

The Intersubjective Construction of Human Experience
in Yogācāra Buddhism and Cognitive Science:
Sublating Modular Theory

William S. Waldron
Middlebury College

Meaning is a matter of context... only within a specific context is an event meaningful.... An object does not have significance outside of a relationship to someone, and that relationship determines the significance. To speak of an object apart from a perceiving subject is a conceptual error caused by an inadequate realistic concept of perception and the world..... (Palmer, *Hermeneutics*, 24)

Some of the essential approaches to the cognitive study of religion rest upon assumptions that are largely derived from the Protestant origins of the study of religion: first and foremost that religion is primarily about belief in a spiritual being (or beings) and that the individual believer is the natural locus of such belief.¹ Such ‘Protestant’ assumptions, moreover, are arguably enshrined in the current modular theory of cognition: that each and every one of us has specific cognitive modules designed to impute and apprehend, to *believe in*, ‘supernatural agents.’² These assumptions seem natural enough in our modern Western context—heir to so many other Protestant attitudes—in which religion largely *is* a matter of personal, voluntary choice and people

¹ This is stated clearly and repeatedly in one of the best introductions to the cognitive study of religion, Todd Tremlins’ *Minds and Gods*: “Individual minds are responsible for the existence of what one chooses to call culture;” “Religion begins as ideas in individual’s heads, and when individuals get together, these religious ideas... spread from one head to another. So a proper explanation of public religious systems begins with the religious ideas privately held in people’s minds” (Tremlin, 2006, 156, 160).

Throughout this paper I will be criticizing Tremlin’s book on similar grounds. I do this for two reasons: first, as a synthetic introduction it expresses many of the common conceptual issues that I find problematic; and, second, I know the book well, I regularly use it as in introduction to the cognitive study of religion. My aim here is not to criticize this very useful book *in toto*, but to spur conceptual clarity in our still emerging field.

² There is, though, an apparent contradiction between the impersonal and automatic nature of cognitive modules for belief and the idea that belief is or should be a conscious and voluntary act. Cognitivists, for their part, resolve this by declaring that “you do not need to be aware of holding them” (Tremlin, 137).

typically *do* think of religions as various assorted ‘belief systems’ that they *are* more or less free to choose through legally protected and culturally valued freedom of religion.³

But such assumptions hardly apply to all religious behavior, nor do they even exhaust the range of relevant factors that need to be considered in understanding, let alone explaining, the subcategory ‘religious belief.’ The cognitive study of religion is, I shall argue, unnecessarily limited by this inherited view—that individual belief is the essential *explanandum* in religion—and, as a result, our understanding of religion is unnecessarily impaired. We need, therefore, to interrogate these assumptions and increase the variety of cognitive factors that are relevant in any analysis of ‘belief’ or in the very idea of spiritual agents.⁴

Although there are many ways to criticize these ‘brain-in-a-vat’ theories—such as Andy Clark’s theory of *Extended Mind* and Michael Tomasello’s analysis of the *Cultural Origins of Human Cognition*—we will call upon analyses of cognition found in Indian Buddhist philosophy. Now, one might object that Buddhism is just another religion, which should more properly be the object of investigation than the tool of the investigator. After all, we don’t typically use Christian or Jewish doctrines as tools for studying religion in the secular academy. There is, however, a strong rationale for bringing Buddhist *philosophical* perspectives to the cognitive study of religion. Like cognitive scientists, Buddhist philosophers have long argued that we all harbor deep-seated tendencies to impute the existence of spiritual beings, not just of gods but of *ourselves* as essential agents or eternal souls (*ātman*). Moreover, they also claim, like cognitive scientists, that it is possible to overcome these tendencies—our tendencies to imagine that we *are* spiritual agents—by understanding ourselves instead as fully embodied beings enmeshed in the intricate causal processes that all living organisms are. Indeed, overcoming this basic cognitive fault is the *leit motif* of classical Buddhist thought.

³ For which we have much to thank the early American religious and political thinker, Roger Williams (2008).

⁴ The focus of this critique prevents us from discussing other issues with the idea of individual belief, such as the relationship between doctrine and ritual practice (i.e. orthodoxy v. orthopraxy) in different traditions. After all, Protestants typically confess their belief in the context of a congregation—a confession of orthodoxy that itself follows orthopraxy.

Hence, like the cognitive approach to religion, Buddhist philosophy seeks to more deeply understand, and to eventually overcome, the ‘natural’⁵ and nearly automatic processes of imputing spiritual agents in the world by means of analyzing the *causal mechanisms* that underlie such imputations. Indian Buddhist philosophy, therefore, not only shares this basic approach of the cognitive study of religion, but also has an extensive history of identifying the imputation of agency in increasingly subtle guises—such as in the cognitive mechanisms themselves—and replacing them with increasingly deeper, more thorough explanations in terms of impersonal causal processes and mechanisms.

Our approach thus builds upon, and seeks to expand, Robert McCauley’s programmatic statement of the cognitive study of religion from *The Naturalness of Religion and the Unnaturalness of Science*:⁶

Where *religion* summons *CPS* [culturally postulated superhuman] *agents* and their actions for explanatory purposes, *scientific explanations* provide progressively more detailed and systematic analyses of complex processes and mechanisms.

