a function of *incentives*. Nonetheless, both explanations presuppose a prime mover: preferences or constraints. For the transactional view, constraints and preferences are involved in an intricate union, i.e., transaction. The particular signature of each transaction is its *context*—which is the central feature of behavioral economics.

### 1. What is the Question?

Why should economists, and social scientists in general, care about the transactional view, initially advanced by John Dewey and Arthur Bentley [1973]? Does Dewey/Bentley’s transactional view illuminate empirical anomalies better than existing approaches do?

This essay answers in the affirmative. The observed anomalies show the centrality of the *frame* of preferences in determining action, as well as the importance of the *category* used to process information that inform the constraints. The terms “preferences” and “constraints” are used in the sense of “ends” and “means,” where the means are defined by resources, budgets, legal rules, customs, temperament, and habits.

The importance of the frame and the category, and the inadequacy of existing approaches in explaining them, is called here the “problem of context.” The term is employed to denote both the importance of the frame as well as the category in decision-making. Neoclassical theorists react to the problem of context by claiming that context, after all, is part of either the constraint set or the preference set.

This claim fits what Dewey and Bentley [*Ibid.*, Ch. 4] called “interactional” theories. On the other hand, mainstream sociologists and anthropologists as well as heterodox economists (such as Thorstein Veblen and his followers known as “old institutional economists,” who are critical of orthodoxy) see the problem of context as fodder for their normative view. The normative view claims that constraints such as norms, status, culture, and budgets mold preferences in their image. This claim fits what Dewey and Bentley [*Ibid.*] called “self-actional” theories.

As argued in this essay, both neoclassical theorists and their critics seem to miss one important point, the hallmark of the transactional view. Namely, *context is the product of the transaction of preferences and constraints*. Therefore, it is neither an element in the constraint set alone, nor an element in the preference set alone. It is rather a by-product that arises when the two sets transact. In opposition to both camps, Dewey and Bentley offer a fresh way that promises to help us explain context: what they called the “transactional view.”

## 2. Why Do We Need To Explain Context?

Why should one even bother with the question of how to model context-dependent action? Why should it matter for everyday life whether the self-actional explanation of context-dependent action is more appropriate than the interactional, standard rationality explanation? Everyday life involves discourse about public policy (such as what to do about drug addiction, crime, and education), which usually stems from a particular theory of action. Of course, there are policies that express deep philosophical and ethical commitments, such as those concerning the value of life, property, and liberty. However, such policies are outside the focus here. Insofar as one policy or another is based on a theory of human action, it is important to employ a warranted theory.

For the interactional view (standard rationality model), context is primarily seen as simply an element of the set of constraints that is relegated to the role of the mediating lens of preferences. The policy prescription, therefore, would usually be that the state or the community should not interfere with the actions of individuals. For the rational choice model, the action should express the maximization of the interest of the person—unless one of the assumptions of the first law of welfare economics is violated. According to the first law, given the assumptions of perfect markets and rational behavior, market competition leads to Pareto

optimality: no one can gain benefit from further trading without hurting someone else. As long as the assumptions are met, there is no need for a guardian to review or to censor the actions of people.

If one holds the self-actional view (normative theory), context is seen as part of the constraint set that is regarded as the prime mover. This theory implies that frames of the mind define preferences and, therefore, action no longer expresses some optimum state even when the assumptions of the first law of welfare economics are met. Given the self-actional view, it would be easier to see, but is not necessarily the case, that action is the outcome of socialization or manipulation by elites who wield power. One may argue that the norms advanced by elites actually express optimum standards and institutions because they are geared to maintain social order and political stability as is argued by traditional structural-functional theorists in anthropology and sociology. Nonetheless, the argument is still self-actional because action is still mainly modeled as the outcome of norms, rather than the outcome of a calculative individual sitting in the primary or driver’s seat with his preferences.

A major critique of the self-actional view leveled by the interactional camp is the problem of free-riding. Even if the person is socialized by optimum norms, the person may do better by cheating—irrespective of what others are doing (the prisoners’ dilemma game).

In any case, in response to the question “What is the origin of context?” the self-actional model makes it easier to perceive norms as the outcome of conniving entrepreneurs or politicians—different, of course, than would be the case if one subscribed to the standard rationality camp. If norms were seen as expressing the interest of one class at the expense of the rest, it would call for a corrective intervention on the part of publicly-spirited groups. That is, people cannot fully be left alone to make decisions about what is in their best interest—after all, the term “interest” is the product of the social context. The state should protect people against advertisements, shortsighted impulses, and, especially, weakness of will. And who is better situated than the state or well-meaning guardians to correct the choices of subjects?

Of course, such implications invite the retort: Why should we trust the state or even publicly-interested individuals? People who claim to be publicly spirited can be engaged in self-deception, if not outright political machinations. They may think that they are acting in the interest of the public, when in fact they are advanc-

ing their own private interest under the banner of “public interest.” But this question is better left for another essay.

