

Mindfulness and Psychotherapy: Abhidharmic and Scientific Perspectives
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I want to discuss questions raised by the scientific study of the Buddhist practice of mindfulness by juxtaposing questions about the two truths in Abhidharma Buddhism with reductionism in science in general, and the relation of first-person and third-person approaches to understanding mind in particular.

In brief, is the move toward reductionism *ontological*, insofar as all higher order (apparent) entities will in principle be *eliminated* in the search for what is “really” there? If we accept this, then we should wholeheartedly support the scientific *appropriation* of meditation, insofar as it promises to liberate mindfulness from the grasp of Buddhist belief so as to benefit more sentient beings.

Or, should we consider the reductionist move as primarily a *pragmatic* remedy for our infatuation with egos and entities, but not necessarily entailing such strong ontological claims? Reductionism is a useful way to gain insight, but ultimately depends on the larger framework of meaning and practice provided by traditional Buddhism. On this view, we should welcome the scientific study of mindfulness but be wary of scientists determining what it ‘really is.’

I will not resolve this problem here, but rather will attempt to frame the more narrow question of mindfulness and psychotherapy within the larger issues of science and religion and in juxtaposition with the early Buddhist and Abhidharmic ideas of the two truths. I realize these remarks are general and theoretical, fragmentary and exploratory.

Dependent Arising and the Two Truths

Arguably the most distinctive teaching of the Buddha is dependent arising: that all phenomena occur or ‘arise’ depending upon various causes and conditions. The corollary of this is that whatever is dependently arisen has no singular, unchanging, *independent* essence or identity. (Essences, as commonly defined in Indian thought, are irreducible simples and neither ‘arise’ nor depend on others). The logic of this is easy enough to understand: causality and essences are incompatible.

But the psychological implications are more difficult to appreciate. We find the idea that our identities are both composite and depend upon changing conditions threatening because we are strongly predisposed to experience our world in terms of fixed egos and entities. Indeed, in the early Buddhist view, our innate sense ‘I am’ is the last obstacle to be removed on the path to awakening.

Perhaps with this in mind, the Buddha in the early discourses frequently converts questions from the more ordinary, active voice into passive constructions: “I do not ask ‘*who* craves,’” he says, “I ask ‘with *what as condition* does craving arise?’” At one level, this simply transposes the syntax of ordinary sentences—couched in terms of active agents acting upon passive objects—into the syntax of dependent arising, describing the conditions under which such and such occurs.

This grammatical model then became the norm for *systematic* analysis of mind in most forms of Indian Buddhism.

Simultaneously, this transforms a *personal* first-person syntax into an *impersonal*, third-person syntax. There are good therapeutic reasons for viewing one's own experiences as an impersonal play of cause and effect: depersonalization loosens identification with our shifting thoughts and feelings, lowering their affective salience, and defusing the urge to respond impulsively. This is a common strategy in many therapies.

But this doesn't state whether an impersonal causal syntax expresses an ontological commitment about the way the world 'actually works,' or whether it is simply more skillful, insofar as removing reference to oneself as a personal agent ultimately weakens self-grasping. In either case, this depersonalization of experience, of all phenomena in fact, is the core of the idea of two distinctive discourses or truths: a conventional, though misleading, discourse referring to persons and things, and an ultimate discourse delineating their impersonal parts and processes.

Problems with the Two Truths and with Multiple Scientific Disciplines

It will be interesting to look at this idea of two distinctive discourses—a personal one dealing with persons and entities, and an impersonal discourse focused on causal processes—by discussing the problem of reductionism in the sciences and humanities.

Reductionism is the view that phenomena can be reduced to, even *wholly* explained by, an analysis of its constituent parts and their dynamic relations, which alone are 'real' and convey real causal influence. The apparent whole—the entity or person—is a useful fiction at best, with no true reality of its own. While most Abhidharma thought is thoroughly reductionist, as Mark Siderits has rightly pointed out, the harder question is: how useful indeed is this 'fiction' of agents and entities? Does it have any *effective* role to play at all? If so, what is its relation to impersonal causal processes? These questions are even more complex in the modern era due to the multiplicity of scientific disciplines, which offer multiple ways of investigating human experience.

Let's flesh this out with an example: Why does the sight of potato chips make me salivate and crave them? (I actually don't like potato chips; but most Americans seem to, eating 1.2 billion pounds each year!).