McCauley strategically situates this project within the general trajectory of scientific thought, observing that

[t]he history of science has been marked by increasing restriction of the range of phenomena for which *agent causality* constitutes an appropriate explanation... [S]cience has replaced purportedly exhaustive explanations of natural processes and events in terms of agents’ decisions and actions with narrower, more detailed, partial accounts of phenomena in terms of (mostly probabilistic) mechanisms.⁷

However, our ingrained tendencies to impute agents instead of analyzing mechanisms are not so easily stymied, as McCauley rightly observes. Our scientific advances, he laments, have

⁵ In Indian Buddhist view, it is considered easier and more natural (*anuloma*, going downstream) to understand experience in terms of entities and agents, but it goes against the stream (*pratiloma*) to try and understand experience in terms of impersonal causal patterns.

⁶ (2000, 77). Clause order shifted and italics added for emphasis.

⁷ (*ibid.* 70). This process of replacing the actions of agents with the analysis of mechanisms is, moreover, part of the much larger shift in scientific thinking from essentialism to nominalism. See Karl Popper (1950).

hardly dented our unreflective, “*natural*” inclinations to adopt the intentional stance indiscriminately in unguarded moments. This includes scientists’ tendencies to lapse into intentional and teleological talk when discussing the operations of complex systems. (*ibid.* 70)

Ironically, we see these “tendencies to lapse into intentional” talk in the search for the mechanisms underlying our attribution of agency when cognitive scientists reify those very cognitive processes, those mental modules, and “in unguarded moments” attribute agency, intention and purpose (*telos*)⁸ to the modules themselves, e.g., to our HADD: Hyper-active Agency Detection Device.

Such reification readily occurs when we abstract specific aspects of a complex causal relationship and attribute causal powers or agency to that single aspect alone.⁹ ‘Explaining’ our tendency to impute spiritual agents by simply declaring that each individual possesses a ‘module’ or ‘device’ that performs that function is as unsatisfactory—and as tautological—an explanation as Molière’s character who explains that opium puts people to sleep because it possesses the “dormative principle” (*virtus dormitiva*). Neither the module nor the opium function outside of the larger context of which they are a part (opium will not, for example, put a tree to sleep). In addition to their obvious tautological character, such explanations also end up effectively *attributing agency* to the modules themselves, as if these modules were actual entities acting in their right and not, as Popper puts it, “shorthand symbols or labels... introduced *in order to cut a long story short*” (1950, Vol. II, p. 14). In short, we need to move beyond these more subtle “lapses into intentional and teleological talk” and explain the modules in terms of their own complex causal relationships. That is, we must more explicitly extend our analysis to include the broader causal conditions for the development and operation of these ‘devices’ themselves.

⁸ We often do this with our other favorite fundamental causes, genes: “daily survival is the means to a gene’s ultimate end—reproduction” (Tremlin, 61).

⁹ In many ways, this is an unintentional result of the powerful method of searching for ‘independent’ variables, which we isolate from their larger contexts in order to analyze separately. But we readily forget that we only identify that variable, and its relevance, in relation to its larger context, its function within the body, the ecosystem, evolution, etc. The utility of isolation inadvertently influences our inclinations toward reification.

This is precisely what Indian Buddhist thinkers have done over the centuries. From the beginning, they analyzed cognition in terms of *processes of interaction* rather than as actions of entities, allowing them to ever more deeply deconstruct ever more subtle imputations of essences, agents and entities. They not only identified our tendencies, our mental mechanisms, to reify essences and entities—much as current cognitive scientists do—but they also recognized that the mechanisms subserving these tendencies are themselves products of interactions, not entities or agents in their own right. That is, Buddhists also analyzed our *tendencies to reify those very tendencies*.

And in their continued search for the conditions underlying such reifying tendencies they ended up moving well beyond the minds of individuals—beyond the ‘brain in a vat’ approach ultimately based on Protestant beliefs in individuals and their beliefs—and acknowledged the influences of language and culture on our collective, yet largely unconscious cognitive processes. They recognized, in short, that our common innate tendency to impute agents is itself a result of social interaction. Thus, we could give a Buddhist twist to McCauley’s programmatic statement:

Where *the cognitive study of religion* typically summons *individuals’ cognitive modules* and their actions for explanatory purposes, *Buddhist* explanations provide progressively more detailed and systematic analyses of complex processes and mechanisms.

Problems with the Cognitive Autonomy of the Individual

First, we must address the problems with taking the individual and his or her ‘beliefs’ about supernatural agents as the primary object of analysis. For one thing, this approach unwittingly takes the twin Protestant assumptions—the primacy of the individual in relation to God and the centrality of belief for one’s salvation—and effectively enshrines them as methodological assumptions in a secular science. Not only is this unwarranted on historical and comparative grounds, but it also ironically expresses our “natural inclinations” to populate the world with isolated agents and reified ideas instead of analyzing them in terms of complex mechanisms and interactive processes. A focus on agents and beliefs, in short, is much more consistent with the “naturalness of

religion” and its ‘folk psychology’ than with the “unnaturalness of science” and its impersonal analyses. Indeed, insofar as it takes such reified categories as ‘agents’ and ‘beliefs’ as its starting point, the cognitive approach is *itself* a reflection of that very folk psychology. This superimposition of ‘natural’ or ‘folk’ categories upon complex interactive processes ignores the complex conditions whereby such categories come about and constitutes a consistent and serious “lapse into intentional and teleological talk.”

To avoid this, where *the cognitive study of religion* typically summons *individuals’ cognitive modules* and their actions for explanatory purposes, we need to make deeper, more explicit, analyses of the complex causal processes by which such modules came about.

