A Cognitive Typology of Religious Actions

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Abstract: The rapid but disproportionate growth of the cognitive science of religion in some areas, coupled with the desire to meaningfully connect with more traditional, function-inspired classifications, has left the field with an incomplete and sometimes inconsistent typology of religious and related actions. We address this shortcoming by proposing a systematic typology of counterintuitive actions based on their cognitive representational structures. This typology may serve as the framework of a research program that seeks to establish (1) psychologically, whether each class of events receives different cognitive treatment within a given context and similar representation across contexts; and (2) anthropologically, whether the different classes are characterized by different performance frequencies, social functions, and kinds of interpretations, making them useful explanatory and predictive distinctions.

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Biologists find it necessary to maintain two systems for the classification of organisms, one based on form, the other on function. The behaviors of a dolphin, for instance, are similar to those of a shark or any other fish near the pinnacle of the marine food chain, and the behaviors of these animals may be profitably compared. But these functional similarities are not the whole story: by virtue of its genetic composition, anatomy, physiology, and so forth, the dolphin is more similar to cows than to sharks. The two different taxonomies yield different predictive and explanatory insights.

Typologies of cultural phenomena may be similarly constructed and prove similarly productive. Cultural phenomena may be classified by their function (e.g., subsistence vs. artistic activities) or by their forms (e.g., transhumant pastoralism vs. nomadic pastoralism). And as is the case with biological kinds, cultural kinds based on function tend to produce explanations sensitive to particular contexts, times, places, or cultural ecosystems. Typologies based on the form of cultural phenomena may produce discoveries about cross-cultural recurrence and tendencies for particular form-function associations. The cognitive scientific treatment of religious rituals is a case in point (Lawson & McCauley, 1990; McCauley & Lawson, 2002; Barrett & Lawson, 2001; Malley & Barrett, 2003). Operating on the insight that cultural beliefs and practices must be represented in human minds (Sperber, 1985, 1996), scholars in the cognitive science of religion have shown that using the typical cognitive representational structures of cultural phenomena as their deeper structure (their form) produces theoretically motivated and empirically tractable typologies of cultural phenomena (Boyer, 2001; McCauley & Lawson, 2002; Barrett, 2004; Pyysiäinen, 2004) Nevertheless, the rapid but disproportionate growth of the cognitive science of religion in some areas, coupled with the desire to

meaningfully connect with more traditional, function-inspired classifications, has left the field with an incomplete and sometimes inconsistent typology of religious and related actions.

Here we seek to address this shortcoming by proposing a systematic typology of counterintuitive actions (including religious and magical acts) based on their cognitive representational structures. The proposed typology may serve as the framework of a research program that seeks to establish (1) psychologically, whether each class of events receives different cognitive treatment within a given context and similar representation across contexts, thereby supporting the analytic distinctions; and (2) anthropologically, whether the different classes are characterized by different performance frequencies, social functions, and kinds of interpretations, making them useful explanatory and predictive distinctions.

We are concerned here with *counterintuitive events*. By counterintuitive events, we refer to events that violate observer's naïve—untutored—intuitions about causal relations (Hirschfeld & Gelman, 1994; Sperber et al., 1995; Boyer, 1994, 2001). As developmental psychologists have demonstrated, children rapidly acquire (or even manifest from birth) inference systems that generate causal expectations for objects and actors. These conceptual systems include specialized inference systems that concern physical interactions ("naïve physics"), the activities of living things ("naïve biology"), and intentionality ("Theory of Mind").

From infancy our naïve physics systems intuitively tell us, among other things, that an object at rest will stay at rest until it is launched by another physical object. So, if we watch as a boulder suddenly moves several feet to the left without any other object contacting it, we will represent that event as counterintuitive. It violates our intuitive expectations governing physical objects. In the domain of living things, a cat giving birth to puppies would constitute a counterintuitive event. Our intuitive inference systems generate the expectation that animals

give birth to their own kind. (Counterintuitive actions are not necessarily counterfactual: someone might implant dog embryos in a cat so that a cat did birth to puppies, but that would not render the occurrence intuitive.) The Theory of Mind systems generate intuitions concerning the activities of intentional beings or agents. So, if a tree is said to have heard a woman's gossiping, this event would qualify as counterintuitive because trees, not being intuitively classified as intentional beings, are not expected to think or communicate.