One potential answer is evolutionary: in our evolutionary past, long before 7-11s graced our planet, humans evolved to crave scarce but necessary nutrients. We could also answer that at the molecular level fat and salt play crucial biochemical functions in our metabolism and my body is telling me I need them, now. Physiologically, the neurological networks that connect the eyes, the brains and salivary glands recurrently subserve this response. Developmentally, like many others I have also learned through personal experience to associate this sight with the taste of salt and fat. But perhaps I also indulge in severe stress-induced binge-eating as a result of early trauma, something only discoverable through intensive therapy. Finally, one could say I am in thrall to the three poisons of greed, aversion and delusion—craving chips to avert stress and in active denial about its consequences: organic chips *really* are good for you, right?

Which of these is the ‘correct’ answer? Are any of them *not* correct? Does any one of them rule out others? Can they all ultimately be reduced to single answer?

Each of the various disciplines—evolutionary biology, molecular chemistry, physiology, developmental and personal psychology, and Buddhism—provides alternate and arguably useful and legitimate answers to the core question—how craving arises—based on their own *distinctive methods and theories*.

A physiologist needs to know the chemistry of the nervous system to understand the mechanisms subserving craving. A psychologist needs to know a patient’s general history to understand the development of habits underlying that craving. And a therapist needs to know of any specific traumas to suggest appropriate remedies for this obsessive craving.

Nor can they readily use each other’s methods. The therapist cannot succeed by consulting a chemical analysis, nor the physiologist by listening to childhood memories. They cannot directly use each other’s methods, tools or definitions, since their respective discourses differ so much from each other.

All this argues, at least, for multiple and diverse ways of investigating our world. Thus, as biologist Steven Rose argues (from whom I have drawn for this section), it may well be that “our world... is an ontological unity, but to understand it we need the epistemological diversity that the different levels of explanation offer.” (Rose, *Lifelines*, 95).¹

The Question of Reductionism

Accepting the idea of multiple levels of *explanation*, however, doesn’t tell us how they might influence each other. Nor does it claim to know what is “really” going on. Epistemological diversity in and itself does not refute ontological reductionism.

This is also a problem for the Abhidharmic idea of two truths, which claims that ultimately there are only parts and processes (*dharmas*), and that phenomena comprised of parts, such as persons or things, are useful fictions at best. But *how* are they useful? Does the phenomena expressed in first-person discourse have any causal influence at all? Or is it simply delusional, like faces in the clouds?

There is a rough corollary here with the ontological reductionism of scientific materialism, which claims, as James Watson of double-helix fame once quipped, that “in the last analysis, there are only atoms. There’s just one science, Physics; everything else is social work” (cited in Rose, *Lifelines*, 8). Everything else, in short, is epiphenomenal, a mere by-product of the interaction of atoms, which alone have real causal efficacy and to which all other explanations can in principle eventually be reduced.

¹ Rose, Steven (2003): *Lifelines: Life beyond the Gene*. OUP.

The ontological reductionist view of *physicalism* (or materialism) sees physics as the science studying what is fundamentally true, which serves as the firm basis for chemistry, upon which structural and behavioral biology depend, which in turn supports human psychology and ultimately social and cultural life.

Research programs can however be agnostic about ontological reductionism while nevertheless practicing *methodological* reductionism, in that they seek to understand phenomena by analyzing the dynamic interaction of their constituent components at successively lower levels. Culture in this view can be *best* understood by reducing it to social or, better, economic, factors, to human psychology (our embodied habits) or biology (our neural networks), to chemistry (our genes) and ultimately to physics (nothing is ours!).

However contested ontological materialism may be in scientific circles, it is well represented in popular science, with its endless succession of gay genes, God genes, neurons for music and math, for sexual differences of all kinds, even for seeing faces in the clouds (which ‘explains’ the anthropomorphism underlying all religion). Indeed, this well reflects the hermeneutics of suspicion that characterizes the entire modern age.

Classic Indian Buddhist thought is deeply sympathetic with methodological reductionism insofar as it extols the pragmatic benefits of analyzing one’s mind in impersonal terms. But it can open itself to the same criticisms as materialist ontological reductionism.

Emergence?