First, the theory of evolution examines causality in terms of complex patterns of interaction, not in terms of isolated entities. That is, in most analyses individual species do not evolve independently of their environment, but rather the two co-evolve. Or, as many suggest, it is rather *the pattern of interaction* between species and their environment that evolves. It is “the environment as interacted with by the organism [that is] the product of evolution,” neither the organism by itself nor the environment alone (Tooby and Cosmides, 1992, 86). Our cognitive mechanisms then, our modules, only came about within the larger context of the human species evolving in relation to our complex physical and social environments. They have no role, function or status outside of this larger causal matrix.

Second, phylogenetically, distinctively human forms of cognition evolved in large part as a function of social interaction, not *within* individuals but *between* them. Social interaction is thus *constitutive* of our distinctively human cognitive processes, not something accidental, added on after the fact. For example, we can talk and hear and understand language only because early human beings (and hominids perhaps) communicated with each other and, to the extent that this communication enhanced reproductive success, this ability evolved and developed over time. To take the complex cognitive mechanisms of *individuals* as ‘natural’ objects of analysis, then, ignores the larger context within which such mechanisms necessarily evolved. It is certainly useful for heuristic purposes to talk like this from time to time, but speaking as if individuals

and their modules existed first and only shared them later—as if sociality were not constitutive of each individual’s evolutionary heritage—is a serious conceptual lapse.

Third, ontogenetically, our distinctively human cognitive mechanisms not only evolved through social interaction, they also only *develop* through social interaction. Human infants require recurrent interaction with their caregivers over extended periods of time, spanning many critical periods, in order for their ‘normal’ cognitive capacities to develop. To ignore this context of our cognitive mechanisms, to take mature individuals as the ‘natural’ object of study, is to tacitly treat adult cognitive capacities as if they were born more or less fully formed out of head of Zeus. This, too, ignores the constitutive role of sociality.

In short, we cannot understand human cognitive mechanisms without taking into account the larger patterns of interaction within which they evolved, developed and currently operate. To do otherwise would be like analyzing everything about a factory except for the fact it is part of an advanced economy. We all know this. But in our “unguarded moments” it is easy to forget that modules have no more reality than ‘dormative principles.’ As Popper says, such concepts are “short-hand symbols... introduced to cut a long story short.” To abstract aspects of a complex causal relationship and attribute causal powers to those aspects alone is to reify them, to attribute agency and explanatory power to short-hand symbols instead of complex processes. In this context, it is to inadvertently revert to the ‘naturalness’ of folk psychology.

Buddhist Analyses of Mind as Progressive De-reification

A strong rationale for bringing Indian Buddhist analyses of cognition to this discussion is that Indian Buddhist thought has addressed these problems for much longer and, in some respects, in more sophisticated ways than current cognitive science. To review briefly, the basic Buddhist philosophical view is that we misconstrue how the world works, largely by interpreting dynamic processes and patterns of interaction as independent agents and reified entities, and that this cognitive ‘fault’ prevents us from understanding the world accurately and thus living in it more satisfactorily. In the process of its historical development over many centuries, Indian Buddhist thought has

progressively deepened its deconstruction of the ontology of such putative agents, discerned our cognitive tendencies toward imputing them, and then de-reified those very tendencies. This last step—de-reifying our cognitive mechanisms—eventually leads to the recognition that the larger, social contexts of culture, language and meaning are constitutive of even ordinary, individual human cognition.

But there is another, deeper reason why Indian Buddhist analyses of mind deserve our attention: their specific *mode of analysis* effectively precludes reification even in ‘unguarded moments.’ In what is undoubtedly the Buddha’s singular contribution to world philosophy, he analyzed mind and cognition in processual, relational and experiential terms. This is most succinctly expressed in the basic formulation of dependent arising, that all phenomena only occur and persist in dependence upon their enabling conditions: “when this is, that comes to be; with the arising of this, that arise. When this is not, that does not come to be; with the cessation of this, that ceases.” Cognition is analyzed in similarly processual, relational terms:

Visual cognitive awareness occurs when a visible object impinges upon an unimpaired visual faculty and there is attention thereto.

This deceptively simple formulation entails a number of implications relevant for our purposes. First, it treats cognition as an experiential *process* or event which occurs in a *pattern of interaction*, that is, with the interaction between an object and its respective sense faculty. Hence, second, awareness is not a faculty or agent that *actively* cognizes, but a process that *results* from “complex processes and mechanisms.” Third, the various components of these cognitive systems are necessarily *correlative* with each other: what is visible (audible, tangible, conceivable, etc.) is determined by the responsive structure of its respective faculty, that is, what the faculty will respond to (e.g. we can’t hear the same frequencies bats or dogs can). The correlative and dependent nature of cognition further entails, our fourth point, that phenomena *as we experience them* are a function of our cognitive processes. That is, whatever we perceive is necessarily mediated through our faculties and depends upon their respective, responsive structures. The cognitive ‘world’ (Sanskrit: *loka*) or ‘cognitive domain’ that human beings experience, therefore, differs radically from the cognitive ‘worlds’ house-flies or sea-horses do. Last, and most important, this mode of analyzing cognition takes the *cognitive event as a whole* as its

basic unit of analysis, not any one of its components separately. As in a transaction, in which a buyer and a seller are mutually defined in the very process of interaction, here too, a cognizing subject is only intelligible in relation to a cognized object; neither is abstracted from this interactive relationship and attributed existence independently of it (*a là* Palmer's epigraph).