## 3. Not Just Incentives—Context Matters Too!

From the 33 papers presented at the conference, one finds a thread that unites, if not all, at least most of the anomalies highlighted by behavioral economics (and behavioral decision theory in psychology). Namely, what matters in determining action is not only incentives—as stressed by the standard rationality model in economics and B.F. Skinner’s behaviorism in psychology—but also the *frame* in which preferences are molded and the *category* used by people to determine the constraints relevant to solving a given problem.

### *Context: Frame and Category*

Let us use the term “context” to denote the relevance of both the *frame* of preferences and the *category* that prompts a specific rule of logical reasoning, or a particular, Gestalt-like construct of the perceptual field. While the frame organizes one’s preferences in a particular order, the category constructs the computation of sense data or perception of sensations in a particular form rather than other possible forms. In his presentation at the conference, Eldar Shafir (Psychology, Princeton University) noted one difference between what are called here “frame-dependent action” and “category-dependent action.” Namely, once the individual is alerted to the frame, the individual does not change his actions—but the individual does change action once alerted to the erroneous category of computation used.

To illustrate frame-dependent action, let us start with Richard Thaler’s [1994] story of lawn mowing. A person would refuse to hire a company to mow his lawn for \$10 if he values the \$10 more than his leisure. However, paradoxically, the person would usually refuse to mow a similarly sized lawn of a neighbor for \$30. It is paradoxical because from the standpoint of efficiency, neoclassical theory stipulates that the person should hire the company and let his neighbor hire him. By doing so, the person’s welfare would increase by \$20—assuming that the market for some reason is not competitive enough to wipe out such windfall. As Posner (US Court of Appeals for the Seventh Circuit, Chicago) explained at the conference, though, there is no paradox here because the frame of preferences, namely status, matters. People are usually ready to help their neighbors, but not for a monetary payment. Otherwise, by accepting payment, their status in the neighborhood plummets. Here the frame-dependent ac-

tion, influenced by the consideration of status, organizes one's preferences. The person will not change his mind once an observer alerts him about the frame. The person already knows it.

The Wason test, well-known in psychology, illustrates category-dependent action. It shows that most people usually make a mistake in solving a simple question of logic. In his paper at the conference, Howard Margolis (Harris School, University of Chicago) argues that the phrasing of the question triggers one category, such as numbers as opposed to letters, which distorts proper thinking about the problem. Another famous example of category-dependent action is the preference reversal discovered by P. Slovic and S. Lichtenstein in the early 1970s. Slovic's (Decision Research, Eugene, Oregon) presentation at the conference recast the example: People usually chose Gamble A (which had a high probability of winning a modest payoff) over Gamble B (which had a smaller probability of winning a larger payoff). Paradoxically, however, when asked, people usually assigned a larger monetary value to Gamble B. Slovic and others explain this reversal as the result of compatibility: Once the person was asked to rank the gambles in terms of monetary value, the category "monetary value" probably triggered the person to conceive of the problem mainly in terms of the monetary difference—ignoring the other category, i.e., the probability difference.

The findings of behavioral economics can be stated in general terms: Action is not exclusively determined by constraints and preferences, but also by the *context* in which preferences and constraints are presented. The method of eliciting preferences or the way of phrasing constraints may hinge on changing the order of words in the choice menu—but this entails significant consequences. If we change the form of choice, but leave the content intact, it may greatly impact action.

However, why should this finding be disturbing? The relevance of context violates the standard neoclassical axiom that choice is procedure-invariant, i.e., different representations of the same choice problem should produce the same decision. But as demonstrated below, the basic critique of neoclassical theory does not do a better job in explaining context.

### Gift wrapping as Context

The use of gift wrapping is an instructive example of context. It shows why the modeling of context should prove difficult: context, after all, is not a commodity in any ordinary sense.

People use gift wrapping to express the meaning of the transferred good. When one

gives a gift to a friend, one usually removes the price tag, uses an appropriate gift wrapping, and encloses a neatly displayed card to affirm the meaning of the transferred good. All these three actions do not affect the "innate" characteristics of the good in terms of color, texture, sweetness, and so on. So, why should the extra information (the price tag), which is costless to transmit, somewhat tarnish the value of the gift? And why should useless goods (the gift wrapping and card), which are costly, add to the value of the commodity as a gift? If only one of the actions is undertaken, and given that circumstances are normal, the gift would lose its symbolic value: indeed it would be judged as crass and tactless.

Standard rationality theory recognizes gift wrapping and social taboos as signals for trust in cooperation, i.e., when the people want to transact again (repeated games). Standard theory also recognizes them as signals for the expression of appreciation in cases when people know they will not transact again (single-shot games). By standard rationality theory, the signal is simply an expression of either trust in long-term commitment (repeated game) or preferences such as appreciation (single-shot games). The signal (the gift wrapping) expresses the context of the transferred content (the good) as either an investment in commitment or an expression of preferences.