One of these criticisms is that more complex causal patterns are grossly *underdetermined* by their constituent parts. In our present state of knowledge, we cannot predict the regularities of chemistry by the laws of physics alone, nor those of biology from chemistry, or psychology from biology, etc. Nor can we see how our behavior is wholly determined by our physiology, which is not wholly determined by the molecular processes of genes, etc. At least in practice, each level has its own organizing principles, its own emergent dynamics, its own ‘laws’—that is, its ‘autonomy.’ This is a strong argument against *eliminative* reductionism.

But it also argues *for* some kind of ‘top-down’ causality. Consider that the neural connections between my eye, brain and saliva glands that help trigger my craving are only organized this way because they ultimately *serve the survival of the organism as a whole*. This is how and why they evolved. The organism thus imparts organizing influences upon its own molecular processes, which in turn influence its chemistry, etc. So while our biology certainly constrains our behavior, both at the individual and social levels, it is also true that being an organism fundamentally influences our behavior, even our biology—a causal influence with evolutionary origins. We have the brains and bodies we do in large part because we evolved as social beings.

Finally, what the science of human experience is trying to fathom is *why* we experience the world the *way* we do. Simply declaring this experience illusory or epiphenomenal does not fully answer that question.

Let's return to the Abhidharmic theory of two truths. If the interaction of impersonal *dharmas* were the only real processes, while the apparent beings they comprise—euphemistically referred to as 'mental streams' (*citta-santāna*)—were *mere* fictions with no reality whatsoever, that is, if Abhidharma were an eliminative reductionism, then several problems in Buddhist thought would ensue.

First, any robust account of causal regularity in moral terms, i.e. of karma and its future results, would be undermined. For if the boundaries of mental streams had no *effective* reality, then the results of one's actions could haphazardly accrue to anyone's future stream. For karmic analysis to be coherent, therefore, mental streams (i.e. persons) as discrete, defined beings—as organisms—must have some discernible and effective reality in their own right, a certain *autonomy*, however provisional, conventional and conditioned. Conventional truth thus cannot be wholly *collapsed* into ultimate truth, as in eliminative reductionism, since this would lead in the Buddhist view to a moral nihilism not unlike what physicalism threatens.

Finally, reference to mental streams, i.e. persons, provides the necessary *framework* and rationale for impersonal causal analysis, for it is mental streams as persons that are purified or defiled, that are reborn or liberated. Although ultimately not what it appears to be, this level of human experience is nevertheless the experience that needs to be explained, not simply explained away.

In short, as with the modern sciences, Abhidharmic thought needs to accept a multiplicity of causal discourses that recognize some kind of non-reductive causal efficacy that would, in turn, save it from the criticisms of an eliminative reductionism. *Pramāṇa-vāda?*

Mindfulness: Levels of Definition and Measurement

Many of these issues are seen in multiple ways that different modern disciplines define and measure mindfulness, topics addressed in a recent issue of *Contemporary Buddhism* (2011, 12).

Answering the first question—what is mindfulness?—is not as simple as it seems. The 'operational' definition of mindfulness in Jon Kabat-Zinn's Mindfulness Based Stress Reduction (MBSR) program is "paying attention, on purpose, in the present moment, and non-judgmentally" (CB, 291).² But Bhikkhu Bodhi, Rupert Gethin and George Dreyfus³ remind us that the Pāli term, *sati*, includes the sense of remembering, keeping something in mind, which is associated in practice with analyzing objects of awareness. 'Bare awareness' is just one component of Buddhist mindfulness. Moreover, the practice occurs in the context of the Buddhist path, connected, as Andrew Olendski⁴ rightly points out, to one's aims and motivations. It does not stand alone.

This does not disqualify the attempt to redefine and recontextualize the meaning and purpose of mindfulness in therapeutic and clinical settings; but we do need to recognize how idiosyncratic 'mindfulness' in MBSR is. Jon Kabat-Zinn admits that the practice he calls 'mindfulness' in

² *Contemporary Buddhism: An Interdisciplinary Journal*, 2011, 12:01, p. 291.

³ *ibid.* pp. 19-39; 42-54; 263-279.

⁴ *Ibid.*, pp. 55-70.

MBSR is his own synthesis of Theravāda, Zen and yogic practices,⁵ and not directly based on Buddhist practices.

Given *this* ‘operational’ definition, how can we know if *this* mindfulness is present or not? By testing, of course. But testing what and how?