This approach to cognition is also taken by many cognitive scientists. For example, Lakoff and Johnson (1999, 24-5) observe that "color is not a thing or a substance out there in the world... [It] arise[s] from the interactions of our bodies, our brains, the reflective properties of objects, and electromagnetic radiation. Colors are [neither] objective.... [nor] purely subjective.... Rather, color is a function of the world and our biology interacting." If we analyze a simple example in this fashion, such as 'I see an agent,' then *none of its components* are abstracted and reified from the cognitive process as a whole: neither the organ of seeing, the act of seeing, nor the object of seeing. They are all understood as a "a function of the world and our biology interacting."

The Buddha also applied this analysis of sensory cognition to the analysis of mental cognitive awareness:

Mental cognitive awareness (*mano-vijñāna*) occurs when a mental object (an idea, thought or previous moment of sensory awareness) impinges on an unimpaired mental faculty and there is attention thereto.

This entails the same implications that the analysis of sensory cognitive awareness does. It analyzes mental processes as a function of relationships, wherein mental consciousness is not a faculty that cognizes but a process that occurs. In this mode of analysis, the 'mind' no more 'thinks' 'thoughts' than the 'eye' 'sees' 'objects.'¹⁰ Rather, mental cognitive awareness only occurs when mental faculties and thoughts are also components of an integrated cognitive process.

¹⁰ As Vasubandhu (1990) an eminent Buddhist philosopher in the 4-5th c CE, declares: "The Sūtra teaches: 'By reason of the organ of sight and of visible matter there arises the visual consciousness': there is not there either an organ that sees, or visible matter that is seen; there is not there any action of seeing, nor any agent that sees; this is only a play of cause and effect. In the light of [common] practice, one speaks, metaphorically, of this process: 'The eye sees, and the consciousness discerns.' But one should not cling to these metaphors." (AKBh, ad I.42; Pruden, vol. 1, 118).

Our mental ‘worlds,’ therefore, are similarly correlative with, and thus mutually defined by, our specifically human cognitive faculties. Thus, again like a transaction, no single component of this complex process is abstracted and taken as an independent entity, neither the putative subject—i.e. a thinker—nor the object—i.e. a thought. From this perspective, to treat ‘agents’ and their ‘beliefs’ as if they were independently existing subjects and objects rather than correlative components of complex processes is to “unguardedly” reinforce the ontologizing tendencies of folk psychology rather than to analyze these tendencies into their “complex processes and mechanisms.”

Moreover, the Buddhist approach provides an analytic model that readily allows for the incorporation of additional influences on our cognitive processes in a way that avoids the ready reification that most cognitive approaches—like the modular theory with its ersatz agents and entities—all too easily invite. That is to say, any further factor we might discern that influences one side or the other of this cognitive complex—either on the ‘subjective’ or ‘objective’ side—are simply treated as additional components of the cognitive process as a whole. This is not unlike the way that ecologists or economists include the effects of additional influences in their models without reifying them; they just fill another slot. So, for example, mental cognitive awareness is said to occur whenever a ‘thought’ (*dharma*) becomes an object of the ‘mental faculties,’ roughly the brain and nervous system; and thoughts in traditional Indian perspectives are considered functions of speech. So, just as whatever is *visible* is necessarily correlative with the structure of the eye faculty, so, too, whatever is *thinkable* (or conceivable) is necessarily correlative with cognitive schemas embedded in our nervous systems. For human beings, this includes the conceptual and linguistic schemas, along with their physiological bases, that have been forged not just during one’s own developmental processes, i.e. ontogenetically, but also, and just as importantly, that have evolved in the human species over countless generations, i.e. phylogenetically. But, we must emphasize, those embodied schemas that have become essential conditions for human speech and thought are *themselves* products of complex processes and mechanisms, with no ontological status independent of this causal history or their ongoing interaction.

We are thus able to ‘see an agent,’ for example, only because the cognitive schemas that subserve such a cognition have both evolved in the human species—as opposed to

flies, who could never conceive of an intentional agent—as well as developed in each individual—as opposed to a tiny neonate, who cannot discern more than vague outlines of objects nor yet fully imagine agents as intentional beings. For to *recognize* a being, spiritual or otherwise, as ‘an agent’ with its own intentionality, one has to have reached the critical developmental stage. In all these senses, the cognition of an ‘agent’ is a product of complex cognitive construction, the capacity for which has only evolved and developed through extensive interaction with a species’ and an individual’s natural and social environments.

Moreover, to be aware that ‘I’ see an agent, requires an additional level of reflexive awareness about oneself as an experiencing subject—not as an independently existing entity, which is often implicitly accepted in cognitive science, but as an even more complex *product* of cognitive processes. As we should surmise, in classical Buddhist thought the notion of ‘I’ (the Buddhist expression is *asmīti*, “saying ‘I am’”) is dependent upon embedded linguistic and conceptual schemas that have, in turn, only been brought about through complex interactive processes over multiple generations (or lifetimes, as Buddhists put it). In this way, Buddhist thought further analyzes what are, in effect, the folk categories of ‘agent,’ ‘act’ and ‘object’ into ever more complex processes and mechanisms.¹¹

In sum, we might consider the process of de-reification of agents and their objects (including supernatural objects) as a series of stages that starts with the ‘natural’ formulation, ‘I see an agent,’ and then proceeds to recognize the constructive role of cognitive mechanisms in this: the HADD in each person’s brain ‘detects’ that agent. But if we stopped there, as if that were the real answer, we would be “lapsing into intentional talk,” speaking as if such ‘devices’ actually *do* something. We would simply be shifting agency from a cognizing subject to a ‘cognizing’ mechanism.¹² Again, this abstracts a single component of a complex pattern of interaction and reifies that component into an

¹¹ From this perspective, any explanation that simply assumes the syntax of “an agent acting upon a patient” (Tremlin, 166, citing Sperber) is not so much an analysis of our innate ‘folk psychology’ as a reflection of it.