Violations are most commonly caused, we suggest, by contradictions between different intuitive causal inferences. When biological inference systems generate intuitions that contradict those generated by naïve physics systems—e.g., if a rock moves about by itself but is not a living thing—the mental representation of this event is anomalous, counterintuitive. Our first hypothesis is thus that *observers will distinguish intuitive and counterintuitive events*. We do not expect this distinction to be conscious or explicit (though it may be either in particular contexts), but rather manifest in the allocation of attention, in memorability, and in inferences. We expect that counterintuitive events *will be attention demanding* and, perhaps as a consequence, *more memorable* than intuitive events. We also expect that counterintuitive events will *partly confound inferences beyond those involved in the definition of the event as counterintuitive*, e.g., that observers will be uncertain whether a rock that moves by itself is also of a kind with other rocks, and whether such a rock may seek sustenance of some kind.

Counterintuitive events versus counterintuitive actions

What distinguishes counterintuitive *actions* (our focus here) as a special type of counterintuitive *event* is the attribution of intentional agency to an actor. The wind blowing a tree branch down is an event. It becomes an action (and a counterintuitive one) when someone

supposes that the wind intended or in some way willed the branch to fall, or someone else used the wind to knock down the branch. Getting ill is merely an event unless getting ill is thought to be the consequence of deliberate poisoning, or the wrath of an angry spirit, or being coughed upon maliciously. Once observers represent an event as the result of deliberate action by an intentional agent, it is an action. (The attribution of *deliberate* action is, of course, situationally sensitive, but here the contrast is between deliberate and non-deliberate actions within particular contexts.) Our second hypothesis is thus that *observers will distinguish events and actions by attributing intentional agency in the case of actions only*, that is, that the identification of an event as an action will bring with it automatically the assumption of agency behind it—even if the precise causal links between agent and event are not known.

Examples of counterintuitive actions (CI actions) are abundantly supplied by religion, magic, or even modern technology. When a Yanomamo shaman curses a neighboring village because his is sick with measles, or a girl shouts at her little brother because his remote control car has rammed her leg, the causal chain involves a link or two that confounds our intuitions, but we see in the event the actions of an agent.

It is, curiously, more difficult to think of counterintuitive events that are *not* interpreted as actions. Perhaps if something is interesting enough to notice, we begin wondering who is behind it. Suppose someone observes a large rock seeming to move by itself. Or perhaps our theory of mind inference systems are so productive that we tend to fall back on them, even when other inference systems tell us that they don't really apply, as when we reason about nations ("What does North Korea *want*?") or computers ("It just *hates* me!). It seems we tend to represent CI events as CI actions. Though there are counterintuitive events that are not represented as actions,

we suggest that they play little role in mythology, folktales, religion, or other cultural forms (cf. Boyer, 2001). Figure 1 summarizes these distinctions.

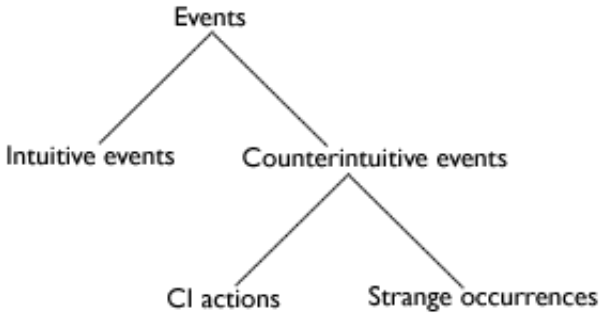

Figure 1: Major classes of events

Next let us consider the various kinds of CI actions. In labeling these, we use familiar categories such as *magic, ritual*, *possession*, and *prayer* for reasons of precision and parsimony. If the proposed groupings prove empirically coherent, they can provide precision and clarity to these otherwise ambiguous labels. Secondly, we want to keep the typology anchored in empirical data, not merely a set of theoretically possible actions designated by some opaque code. It is easier to follow arguments about "religious rituals" than "CI actions + S-agency + observability." Yet we are not committed to these terms, nor does our proposal turn on the particular language we use.