The person, however, does not need the gift wrapping to understand a particular context. In a case where the agent does not wrap the gift, an apology can usually substitute for the gift wrapping if the receiver is convinced of the sincerity of giver. So, the gift wrapping, holiday card, and other purely symbolic products function like words that convey symbolic effects. Words and sentences are non-scarce goods similar to air—i.e., they are free. Words as gestures are free in the sense that it takes as much paper, physiological energy, and time to state a pleasant word as opposed to an unpleasant word. However, unlike air, words and gift wrapping are effective in delivering the symbolic feeling only if the receiver trusts the intent of the giver. In fact, even the gift wrapping would not suffice if the receiver doubts the sincerity of the giver. So, ironically, while the gift wrapping as a commodity is actually immaterial, the wording, which is not a scarce commodity, is what matters.

### Words as Context

Context is constructed by the signal associated with the transfer of goods. The material carrier of the signal, such as the paper used as gift wrapping, is not what matters. Words, insofar as they convey

meaning, provide the context, and this role is what matters. In contrast, the gift wrapping, as a material good, may not matter, i.e., fail to convey the context if the recipient does not understand the symbolic effect of the gift wrapping.

No example better illustrates the importance of words than the celebrated experiment reported in the classic 1981 article of Amos Tversky and Daniel Kahneman. From the standpoint of content, Problem 1 and Problem 2 in the experiment are identical. The percentages of respondents (who total 152 and 155) agreeing with one program or another are placed in brackets:

Problem 1 [N = 152]: Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows: If Program A is adopted, 200 people will be saved. [72 percent]

If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved. [28 percent]  
Which of the two programs would you favor?

...

A second group of respondents was given the cover story of problem 1 with a different formulation of the alternative programs, as follows:

Problem 2 [N = 155]:

If Program C is adopted 400 people will die. [22 percent]

If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die. [78 percent]

Which of the two programs would you favor? [Tversky & Kahneman, 1981, p. 453]

The experiment was repeated with different groups, including groups composed of physicians, and produced, amazingly, the same result. A majority of respondents were "risk averse" with regard to saving 200 lives with certitude. That is, most respondents were unwilling to take a risk when it came to a *sure gain*. However, the majority of respondents were "risk seeking" when it came to avoiding the certain death of 400 lives. That is, most respondents were willing to take a risk when it came to a *sure loss*. What is remarkable about this experiment is that it highlights the asymmetry of action toward gains and losses even when the content of choice is identical: only the wording "sug-

gested” that the choice concerns definite survival as opposed to definite death. It is similar to a cliché: “a glass that is half-full” can be seen differently from “a glass that is half-empty.”

**Endowment, Mental Accounting and the Structure of the Joke**

Why should the taste for risk be reversed as a result of an innocuous change in wording? Why should words and other “trivial” contexts have such power? There are many more examples of seemingly irrational behavior. I only want to mention two, the “endowment effect” and “mental accounting,” and relate them to the structure of jokes.

Why do some people, who refuse to buy a \$100 ticket for an event because it is too expensive, nevertheless attend the event if they find the same ticket on the sidewalk, rather than sell it for \$100? This example, given that the increase of lifetime income is negligible, indicates that people put more weight on out-of-pocket cost than on opportunity cost. This is a puzzle for the standard rationality approach [Thaler, 1994]. Further, why do some people travel five miles to save \$5 on a \$50 watch, but will not travel the same distance to save \$5 on a \$500 TV set [*Ibid.*]? Such “mental accounting” subverts rational decisions at the margin. As a further example, why should the placing of a dessert in the view of everyone make a difference for someone who wants to lose weight?

These examples highlight different nuances of how context matters. Standard rationality theory can explain some examples. In the case of the dessert, people undertake different pre-commitments as George Ainslie (Psychiatry, Coatesville VA Medical Center, Pennsylvania) argued at the conference. In order to combat weakness of will, people bundle the dessert with the extra effort of traveling. But the other cases are harder to explain: Why does the simple endowment of a good make one ignore, to some extent, its opportunity cost? And why should the mental accounting of the total purchase make individuals fail to make decisions at the margin?

In any case, no one should be surprised by the finding that context matters—whether it is the wording, endowment, or accounting category. It is common for a man to protest that his joke was misunderstood, or for a politician to clarify that his statement was taken out of context. People can tell the difference between saying “cheese” when taking a picture, and “cheese” when ordering a hamburger.

In fact, much of the laughter stimulated by humor results from the clash of unexpected contexts. For Arthur Koestler

[1964], the structure of jokes is simple: it amounts to using one word/event/person in one context, and suddenly using the same word/event/person to invite a totally different context. The switch between two very dissimilar contexts, connected superficially by the common word or event, creates an immediate clash of meanings, which physiologically stimulates laughter. As an example, Koestler recounts the most common type of joke, the practical joke: An audience laughs harder watching a movie scene where someone pulls a chair out from under a dignitary than from under an ordinary person. This is because the dignitary is seen in the context of *high* status, which clashes with the context of an *ordinary* body subject to the same law of gravity. This explains why humor is as culture-specific as the contexts it invokes.