¹² Tremlin’s book is strewn with sentences in which HADD (or ADD) effectively serves as a grammatical agent. ADD (Agent Detective Device) “ascribes,” “recognizes,” “ADD examines... engages” (77-80). This is useful, no doubt, for heuristic purposes, but the net effect of such syntax vitiates an analysis in terms of complex processes and mechanisms.

active agent. One reason we so readily “lapse into intentional talk,” I suspect, is because we have not fully acknowledged, let alone extricated ourselves from, the syntax of agent causality—of independent agents acting upon independent objects—a syntax that requires a grammatically active subject (a ‘dummy’ subject) even when it is absent (e.g. ‘it is raining’).¹³ But, as we have noted, this is the syntax of folk psychology, *not* the syntax of science. The language of science, as McCauley rightly observes, is the language of impersonal patterns of interaction, of processes and mechanisms, not agents, actions and objects.¹⁴ Since Buddhist analysis uses a syntax of impersonal causal relations as its starting point, as its basic method, it largely avoids such lapses into ‘agent causality.’

The Theory of Cognitive Unconscious Processes in Yogācāra Buddhism

Early Buddhist analyses of mind (roughly, 5th c BCE – 4th c CE), like most current cognitive science, limited itself to individuals’ cognitive processes, and mostly to conscious ones. But such analyses presupposed, without clearly articulating it, the operation and influence of unconscious cognitive processes and schemas upon even the most ordinary forms of perception.¹⁵ Moreover, while early Buddhists acknowledged the influences of language and conceptualization—which are necessarily social—they still treated the individual as the unit of analysis. By the 4-5th c. CE, however, these assumptions became problematic for a variety of reasons—exegetical, experiential, logical and meta-psychological—and were systemically addressed by Yogācāra Buddhist philosophers, who incorporated these newly articulated influences into the model of mind formulated in terms of dependent arising, as outlined above. They not only explicated the

¹³ Wittgenstein’s philosophical analysis is *apropos*: “In the Philosophical Remarks, Wittgenstein . . . maintains that the subject-predicate grammar of our everyday language has such a firm grip on us that we are usually quite unaware of its influence. Because the grammar of ordinary language has been shaped by the need to successfully manipulate our environment, . . . we usually understand experience in subject-predicate terms: we say such things as, ‘I have a headache,’ and take it for granted that the term ‘I’ refers to a subject, the self” (Stern, 1995, 79–80).

¹⁴ I have briefly discussed the effect of grammar on models of causal relations in ‘On Selves and Selfless Discourse,’ (Waldron, 2006).

¹⁵ See Waldron, *The Buddhist Unconscious* (2003, 33-41).

heretofore implicit constructive influences of language on ordinary cognition, but they also recognized that much of this takes place below the threshold of conscious awareness, including the social and cultural influences of language and concepts. Hence, they reached the startling conclusion, fifteen centuries before Freud, that the ‘world’ *as we ordinarily experience it* is not only cognitively constructed, but that most of these constructive processes are species-specific as well unconscious. This analysis deepens and broadens our understanding of the processes whereby we humans habitually impute agency, effectively replacing, to paraphrase McCauley, “*individuals*’ cognitive modules and their actions.... [with] progressively more detailed and systematic analyses of complex processes and mechanisms,” that is, cognition as mediated through culture and society.

The basis for this new model is a concept of unconscious cognitive processes (*ālaya-vijñāna*; commonly translated as ‘store-house’ consciousness),¹⁶ which metaphorically ‘store’ the potentialities, in the form of ‘seeds,’ for new experiences to arise from earlier actions. While it is tempting to take such metaphors literally and reify this concept of mind, as many did and still do, in its more systematic treatments this concept, and the model of mental processes based upon it, are clearly couched in the same impersonal causal syntax and with the same cognitive implications as the formulations found in early Buddhism. That is, *ālaya-vijñāna* is a dependently arisen form of awareness—albeit a subliminal one—that occurs in dependence upon the interaction between the cognitive faculties and their respective cognitive objects, which also now explicitly include, for human beings, those of language and concepts.

The ‘subjective’ side of this equation, the faculties and their cognitive schemas, is succinctly outlined in a short passage from a 4th c. CE Buddhist text, the *Samdhinirmocana Sūtra*, using to a common synonym for ‘store-house’ consciousness:

the ‘mind with all the seeds’ matures, congeals, grows, develops, and increases
based upon the two-fold [inner] substratum, that is,
(1) the substratum of the material sense-faculties along with their supports, and

¹⁶ For a book-length treatment of the history and development of this complex concept see Waldron (2003).

- (2) the substratum which consists of the predispositions toward verbal proliferation in terms of conventional usage of images, names, and concepts (**nimitta-nāma-vikalpa-vyavahāra-prapañca-vāsanā-upādāna*).¹⁷

This last phrase refers to the predispositions or ‘impressions’ of language (*abhilāpa-vāsanā*) garnered through past linguistic experience. Both of the conditions mentioned in this passage—the sense faculties and linguistic impressions—constitute ‘subjective’ influences upon this subliminal form of awareness.