Mundane vs. supermundane agents

Counterintuitive actions may be divided into those attributed to normal, mundane agents and those attributed to supermundane agents. Examples of actions attributed to mundane agents would be a priest sacrificing an ox to Poseidon to secure safe passage, a Shiva devotee suspending himself on skin piercing hooks so that a child will prosper, or a triumphant warrior

ritually consuming his slain enemy to absorb his power. All of these cases involve someone acting in way intended to bring about counterintuitive causation—consequences that do not intuitively follow from the performed action. But many events represented by observers as being intentionally caused involve no mundane actor at all. For instance, when a child gleefully explains that God caused the snow to fall in May, the snowfall has been represented as an action, caused by a superhuman agent. Likewise, miraculous recovery from an illness may be attributed to divine intervention. These sorts of actions would constitute CI-supermundane actions.

CI-supermundane Actions: Possessions & miracles

CI-supermundane actions constitute a fairly limited group of phenomena. They appear in two basic forms. *Possessions* are those with mundane human or animal mediation. An action is carried out by a mundane agent but observers attribute it to a supermundane agent. When a superhuman is said to act directly, without mundane mediation, then the CI-supermundane action falls into the category *miracles.* The previously mentioned snowfall and unexpected recovery from illness exemplify this category. Nevertheless, miracles come in negative valence versions as well, as when a spirit strikes someone dead, destroys a home, or otherwise causes misery.

CI-human actions with and without special agents: Religious & magical acts

Inasmuch as the agents in this category are invariably human, we shall subsequently refer to *CI-mundane actions* as *CI-human actions*. The fact that the agents involved are human rather than animal or plant is a consequence of the fact that only humans have religion, and while this may be an accidental property of our taxonomy, we think it significant enough to rename the category at this level.

The most fundamental division within CI-human actions is between *those that connect supermundane agents to the human action* and *those that do not*. Let us call those that do *religious actions* and those that do not *magical actions*. (In this denomination we follow an old anthropological distinction, to which testable hypotheses might lend some teeth.) The distinction is simply this: some CI-human actions are thought to work by appeal, directly or indirectly, to supermundane agents; other times, certain instruments, words, people, or action-sequences are thought to possess special, counterintuitive causal power in their own right, without invoking the involvement of a supermundane agent. The former are religious actions, the latter magical.

Special agent actions and special actions

Among religious actions, we follow E. Thomas Lawson and Robert N. McCauley (1990; McCauley & Lawson, 2002) in distinguishing between *those that connect supermundane agents to the human agent* and *those that connect the superhuman agent in some other way*, between *special agent actions* and *special procedure actions*. Lawson and McCauley propose that underlying ritual performances are cognitive representations of the ritual actions, representations that include an S-agent (what we are calling a supermundane agent) somewhere in the action structure. Lawson and McCauley provide formal rules for describing the action structure and its incorporation of the S-agent, but we need not be concerned with those here. Their principle concern is to distinguish those rituals where the human actor is conceived to have been somehow—even very indirectly—the object of prior ritual transformation (e.g., the priest administering the Eucharist has himself been ritually transformed through ordination) and those where the human actor is not.

While we wish to adopt the Lawson-McCauley distinction between special agent and other rituals, we cannot do so without modifying it in two important respects. First, Lawson & McCauley limit the scope of their theory to religious rituals, which they define as religious actions in which some object or person is transformed. So, for example, their theory applies to the ritual transformation of a child into an adult, but not to prayer, which does not by itself modify the status of anything and so would be a religious *action*, but not a *ritual*. This distinction, however, has little to recommend it apart from its convenience for their predictions, and as it is inconvenient to our typology, we will ignore it. Or, to put it in hypothesis form, we suggest that *the Lawson-McCauley ritual form hypothesis will apply also to religious actions generally*.

Our second modification of the Lawson & McCauley's proposal is to add to their ritual structures another parameter, *purpose*. Lawson & McCauley's theory specifies, in considerable detail, the logical structure of ritual action. But they do not consider the fact that part of the mental representation of many rituals is their purpose. For instance, sacrifices are often performed to placate gods or ancestors. We suggest that adding the parameter *purpose* may help to answer our earlier finding that many religious people do not seem to know how superhuman agents are linked to the ritual's action structures (Malley & Barrett, 2003). Again, to put this in the form of a hypothesis, we suggest that *when S-agents are implicated in the structure of religious actions through the actions' purpose (as cognitively represented by participants), such rituals will have the characteristics of special procedure actions.*

We have taken the trouble to connect our taxonomic division with Lawson and McCauley's distinction because this allows us to incorporate the predictions of the ritual form hypothesis:

- *Special agent actions are reversible, in the sense that either (1) there will exist another religious action for reversing the effects of such acts or (2) participants' will judge that such a religious action would be possible. A reversal of the effects will require another special agent action. Special procedure actions will not be reversible.*
- *Special agent actions have super-permanent effects, i.e., they will not require repetition for continued efficacy. Special procedure actions will have only temporary effects.*
- *Special agent actions carry relatively higher levels of sensory pageantry than special procedure actions within the same population.*

These are interesting hypotheses, with some empirical support (Malley & Barrett, 2003), though further research is needed.