**4. Two Theories**

Given that context matters, what then is the “big deal” about behavioral economics? Well, it boils down to the problem of how we should model context.

**Two Theories of Action**

There are two fundamental answers aligned along the already-entrenched fault line that divides the social sciences [Joas & Beckert, 2002]. As shown in Figure 2, Dewey and Bentley [1973] named one camp the “self-actional view” to highlight its emphasis on *primordial* inner or self-centered norms, instincts, habits, or institutions. In contrast, they named the other camp the “interactional view” to stress its focus on environmental incentives. While the self-actional view corresponds to heterodox economics and normative approaches in the social sciences, the interactional view corresponds to standard economics and Skinner’s behaviorism.

- 1. Self-actional View (normative theories):  
**Constraints mold Preferences → Action**
- 2. Interactional View (rationality theories):  
**Preferences limited by Constraints → Action**

**Figure 2:** *The Two Major Camps in the Social Sciences*

While both camps try to explain the same phenomenon (action), each proposes a theory whose order of causation is opposite to that of the other proposal. The self-actional camp places the set of constraints in the driver’s seat while the set of preferences acts as the mediating

lens. The interactional camp reverses this order.

How does one explain, for instance, the pork prohibition in Islam and Judaism? For the interactional view, according to Marvin Harris [1978], it is more expensive to raise pigs than sheep in arid environments. The prohibition, for the self-actional view, is not the outcome of incentives. Rather, it is the outcome, according to one perspective, of some primordial need for cultural taboos, which are seen as necessary in order to delineate the group’s identity. If this were the case, the choice of pigs as taboo would have been accidental. Other cultures chose cattle, snakes, or dogs.

Also, how does one explain the stigmatization of cohabitation in some cultures? For the interactional view, the stigma diminished in Western cultures in the 1960s once the risk (expected cost) of pregnancy declined dramatically with the introduction of the pill. For the self-actional view, the introduction of the pill must have been culturally acceptable for the incentive to work. There must be some primordial cultural processes that determine what are acceptable incentives. As a case in point, the pill has been available to many other cultures that nonetheless stigmatize cohabitation.

**Two Theories of Theory**

The juxtaposition of these two stark camps may seem an oversimplification given the diverse and important differences among theories in each camp. We can ignore these differences insofar as the topic of discussion, viz., how to explain context, is general enough. In fact, other thinkers kept things simple when they tried to map the diverse theories of inquiry—interestingly, along the same division as depicted in Figure 3. These thinkers came up with two answers when they asked: Is the prime mover behind theory (equivalent to action in Figure 2) the set of constraints of discovery that molds facts in its image? Or is the prime mover behind theory the content of discovery, i.e., the set of facts—whereas the set of constraints is an external lens through which the facts are filtered?

- 1. Relativist View (postmodernist theories):  
**Constraints mold Facts → Theory**
- 2. Objectivist View (modernist theories):  
**Facts limited by Constraints → Theory**

**Figure 3:** *The Two Major Theories of Inquiry*

For instance, Richard Bernstein [1983] divides the theories of knowledge into two major camps, and calls them “relativism” and “objectivism.” Deirdre McCloskey [1998] dubs them “postmodernism” and “modernism,” respectively. For relativist theorists, such as Thomas Kuhn, facts are never context-free: One finds what one is looking for, directed by the tacit prejudice or paradigm (context *qua* category) that one holds. There is no innocent serendipity. The discoverer’s prior categories define both the question and the scope of the discovery. There are no “brute” facts. Whatever facts one claims to know, the categorical/cognitive apparatus of the knower adulterates them.

In contrast, for objectivist theorists, among whom Karl Popper is most familiar to economists, it is true that context plays a great role in bringing us to discover the facts. However, the context is merely an element of the set of constraints that plays a secondary role through which the brute naked facts are mediated. The outcome (theory) can be stripped from its context-enveloped dust that hinders vision. The theory can ultimately be tested against brute facts that are, admittedly, limited by the available context of technology and state of knowledge. However, such facts are generally free from such a context, which is ultimately separate and part of the set of constraints.

Dewey and Bentley’s transactional view was expressly developed in order to supersede the subject/object dichotomy in epistemology [Ryan, 2002]. They believed that this dichotomy lies at the foundation of both relativist and objectivist epistemologies. This should become clearer once we review how social theories of action handle the problem of context.

### 5. Context According to the Self-Actional View

Both camps reduce context to the set of constraints (and, reluctantly, to the set of preferences in some cases), but with remarkably divergent results. While the self-actional camp reduces context to the set of constraints, it places the set of constraints in the primary seat that molds preferences after its form or image. In this manner, there are no anomalies—obviously because interactional theory is not the standard. People’s behavior is modeled according to categories and frames that are biological, psychological, or social in origin. There is one crucial difference between positing categories and frames, i.e., contexts, as being in the driver’s seat, as opposed to the neoclassical, interactional practice of positing preferences as being in the driver’s seat. Namely, while the neoclassical practice

may recognize the exact same constraints, the constraints either act as passive limits to preferences or, if seen as part of the preference set, are subject to substitution at the margin (after allowing for “cognition cost” or “imagination cost,” which is another variety of transaction cost). In contrast, given that frames and categories are in the primary seat in the self-actional approach, substitution among tastes in light of incentives is not possible, at least at first theoretical approximation.