This subliminal awareness also occurs with its own kind of subliminal objects, which, as in early Buddhism, are *necessarily correlative* with their respective faculties. The way objects appear to us, remember, is determined in large part by the cognitive ‘substratum,’ the responsive structures of the sensual and mental faculties and their accompanying cognitive schemas, concepts, names, etc. Thus, another contemporaneous Buddhist text, the *Yogācārabhūmi*, states quite explicitly: “the outward perception of the stable surrounding world whose aspects are not clearly discerned” (since they are subliminal) arises “based upon that very ‘store-house awareness’ which has the inner substratum as an objective support.”¹⁸ Our vague awareness of the world surrounding us depends upon our specifically human physical and mental cognitive schemas. This is why our *lebenswelt* differs so drastically from that of, say, a fly, fish, bat or dog. In short, the world *as we experience it* takes the form it does due to the interaction of external stimuli with internal cognitive processes, most of which occur outside of our immediate awareness.

Moreover, and also like cognitive awareness in early Buddhism, both the forms our subliminal awareness takes and the constructive cognitive processes that influence them evolve and develop over time through extended feedback processes, processes that occur not just between an individual and his or her environment over multiple ‘lifetimes,’ but that also continuously occur between supra- and sub-liminal levels of awareness. That is, the text explains, our conscious and unconscious forms of awareness continuously, simultaneously and reciprocally condition each other in such a way that the forms that

¹⁷ Waldron (2003, 94-101).

¹⁸ Waldron (2003, 109). *Yogācārabhūmi*. T.30.1579.579c23-582a28; P. #5539. Zi.4a5-11a8.

cognitive awareness take become “successively more well nurtured, well-tempered and quite distinct.”¹⁹

Consider, for example, the evolution of sight, in which over numerous generations the repeated interaction between incipient photosensitive cells, a burgeoning nervous system that subserves them and a sunlit environment, together eventually gave rise to our developed capacity for visual experience. Similarly, the repeated interaction between our incipient speech production, an evolving nervous system to process it, as well as a social environment within which to exchange it, together eventually gave rise to our developed abilities for language.

So when we experience the world in terms of ‘selves’ and ‘things,’ of ‘agents’ and ‘actions,’ another text explains, we do so due to the *specific power* (*śakti-viśeṣa*) of the impressions of conventional expressions (*vyavahāra*), which subtly influence our subliminal cognitive processes.²⁰ And our subliminal processes, in turn, affect the way our conscious forms of awareness occur. In other words, we experience the world in terms of agents and objects, etc., because our overt and conscious cognitive processes are constantly but subtly being conditioned by the everyday expressions, the categories and figures of speech (e.g. “the predispositions toward verbal proliferation in terms of conventional usage of images, names, and concepts”), which in-form our ongoing, underlying, but still mostly unknowable cognitive processes. And these, in turn, lead to further experiences and actions which reinforce those very impressions—which altogether outline multi-dimensional feedback mechanisms that are simultaneously individual, collective and, of course, temporal.

De-reifying HADD: from Subtle Agent to Constructed Complexes

To return to our current cognitive theories, we may say that the Yogācārin Buddhists have articulated concepts quite similar to the idea of cognitive modules. We experience the world the ways we do—i.e. in terms of objects, agents, entities, etc.—due

¹⁹ *ibid.* 114.

²⁰ Waldron (2003, 159). *Mahāyāna-saṃgraha-bhāṣyam*. T.#1597.336c5f. P.#5551; D.#4050.168b7f..

to the constructive influences of our predispositions, which have been canonized in the cognitive literature with catchy names such as ‘Hyperactive Agency Detection Device’ (HADD), etc. The major difference between these two systems thus far is that the Buddhists explicitly analyze these ‘modules’ as inseparable components of a larger cognitive processes—in which the subjective components are correlative with, and hence inseparable from, the objective components. As a consequence, they are not so readily abstracted from these processes and reified into seemingly independent entities. In this ‘Buddhistic’ analysis, then, the HADD and their assorted brethren do not ‘act,’ ‘project,’ ‘impute’ or ‘detect’ anything—since speaking of these devices as if they were grammatical agents capable of acting on their own right is, in effect, “unguarded” verbal “lapses.”²¹ In the impersonal causal syntax of dependent arising, rather, there simply is no grammatical role for an active agent. Rather, our ‘dispositions’ refer to functionally identifiable components of an integrated cognitive *system*, whose components, unlike the putative ‘dormative principle,’ only make sense in relation to each other. In other words, if HADD is going to be skillfully used to explain our nearly inescapable imputation of agency, then—lest we “lapse into intentional and teleological talk” about modules—we must acknowledge the evolution, construction and current functioning of HADD itself. To return to McCauley’s main point, even our predispositions to experience the world in terms of agents, etc., must be given “progressively more detailed and systematic analyses of complex processes and mechanisms.”

The Construction of our Common Human Worlds

The above section has described the trajectory toward recognizing and analyzing *unconscious* dimensions of ordinary cognition, dimensions that are merely implicit in early Buddhist theories and sometimes in cognitive theories as well. Both systems, though, also need to acknowledge the collective or shared nature of human cognition, the fact that many if not most of the schemas subserving human cognition are shared by our

²¹ Tremplin: “ADD constantly scans the environment” (77); “ADD is simply intent on its goal of finding the agent behind an event” (79); “ADD finds agents everywhere.” “ADD is eager to plot agents in the world” (103).

entire species, especially insofar as we are all influenced by language. Modular theorists, however, usually acknowledge natural selection as the collective origin of our cognitive schemas, but often curiously occlude the social origins of language and thought, as if individuals talked and thought first and only thereafter exchanged ideas, like people inventing money first and only thereafter deciding to exchange it (why do we even call it ‘currency’?).²² For the Indian Buddhist thinkers, on the other hand, the shared influences of language on our human cognitive processes was, unsurprisingly, incorporated into analyses of mind formulated in terms of dependent arising, and specifically, for Yogācārins, in relation to our unconscious cognitive processes (*ālaya-vijñāna*). Incorporating these diverse linguistic influences—both species-specific as well as

²² Tremlin shares the theory, common but not universal in the field, that one can isolate human cognition and ideas from culture and society, distinguishing “noncultural” ideas from cultural ones: “Cognition and culture are intimately connected, the later [sic] identifiable *only* with reference to the former.... When it comes to talk of ‘religion,’ we cross a border from cognition to culture, from ideas as they are held in individuals’ heads to their public use” (Tremlin, 146); “when individuals get together, these religious ideas... spread from one head to another” (160).