One of the mainstays of psychology is self-reporting, which invites problems of terminology and self-awareness. Since respondents don’t know Buddhist terms, the questionnaires need to use ordinary language. But these require a modicum of self-awareness as well as an ability to provide reliable, consistent reports of first-hand experience.⁶

But how do we know these conventional terms correspond to what the MBSR, not to mention the Buddhists, mean by mindfulness? For they rely, as many tests do, on a kind of circular definition. If the measures are consistent enough across diverse studies and correlate closely enough with results from other, more behavioral, tests then we can be satisfied that mindfulness *as defined by the psychologists* is indeed present in these patients and has indeed been instrumental in their therapeutic success.⁷ I am not criticizing what seems to be standard practice, but merely pointing out that both the definition of mindfulness and the criteria for measuring its effectiveness are now wholly determined by the psychotherapeutic establishment, by those who produce and administer tests.⁸ For better or worse, Buddhists are out of the picture.

One way to ground the results of these practices more objectively is to search for their neurological correlates, which might avoid problems with self-reporting. But here, too, we find similar issues. Neuroscientists seek to correlate the self-reports of the questionnaires couched in ordinary language, and in tandem with behavioral measures, to measures based on neuroscientific studies, often involving localization of brain function, which is still in its infancy. But this complicates rather than simplifies matters, since, as noted above, scientists in different disciplines use different definitions, measurements and explanatory frameworks. There is no simple one-to-one translation between them, nor is there any real consensus concerning ontological vs. methodological reductionism.

As with the two truths, we should ask: are these various approaches searching for the ‘actual mechanisms’ of mindfulness in a eliminative reductive sense, as if the complex set of cultural

⁵ *Ibid*, pp. 281-306. See also John Dunne’s perceptive analysis of Jon Kabat-Zinn’s ‘non-dual’ definition of mindfulness, *ibid*, pp. 71-88.

⁶ ‘A major programme for 21st century science will be to discover how an experience can be translated into a report, thus enabling our experiences to be shared’ (Frith, 2002: 374). As cited in Thompson, ‘Neurophenomenology and Contemplative Experience.’ *Oxford Handbook of Science and Religion* (2006), pp. 226-235.

⁷ See Baer’s article, *ibid*, pp. 241-261.

⁸ Operational definition of mindfulness: this construct as it is applied in clinical practice. “Our conceptualization draws heavily on self-regulation models of cognition and mood (Carver & Scheier, 1981, 1990) and contemporary cognitive models of psychopathology.” Bishop et al. (2004) ‘Mindfulness: A Proposed Definition,’ *Clinical Psychology: Science and Practice*. 11:230-241. P. 236.

and psychological processes involved in mindfulness could be wholly reduced to fundamental causal determinants;⁹ or is this primarily a pragmatic search for what ‘works,’ for an effective amelioration of suffering with all the ambiguity that entails?

If the latter, then we still have to explain how first-person experience, however ‘illusory,’ is not just epiphenomenal but actual or effective, somehow causally related to their underlying mechanisms, to the multiple factors discerned in different scientific disciplines. As with the two truths, we can neither reductively collapse these levels into each other, nor wholly separate them without sacrificing the explanatory power each of them provides.

For the moment, let’s recall the pragmatic function of analysis of mind couched in impersonal causal terms found in both classical Buddhism and psychotherapy. The Abhidharmists claimed that there is no way to purify one’s afflictions without analyzing experience in terms of *dharmas*, a methodological reductionism promising ameliorative effect. The following passage, from Feldman and Kuyken’s CB article on compassion,¹⁰ neatly summarizes a similar view based on the success of mindfulness therapy in the treatment of depression:

“The second [important cognitive change] is the developed capacity to see a thought as a thought, an emotion as an emotion, a habit as a habit and begin to take the ‘I’ out of the process... It is a profound shift to be able to see sadness, fear, loneliness, and doubt as impersonal events that are simply unfolding in this moment within the field of awareness rather than as personal statements and making it all about ‘me,’ as in ‘I am sad, lonely and afraid.’” (153)

⁹ Harrington and Zajonc, ed., *The Dalai Lama at MIT*, ‘Introspection and Mechanism in Mental Imagery,’ Kosslyn, Reisberg and Berhmann, pp. 79-90. P. 82.

¹⁰ Christina Feldman & Willem Kuyken (2011): Compassion in the landscape of suffering, *Contemporary Buddhism: An Interdisciplinary Journal*, 12:01, 143-155.