For the self-actional camp, the growing evidence of context-dependent action strongly indicates that action is inflexible: Action is the product of dictates from context and, hence, not amenable to change in response to environmental incentives. The growing evidence marshaled by behavioral economists should be the last nail in the coffin of the interactional approach that allows for incentive-sensitive action. The importance of context should, for the self-actional camp, prompt theorists to dethrone preferences from its primary role in the theoretical machinery used to explain action. In place of preferences, we should place constraints in the primary role. The set of constraints—ranging from budgets, identities, personality temperaments, to context and institutions—shape our preferences to what they are. In this manner, constraints are given in the sense that theories should not try to explain them. Theories should rather use them to explain how they shape preferences and, correspondingly, action.

Let us revisit the gift wrapping example. For the self-actional approach, the gift wrapping in repeated games or in single-shot games performs the same function. Namely, it performs as a context that has the primary role. As such, it molds the preferences of people in particular ways in order to undertake actions suited to the primordial context. In one case, the context is the building of *trust* for long-term cooperation, while in the other case, the context is *closure*, i.e., the desire to announce appreciation of what is about to be part of the past. In either case, the gift wrapping is used as a customary carrier of the context. The context itself is part of some deep primordial social structures or psychological imperatives.

The neoclassical modeling of closure or trust as preferences entails that they can be sacrificed at the margin. Normative theorists, notably Amartya Sen and Amitai Etzioni, propose instead that the expression of appreciation or trust is rather a commitment that acts as a primordial context (i.e., a context that takes a primary role). That is, the commitment does not enter the usual set of preferences. The commitment stands outside the function

and is triggered by “meta-preferences” (to use Sen’s term). Etzioni, in fact, separates commitment into a separate utility function, which he calls “moral ‘utility’” as opposed to “pleasure utility” which economists place in the driver’s seat. For Sen and others, commitment expresses a divided-self, which may entail strategic conflict. In any case, commitment is part of the constraint set that precedes, rather than simply impedes, preferences.

### 6. Context According to the Interactional View

While the self-actional view does not face the context-dependent anomalies, it confronts other criticisms voiced even by sociologists [Joas & Becker, 2002]. The view suffers from the “immaculate conception” of norms, to borrow Kenneth Boulding’s [1969, p. 2] term that he leveled at the interactional approach of standard rationality theory. According to Boulding, the standard rationality view suffers from the “Immaculate Conception of the Indifference Curve”: a curve that expresses preferences as given without further explanation. However, to be accurate, sophisticated models in normative and rationality approaches can provide endogenous accounts of the evolution of the prime mover, be it norms or preferences. However, such accounts come at second and tertiary approximations.

At first approximation, both approaches present the prime mover—whether it is preferences or norms *qua* constraints—as if it were born by immaculate conception, to use Boulding’s expression. Standard rationality theorists obviously prefer to be faulted for failing to account for preferences than to be faulted for failing to account for constraints. They started to develop sophisticated models that protect the core, i.e., preferences *qua* prime mover, while at the same time trying to accommodate the anomalies highlighted by behavioral economics. So, as more contexts are revealed that upset standard theory, standard theorists responded by trying to reduce the contexts to the constraint set. In this manner, they keep preferences in the primary seat while keep the constraints set as a mediating lens. Standard theorists began to explain contexts as what one may call “neural institutions,” which occupy a secondary position because they originate from “cognitive costs”—paralleling the notion of “transaction costs” used by new institutional (interactional) theorists to explain rules.

Only in some reluctant cases, as will be discussed shortly, are interactional theorists ready to open the preference set, i.e., reduce context to the set of preferences. There is still an obvious difference

between the self-actional reduction of contexts to the prime mover, i.e., constraints, and the interactional reduction of contexts to the prime mover, i.e., preferences: for the self-actional camp, contexts are constraints that mold preferences. Thus, for the self-actional camp, it would be ridiculous to think that contexts can be substituted at the margin. In contrast, for the rationality camp, it is not a ridiculous idea to allow contexts *qua* preferences to be substituted at the margin.

As stated, the neoclassical reduction of context to the preference set is a reluctant, last-ditch effort. While self-actional theory can explain the variety of action in terms of its prime mover, the set of constraints, neoclassical theory cannot explain the variety of action in terms of its prime mover, preferences. Rather, it explains the variety of action in terms of changes in the mediating set, constraints. The tinkering with the preference set violates the standard assumption of “stable preferences” [Stigler & Becker, 1977; Becker, 1996, Ch. 2]. Tinkering too much with the preference set *qua* prime mover would cut off the edge of the interactional view, viz., the explanation of action in terms of relative prices and other incentives. Also, as Jonathan Baron (Psychology, University of Pennsylvania) indicated at the conference, the instability of preferences would make welfare comparison cumbersome.