But what ‘ideas’ could *individual* human beings have that are truly “noncultural”? Wouldn’t they have to be independent from language, which is both cultural and shared? And to be truly noncultural, wouldn’t they have to be developed by someone who had not grown up influenced by the *cultural* categories of language? But how could this individual share her ideas without language? Perhaps these noncultural ideas would be similar to the kind of ‘ideas’ that nonverbal animals, such as cats and dogs and cows might have. (And maybe Xenophanes was right: if cows had religion God would be a cow.) But could we really have ideas of *superhuman* agents without culture? It seems that these “noncultural” ideas would have to be bereft of specifiable content as to be literally inconceivable (conceiving, after all, requires concepts), ineffable and incommunicable.

In short, the idea of noncultural ideas is a conceptual cul-de-sac, not because there are no nonlinguistic cognitive schemas than influence human behavior; surely they are and cognitivists are right to explore them. But once such schemas are coupled with language or concepts, which they must be to be conceived and communicated, then they inescapably enter into the public, shared realm of human thought—even when our linguistic categories are deeply neurologically embedded. There are, moreover, strong arguments that even ordinary human sensory cognition is nearly inescapably influenced by such categorization. See Deacon (1997).

By contrast, McCauley (*ibid*) has more carefully defined superhuman agents in cultural terms: “Religion *as it is commonly practiced* reliably operates within a framework of commitments to culturally postulated superhuman (CPS) agents.”

social—as simply additional “complex processes and mechanisms” that subserve cognition, effectively avoids reifying them into seemingly autonomous modules.²³

As we have seen, the cognitive ‘worlds’ that organisms inhabit depend upon the structure of their cognitive faculties. Cognitive ‘objects’ appear in the forms, and *only* the forms, that their respective faculties support. Thus, to the extent that we are members of a specific species, we have similar cognitive faculties (provided they are unimpaired) and therefore, to that extent, we inhabit common or shared species-specific ‘worlds.’ And since language is a distinctive feature of human cognition, our species-specific *human* world is also one that is indelibly influenced by language. This is true not just at the obvious level of names and categories but also at the more fundamental level of neurologically embedded syntactical structures, most of which operate automatically and unconsciously.²⁴ Moreover, since language is a shared or *social* system of reference and communication, we experience our implicit, species-specific world in largely similar ways.

Yogācāra Buddhists therefore argue that we may usefully distinguish those aspects of the unconscious construction of experience (*ālaya-vijñāna*) that are individual, and connected to one’s own sense faculties, from those aspects that are collective or shared (*bhājana-loka*), and connected to what we have in common (*Mahāyāna-samgraha*, I 60), specifically, language. Our common experience of the ‘world,’ even those aspects that are effectively subliminal, are, they argue, similar for two reasons. First, they are similar because we have all evolved into or acquired similar bodies, due our “similar previous

²³ Tomasello (2001, 94) makes a similar point: “invoking language as an evolutionary cause of human cognition is like evoking money as an evolutionary cause of human economic activity. But language did not come out of nowhere. It did not descend on earth from outer space like some stray asteroid nor.... did it arise as some bizarre genetic mutation unrelated to other aspects of human cognition and social life. Just as money is a symbolically embodied social institution that arose historically from previously existing economic activities, natural language is a symbolically embodied social institution that that arose historically form previously existing social-communicative activities.”

²⁴ Lakoff and Johnson (1999, 18f): “Categorization is therefore a consequence of how we are embodied. We have evolved to categorize; if we hadn’t, we would not have survived. Categorization is, for the most part, not a product of conscious reasoning. We categorize as we do because we have the brains and bodies we have and because we interact in the world the way we do... We do not, and cannot, have full conscious control over how we categorize.”

actions and experiences.” These have given rise, amongst other things, to the second reason: we experience the ‘world’ the specific ways we do due of the *specific power* (*śakti-viśeṣa*) of the impressions of conventional expressions (*vyavahāra*), that is, due to “the predispositions toward verbal proliferation in terms of conventional usage of images, names, and concepts.” In short, our species-specific world, our *human* world, is shared or common in large part because of the “impressions of language” that help structure, unconsciously and automatically, the ways in which we experience the world. Unlike deer, we automatically jump out of the way of oncoming cars or trucks; unlike goats, we immediately recognize furniture as furnished for us; unlike babies, we instantly parse complex syntax without a second thought; and, unlike monkeys, we effortlessly experience the world in terms of names, concepts, etc.—indeed, it is exceedingly hard not to think in words, as anyone with any experience meditating can tell you.

In other words, our search for the “complex cognitive processes and mechanisms” that impute agency, whether spiritual beings or otherwise, must not only take into account unconscious cognitive mechanisms at the individual level, but they must also take into account those complex processes and mechanisms whose influences extend well beyond the range of the individual. Analyses that ignore the constitutive and common influences of language and concepts on human cognitive processes appear, in this light, to be operating on the assumption that individuals and ideas, thinkers and thoughts, all have independent existence whose commonalities only occur *after the fact*—such analyses operate, in other words, in terms of good old-fashioned ‘folk psychology,’ with its essences, entities and agents.