Figure 2 summarizes the typology of CI actions presented thus far.

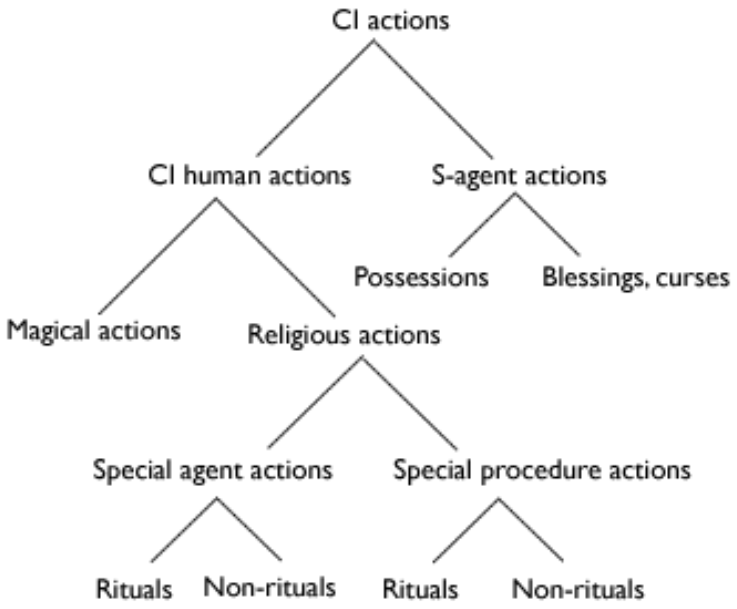

Figure 2: Classes of CI actions

Religious rituals and non-transformative religious actions

Our next distinction, taken directly from the work of Lawson and McCauley, is between those religious actions in which some person, place, or thing is *acted upon* and those in which the actions are not performed *upon anything*. Lawson and McCauley restrict the term religious ritual to the former category, leaving the other category unmarked. We will adopt their terminological convention. Lawson & McCauley suggest that the interpretation of religious rituals differ that of from religious actions more generally in that religious rituals are conceived as being transformative, that the objects acted upon will be said to be transformed in some way. As stated, this could be a trivial claim—in what does action on an object consist if not some sort of transformation of the object?—but we take it in a non-trivial sense, that *the objects of ritual action will be understood as transformed in some way beyond the observable effects of the ritual*

action. Thus, for example, the ritual sacrifice of a cow will be understood as transforming the animal in some way beyond merely rendering it dead.

Empirical and Metaphysical Consequences within CI actions

Ilkka Pyysiainen (2004) has proposed that religious actions are more likely to have metaphysical or unobservable consequences than are magical actions, which are often said to have practical, material effects. Although our use of "magic" hinges on a different conceptual criterion—whether appeal to an S-Agent is made—than his, a reasonable hypothesis inspired by Pyysiainen's proposal is that *though magical actions can be associated with metaphysical outcomes, empirical outcomes predominate*. That is, magical actions are used more often than religious ones to try to do things like bring rain, make people sick or well, or improve crop yield; whereas religious actions tend to be used to change metaphysical states such as being forgiven of sins, becoming married, or becoming a priest. We do not know how this hypothesis may fare, but it is worth suggesting as a touch point between Pyysiainen's work and our typology.

This concern with the class of intended outcome may also be applied as a theoretical consideration for all CI actions. We wonder, for example, whether *religious rituals tend to concern metaphysical consequences more frequently than physical consequences; non-ritual religious actions like prayer tend to concern physical consequences.*

Our overall typology is summarized in Figure 3. We think that the cognitive distinctions upon which our typology is based are either well established or at least psychologically plausible. Further, we think that each gives rise to interesting hypotheses about the structure of cultural systems and their transmission. The hypotheses may be summarized as follows:

1. People will distinguish counterintuitive events—events in which causal links are contradictory or missing—from intuitive events.
    a. Counterintuitive events will be more attention demanding and memorable than intuitive events.
    b. Counterintuitive events will confound further inferences about an object, beyond those involved in the definition of the counterintuitive event.
2. People will distinguish events from actions by attributing actions alone to intentional agents.
    a. The precise causal relation between agents and the events they are said to cause may be unclear to observers.
    b. People will be far more interested in actions than in events, and actions will be more common than events in their myths and folklore.
3. When S-agents are implicated in the structure of religious actions through the actions' purpose (as cognitively represented by participants), such rituals will have the characteristics of Lawson and McCauley's special patient rituals.
4. The Lawson-McCauley ritual form hypothesis will apply also to religious acts generally.
    a. Special agent actions will be ritually reversible, in the sense that either (1) there will exist a ritual for reversing the effects of such acts or (2) participants' will judge that such a ritual would be possible. A reversal of the effects will require another special agent action. Special patient actions will not be ritually reversible.
    b. Special agent actions will have super-permanent effects, i.e., they will not require repetition for continued efficacy. Special patient rituals will have only temporary effects.

c. Special agent actions will carry relatively higher levels of sensory pageantry than special patient actions within the same population.

5. The objects of ritual action will be understood as transformed in some way beyond the observable effects of the ritual action.
6. Although magical actions can be associated with metaphysical outcomes, these actions will more often be associated with practical, material outcomes. In comparison to magical actions, religious actions will tend to be associated with unobservable, metaphysical outcomes.
7. Religious rituals will tend to concern metaphysical consequences more frequently than physical consequences; In comparison to religious rituals, non-ritual religious actions like prayer will more often concern practical, material consequences.

These hypotheses lend empirical teeth to the principled cognitive distinctions we have drawn.

Our goal has been to articulate some points of contact between the structure and function of religious actions by synthesizing distinctions and hypotheses advanced by a variety of scholars working within a cognitive approach to religious phenomena. Our hope is that this synthesis will aid in the design of future research projects and that the hypotheses advanced here, even if found false, will prove fruitfully so.

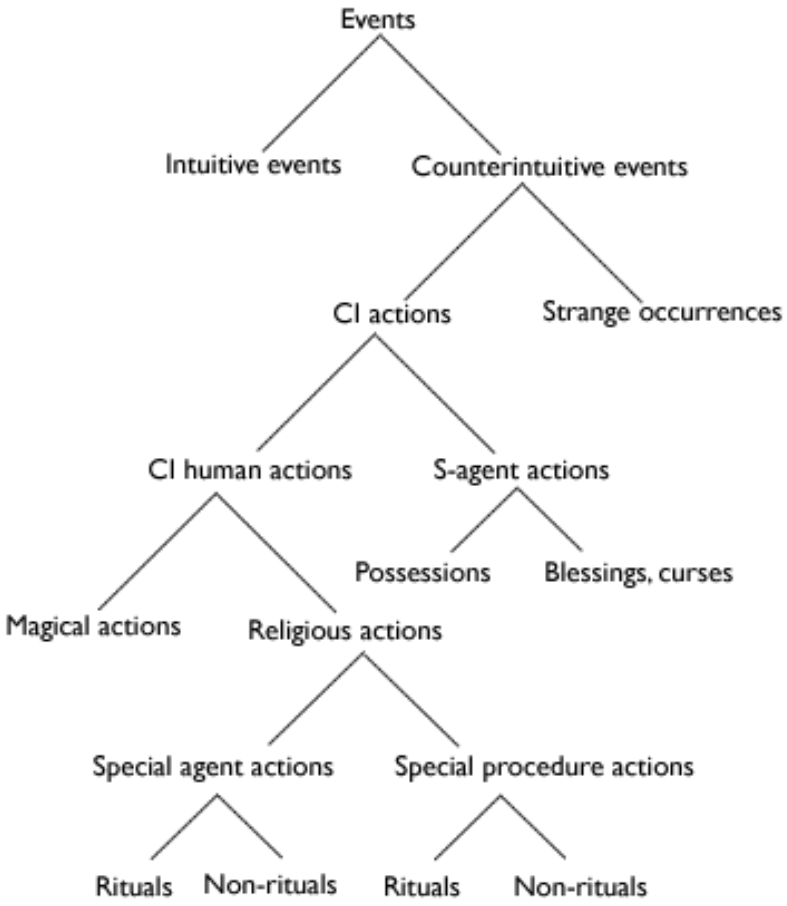

Figure 3: The complete typology

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