To illustrate this reluctant move, let us revisit the gift wrapping example. The gift wrapping is seen as a signal used to express commitment in long-term cooperation, as in marriage or in a business partnership. As such, given the constraints of repeated games, the gift wrapping is an investment to ensure cooperation. Thus, the context of the gift, i.e., its meaning, is reduced to an information signal that is part of the set of constraints. However, how does one explain the gift wrapping in a single-shot game, i.e., when business reputation or trust does not matter? Here, obviously, the gift wrapping expresses appreciation. The neoclassical, standard approach is ready to tinker with the preference set and expand it to include a taste for appreciation. Werner Güth (Economics, Max Planck Institute, Jena, Germany) and Hartmut Kliemt (Philosophy, Duisburg University, Germany) in their presentation at the conference maintained that the tinkering with the preference set is tautological. In any case, by either strategy, the context is reduced to either the constraint set or preference set while maintaining preferences in the driver’s seat.

## 7. Context According to the Transactional View

The self-actional approach does not

face anomalies such as those uncovered by behavioral economics. However, it suffers from, to use Boulding’s phrase, the immaculate conception of constraints. In contrast, the interactional view does not suffer from Boulding’s immaculate conception of constraints, but it does confront the above-discussed anomalies. However, *new* behavioral economics, with the aid of concepts such as “cognitive cost,” is as much successful in explaining these anomalies as new institutional economics is successful employing the idea of “transaction cost.” Nevertheless, the neoclassical, interactional approach still suffers from Boulding’s charge stated earlier, viz., the immaculate conception of preferences. Dewey and Bentley’s [1973] transactional view may help us to supersede the two kinds of immaculate conceptions, to use Boulding’s metaphor. We need to show how this is possible, first, with regard to the theory of action and second, with respect to theory of inquiry.

### Action-in-Context

Dewey and Bentley [1973] undertook a direct assault on the explanation of action in terms of a supposed antecedent set, whether along the self-actional or interactional approach. While each approach differs from the other, both are committed, at a deeper level, to what one may call a “primordial” mode of conception. The two approaches explain action in terms of some primordial entity, whether it is “constraints” or “preferences.” Joas and Beckert [2002] also identify the common primordial perspective. They call it “teleological” because both perspectives view the prime mover as the embodiment of a *telos* (i.e., goal), whereas action is the preordained realization of the presupposed *telos*, given the filtering lens.

Either primordial view places context either in the constraint set or preference set. The primordial approach treats context as residing in either the prime mover or the filtering lens. The context is not seen as the emergent moment of the *particular* event of the transaction of constraints and preferences. The primordial view usually reasons that the context must have existed prior to the event: it either existed in the supposedly self-contained constraint set or in the supposedly self-contained preference set. So, there is no novelty involved.

Bentley directly attacked a fundamental assumption of the primordial mode of conception: the reduction of transaction to some pre-existing entities. He identified the source of the reduction: the tacit, unconscious obsession with the human skin as a fundamental boundary that defines the subject and object as separate

entities. The prime mover, as a primordial force, must have inside its skin the “preferences” (for the interactional view) or the norms (for the self-actional view). Most modern philosophers have made the skin into a fetish:

By and large—except for a few of the great Critics and Sceptics—they [philosophers] view knowledge as a capacity, attribute, possession, or other mysterious inner quality of a “knower”; they view this knower as residing in or at a “body”; they view the body as cut off from the rest of the universe by a “skin” [Bentley, 1941, p. 1].

Yet if philosophers cease thus crudely to employ it [skin as criterion], all their issues of epistemology will vanish, and the very type of attack they make on cognition will be discredited; whereupon the task of determining the status of knowledge itself will pass from their hands to those of the scientists who have taken over so many regions of philosophical arrogation in the past [*Ibid.*, pp. 1-2].

For Bentley, given that the skin is an arbitrary barrier between the subject and the object, philosophers resort to essences to keep the subject apart from the object. Analogously, self-actional social scientists resort to primordial constraints, such as norms and culture, that act as essences from which action supposedly springs with almost no regard to incentives. On the other hand, interactional theories, spearheaded by neoclassical economists and behaviorist psychologists, repudiate the concept of essences: The notion of essence entails that action is inflexible in the face of varying incentives. To capture flexibility, entailed by the notion of the efficient allocation of resources, neoclassical economists replace primordial constraints (i.e., essences) with *fungible* preferences. The fungibility of preferences means that preferences can be substituted with each other in response to incentives. For neoclassical economists, essences, at best, amount to constraints that occupy the secondary seat, not the primary seat. So, people are *constrained* by legal rules and cultural norms, but their behavior is not *dictated* by such rules and norms. People are ready to substitute among preferences in response to changing incentives such as relative prices, rules, and norms.