Conclusion

Let us revisit our initial proposal, our amended paraphrase of McCauley:

Where *the cognitive study of religion* typically summons *individuals’ cognitive modules* and their actions for explanatory purposes,
Buddhist explanations provide progressively more detailed and systematic analyses of complex processes and mechanisms.

A Yogācāra Buddhist analysis of the imputation of agency—which can readily be applied to the imputation of spiritual agency, a common definition of religion in the cognitive approach—takes the following sequential steps.

First, ‘something’ impinges upon our faculties, a person, idea or vision perhaps. This instigates either sensory cognitive schemas correlative with that ‘object,’ and/or mental cognitive schemas (like modules) correlative with that idea—without which we could not become aware of that object as an object. Mental cognitive awareness relies on embedded categories of objects in order to identify or recognize ‘agents’ in the first place. This Buddhist analysis of experience, unlike that typically found in the cognitive theory of religion, is *explicitly* interdependent and interactive. In this view, modules like the HADD are seen as important yet inseparable parts of a complex process, but not treated as mechanisms abstracted from that process, ready for reification and inviting “lapses into intentional and teleological talk.” This level of analysis, however, leaves unanalyzed or unarticulated many of the underlying or unconscious mechanisms that arguably subserve cognition; it also ignores the social dimension of language itself.

Hence, insofar as the world as we experience it is cognitively constructed, we must extend our analysis to include the development or evolution of our cognitive schemas, acknowledging that they are neurologically embedded and operate largely unconsciously and automatically, without our conscious control or awareness. Many of these unconscious processes are linguistic or conceptual, including the processes that help construct such categories of ‘selves’ and ‘objects,’ ‘agents’ and ‘things.’ Although these conceptual categories are neurologically embodied in each of us, they nevertheless have a shared or social dimension insofar as they are only acquired through similar experience and development, not only phylogenetically and ontogenetically, but also and necessarily through our ongoing experience of social interaction. Our understanding of the imputation of agency, spiritual or otherwise, therefore has to explicitly acknowledge that our cultural ‘worlds’ are *collectively and largely unconsciously constructed*.

Individuals do not and cannot live in meaningful worlds isolated from the larger social and cultural lives within which such worlds come about. To imagine otherwise is, to my mind, to unguardedly lapse into the largely Protestant presupposition that what religion is really all about is individual belief, and to imagine that such ‘belief’ can be

adequately explained by recourse to discrete modules residing “in the brains” of individual believers. Whatever explanatory utility such categories as individuals, beliefs and modules, may have, and they can be quite useful indeed, they will always and only be “shorthand symbols... to cut a long story short”—a story that, for the most part, is as collective as the religious worlds, *the meaningful worlds*, their ‘owners’ inhabit. To think otherwise, it seems to me, is to replicate folk psychology rather than analyze it.

Bibliography

- Clark, A., with D. Chalmers. 1998. *The Extended Mind*. Analysis 58: 1. pp.7-19.
- Deacon, Terrence W. 1997. *The Symbolic Species: The Co-evolution of Language and the Brain*. New York: W.W. Norton & Co.
- Keil, Frank C., and Robert A. Wilson. 2000. *Explanation and cognition*. Cambridge, Mass: MIT Press.
- Lakoff, George and Mark Johnson. 1999. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.
- McCauley, R. 2000. ‘The Naturalness of Religion and the Unnaturalness of Science,’ in *Explanation and Cognition*. in F. Keil and R. Wilson (2000), pp. 61-86.
- Palmer, Richard E. 1969. *Hermeneutics; interpretation theory in Schleiermacher, Dilthey, Heidegger, and Gadamer*. Evanston [Ill.]: Northwestern University Press.
- Popper, Karl R. 1950. *The Open Society and its Enemies*. Princeton: Princeton University Press.
- Stern, D. G., 1999. *Wittgenstein on Mind and Language*. New York: Oxford University Press.
- Tomasello, M.. *The Cultural Origins of Human Cognition*. Cambridge: Harvard University Press.
- Tremlin, Todd. 2006. *Minds and gods: the cognitive foundations of religion*. New York: Oxford University Press.
- Vasubandhu. *Abhidharmakośabhāṣya*. S. D. Shastri, ed. (Varanasi: Bauddha Bharati Series, 1981); Louis de de La Vallée Poussin, trans., L’Abhidharmakośa de Vasubandhu (Bruxelles: Institut Belge des Hautes Etudes Chinoises, 1981); Leo Pruden, trans., Abhidharmakośa-bhāṣyam (Berkeley: Asian Humanities Press, 1990) (English translation of Poussin’s French translation).
- Waldron, W. (2006). ‘On Selves and Selfless Discourse,’ *Between Cultures: Buddhism and Psychotherapy in the Twenty-First Century*. Wisdom Publications. Pp. 87-104.
- Waldron, W. (2006a). The Co-arising of Self and Object, World, and Society: Buddhist and Scientific Approaches,’ (2006a) in *Buddhist Thought and Applied Psychological Research: Transcending the Boundaries*. RoutledgeCurzon. Pp. 175-208.
- Waldron, W. (2003). *The Buddhist Unconscious*. London: RoutledgeCurzon.

Williams, Roger, and James Calvin Davis. 2008. *On religious liberty: selections from the works of Roger Williams*. Cambridge, Mass: Belnap Press of Harvard University Press.