In this manner, neoclassical theory explains action in terms of changing incentives rather than preferences. Otherwise, if one tinkers with the preference set positioned in the primary seat, interactional

theory would look similar to—although not the same as—self-actional theory, which usually tinkers with the constraint set positioned in the primary seat.

For the transactional view, preferences are not well-defined entities—at least not defined independently of constraints. Preferences take shape only in relation to the constraints and, likewise, the constraints take shape only in relation to the preferences. The union of the preferences and constraints gives rise to context which did not exist prior to the transaction. Thus, it is erroneous to make the *ex post* context, i.e., the context *after* the transaction, into an *ex ante* element, i.e., an element that supposedly existed somewhere either in the constraint set or preference set *prior* to the transaction. The transactional view stresses that the constraints *qua* norms do not exist prior to experience, i.e., prior to the transaction of preferences with constraints. The context is a unique signature of the transaction and, hence, the context cannot be reduced to constraints placed in some privileged primary seat as the self-actional view suggests.

One may try, as Figure 4 attempts, to sketch the transactional view of action. Here, neither preferences nor constraints has a priority over the other. Given that each is vague and elusive, each takes on a better-defined shape when it transacts with the other. The transaction sets up a particular signature, the action-in-context. That is, there is no linear causality, where action is a product of previous antecedents.

The Transactional View:  
***Preferences within Constraints***  
 = ***Action-in-Context***

**Figure 4:** *The Transactional View*

In this thumbnail sketch, the context is an emergent property of the transaction. Thus, it cannot be made into an element that exists *prior* to the transaction of preferences and constraints as if it were a member of the preference set or constraint set. Put differently, context cannot be an entity identifiable prior to the transaction. At best, the context existed as a potential out of many other possibilities. So, action cannot be explained by referring to a context seen as already given prior to transaction. In this light, the self-actional or interactional mode of explanation is primordial, i.e., amounts to reducing the product into some innate property of either the constraint set or preference set acting as prime mover. For the transactional view, action is the product of the fusion of preferences and constraints as afforded by the unique, uncertain context of the event.

Francisco Varela and Jean-Pierre

Dupuy [1991, Ch. 1] and Susan Oyama *et al.* [2001, Ch. 1], express a similar critique of reductionism and primordial thinking in biology. In particular, Varela and Dupuy argue that the source of primordial thinking is the obsession with “origins”: The attempt to trace action to an origin in the sense of a prime mover or a primordial entity that gives rise to the old problem of the chicken and the egg. Instead, one should explain action within its *present* complex organization. For instance, rather than track proteins to genes, which in turn are produced by proteins, one should examine proteins within the complexity of the cell. The cell, as the unit of analysis, illustrates the circular dynamics among its parts, while the boundary distinguishes it as an entity. The cell is an assembly of components that occasions an *emergent* entity, i.e., the cell as a totality that cannot be reduced to its components.

The most interesting idea of Varela/Dupuy is that the emergent unit or totality is neither reducible to, nor separable from, the components. They view the organism as involved in self-production, what they call “autopoiesis,” in the sense that organisms construct their own organization. They maintain that the self-referential character of the organism is also found in the social order, monetary system, living entities, cognition, and language as elaborated by Umberto Eco [in Varela & Dupuy, 1991]. Varela/Dupuy’s idea of emergent organization seems to avoid the quest for primordial entities along the self-actional or interactional approaches. The quest is probably engendered by the deep thirst for certainty or an Archimedean foundation in the sense of a solid rock, so to speak, from which one can predict outcomes.

### ***Theory-in-Context***

Bernstein [1983] identified the thirst for an Archimedean rock, upon which philosophers can make statements about truth with certitude, as the source of major problems in the theory of knowledge. For Bernstein, the quest for such a solid foundation that can afford certitude can be traced back to Descartes, the father of modern philosophy. Descartes’ quest led him to draw a distinction between mind and body, where the mind can attain certitude through reflection, without reference to practice.

For Dewey [1960], the quest for certainty can be traced even further back, viz., to ancient Greek philosophy, especially Plato’s. Plato and others draw a sharp distinction between theory (i.e., inquiry) and practice (i.e., action). While theorists study the eternal, immutable forms of being that are certain, practical people are concerned

with everyday activity that is uncertain and ever changing. For Plato, knowledge was respected if it focused on what is certain and immutable—the idea or form behind all changing physical manifestations. The theory/practice dichotomy assumes that reason discloses the unchanging nature of things, whereas the objects of everyday use and enjoyment are mere “shadows” or “phenomena.” Therefore, theory is supposedly a mirror of nature—as if the act of theorizing does not, to some extent, reformulate the facts in a meaningful sense. Armed with the theory/practice dichotomy, one can claim that his theory is a “true” representation of what is supposedly immutable nature.

For Dewey, the quest for certainty is responsible for diverse metaphysical systems that manifest a yearning for absolute security in a world from which peril and uncertainty can never be banished. Such systems have generated theories of knowledge that either eliminate empirical facts while stressing ideal mental constructs, or the opposite, i.e., eliminate mental constructs while stressing empirical facts. Dewey and Bentley [1973] repudiated such idealist and empiricist approaches in philosophy [Ryan, 2002]. In their place, they proposed the terms “known” instead of “reality” and “knowing” in place of “knowledge”: There is no fundamental rock from which one can attain certain knowledge about an ultimate reality. All that humans come up with is the transaction of “knowing” with “known” in a process of inquiry.

In fact, Dewey and Bentley [1973] developed the transactional view mainly to combat the subject/object dichotomy that pervaded the epistemology of their time. They stressed that subject and object or, to use their terminology, knowing and known cannot be separated into entities with inner qualities, radically separated by the skin. The subject and object are involved rather in a transaction that cannot be reduced to either the subject or object. The knowing is the subject in relation to his object, and, therefore, cannot be defined independently of the environment in which he is involved. The known is the object in relation to its subject, and, therefore, cannot have structures in themselves discoverable by humans, even if we were equipped with God’s eyes. Rather, the known acquires what are seen as traits or characteristics only because of the problem, interest, or question that motivates the knowing.

For Dewey, facts are not there to be discovered, as the objectivist view maintains. Also, mental constraints that make conceptual knowledge do not mold facts as they please, as the relativist view ad-

vances (Figure 3). Rather, facts and mental constructs (i.e., constraints) are involved in a co-determination that amounts to a process of creation, viz., the creation of theories that cannot, and should not, be free from the context of the transaction. The context, as Figure 5 shows, is created *ex post* (after the transaction). So, one cannot model the context of theory as an element that belongs to *ex ante* (pre-existing) set either of facts or constraints, as if the context of theory existed prior to the theory.

The Transactional View:  
*Facts within Constraints =  
Theory-in-Context*

**Figure 5:** *The Transactional View of Theory*

For Dewey and Bentley, one at best can come up with “warranted assertions” in the sense that what one knows is always theory-in-context: The knowing always depends on the known, and *vice versa*. To clarify, for Dewey and Bentley, the warranted nature of inquiry is not the result of some constraints such as technology or prejudice, as is the case with the objectivist view of Popper and other philosophers of science. For Popper, one’s theory is tentative because not all the facts are accounted for *yet*. In contrast, for Dewey and Bentley, one’s theory is tentative because facts are partially created in the act of knowing. To start with, for Dewey and Bentley, facts do not exist out there, waiting to be discovered by humans, as they gradually shed away their old tools and prejudices. Rather, facts exist as such because of such constraints: One cannot make sense of facts without the constraints. So, for Dewey and Bentley, we want to keep the constraints. Otherwise, facts would dissolve into a jumble, an incoherent blob. We need the constraints to make sense of the world—and such sense is always subject to revision in light of the never-ending process of action.

In short, Dewey and Bentley’s transactional view is not only a theory of inquiry, but also a theory of action [Khalil, 2002]. Dewey and Bentley dismantled the dichotomy between inquiry and action when they regarded knowing as action and action as knowing. In the same manner that the transactional view supersedes both the interactional and self-actional views of action, it also supersedes the objectivist and relativists theories of inquiry.

## 8. The Challenge Ahead

The papers presented at the conference highlighted the importance of context. Some papers reported the findings of be-

havioral economics and behavioral decision theory. Others defended, in different ways, the relevance of rationality and the utility concept. Still others criticized the standard approach by showing new ways to think about preferences and constraints.

The papers showed, in diverse ways, that cognition is not simply the innocent recording of data. Data are usually organized by cognitive categories. Also, while the person may not be aware of the frame, preferences can become definable only through the frame. Such findings point toward a new challenge of how to tackle context. Social scientists may benefit from recent developments in neurosciences: They may benefit from studying how the brain uses categories—what one may call “neural institutions” such as beliefs.

To make sense of their environment, humans in diverse societies have developed a wide range of beliefs ranging from religions to ideologies. In anthropology beliefs are called “culture;” in jurisprudence, “rules” and “principles;” in Jungian psychology, “archetypes;” while in economics, “institutions.” Whatever the term, beliefs seem to be as ephemeral as context.

There is a need to investigate the origin of context *qua* beliefs on two fronts: First, one should investigate beliefs in relation to the neural structure of the brain and cognitive processes. Second, one should investigate beliefs in relation to how people experience their environment. The double faces of belief, one looking inward and the other outward, have been noted by such leading economists as Douglass North and Vernon Smith. North has focused on how initially-useful beliefs become entrenched to the detriment of economic performance. Smith takes guidance from Friedrich Hayek’s *The Sensory Order*, a long-neglected book on how neural categories affect information processing.

To study cognition as related to beliefs, the Behavioral Research Council is organizing a conference on Emodied Cognition in July 2003. The conference will be the first of its kind—an occasion where neuroscientists, economists, psychologists, and legal theorists will meet and discuss the nature of beliefs, rules, and experience in light of recent findings in the field of neuroscience.

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