

**RECOVERING THE NALĀNDĀ LEGACY:
Towards A Second Renaissance of Buddhist Science**

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Abstract

This paper views the Nalāndā tradition as a classical legacy of global significance preserved in the renaissance civilization of Tibet. It describes the regeneration of that living legacy as a second, global renaissance of the Buddhist arts and sciences, based on the time-capsule of Tibetan monastic colleges transplanted back into India. Focusing on the prospects for a working translation of the Buddhist mind sciences and healing arts into the West, it attempts to expose and correct ethnocentric biases in comparative study of the Western and Buddhist scientific traditions. It calls for a new methodology based on seeking cognitive-practical contexts in the West that provide the closest match for the context of Buddhist scientific learning and practice. Comparing the critique of science in the postmodern West with the critique of conventional knowledge and action in the Central Philosophy (*Madhyamaka*) of Nāgārjuna and Candrakīrti, the paper reviews the findings of a comparative study of scientific education in seventh century Nalāndā and the contemporary West. In particular, it compares the therapeutic aims and qualitative methods of Buddhist science in the Centrist tradition with those of the psychotherapeutic mind sciences or human sciences described by Paul Ricoeur and others. This tentative context-matching permits a cross-cultural alignment of the Buddhist scientific tradition with the methodology of objective self-correction and altruistic social agency called for by contemporary thinkers like Hans Gadamer, Thomas Kuhn and Thomas Nagel. Based on this comparative methodology, the author describes his efforts at creating a context inside and outside the American academy for a living, breathing translation of the self-corrective thought and practice of the Buddhist sciences. He concludes by envisioning

the future of such efforts and the promise of a second renaissance of the Nalāndā legacy.

Introduction: Nalāndā and the Indo-Tibetan Buddhist Sciences

A half century ago when Tibet's leading minds fled to India with His Holiness the Dalai Lama, they came onto the world stage as a living time capsule of the 2500 year old legacy of the great Monastic University of Nalāndā. As the twenty first century dawns, that living legacy has once again taken root in its native soil and spread from India around the world. In the West, growing interest in Tibetan civilization has focused on the meeting of the Indo-Tibetan Buddhist mind sciences and healing arts with Western neuroscience, mind/body medicine and psychotherapy. My own interest in Nalāndā and its legacy grew out of contacts with Tibetan émigrés and their first Western students. Over time, I focused on interdisciplinary study of the similarities and differences between Western empirical science and Indo-Tibetan meditative science. In this paper, I would like to review with you the methods and findings of my prior work and then share my current effort to transplant and renew the legacy of Nalāndā in the contemporary West. Let me begin with some general remarks on the comparative study of science and civilization.

Comparisons between the ancient Buddhist and modern Western scientific traditions have generally employed one of three methodologies. Translator-scholars working within the Western academy have used the methods of philology, sometimes enhanced by hermeneutics, comparative philosophy, anthropology or sociology.

Research scientists working within the biomedical community have relied on the empirical methods of basic sciences like neuroscience, sometimes enhanced by other mind science disciplines like philosophy, phenomenology, psychology, linguistics or artificial intelligence. Health practitioners working in various clinical settings have preferred the methods of the case study or clinical trial, sometimes referencing the work of Buddhist scholars, research scientists or both.

As one would expect, the findings of comparative studies of these two traditions have diverged as widely as these three methods. Scholarly comparisons between Buddhist and Western science typically cite a shared methodological preference for reason and evidence over authority and revelation, as well as a shared conceptual preference for causal explanation and impersonal description. Research comparisons typically cite physiologic or mechanistic findings that support traditional claims about the effects and mechanisms of meditation. Clinical comparisons typically cite a congruence in psychological theories along with demonstrable health benefits of techniques like meditation. The main limits of these three main approaches stem from their narrow scope and ethnocentric choice of method.

Comparing Buddhist and Western views of reason and revelation obscures some key distinctions between these two scientific traditions. While Śakyamūṇi and his heirs critiqued Vedist notions of divine authority and scriptural revelation, they also developed their own critical concepts of valid authority (*pramāṇabūta*) and traditional teaching (*agamadharmā*). Although these concepts were restricted in principle to hypothetical (*atyāntaparokṣa*) matters beyond the scope of ordinary perception and inference, the requirement that empirical and/or rational demonstrations must also be

consistent with all scriptural statements without exception places the Buddhist tradition somewhere between the empirical method of modern science and the analogical method of systematic theology in the West. Assuming an ethnocentric bias in Western science and scientific scholarship, such content-based comparisons typically obscure the major discontinuity between the Indic and Western scientific traditions. Since the importance of this discontinuity is typically understated or missed, clearly defining it is vital to exposing and correcting past bias.

In my view, the major discontinuity facing comparisons of Western and Buddhist science is between a science in which mathematics is the privileged language and mechanics the privileged method and one in which those roles are played by linguistics and mind/body self-regulation instead. Although both types of science were developed in the West, the former has so defined our view of science since Galileo that the latter, found in the modern social sciences and prior contemplative sciences, is either dismissed as pseudo-science or relegated to the role of a proto- or para-scientific discipline. While the conventional wisdom has it that only Galilean science can yield knowledge that is objective or exact and effects that are reproducible, even the most vocal defenders of modern science have had to admit in recent years that objectivity, precision and efficacy in science are inexorably relative and conventional concepts, as Phillip Kitcher shows.

In their efforts to apologize for the therapeutic logic and qualitative methods of Buddhist science, researchers and clinicians unversed in the latest critical thinking have been caught in this methodological mismatch. Wanting to show the validity of Buddhist sciences and techniques in practical terms, they remain bound to the

conventional methodology of their respective disciplines. Contrary to their intentions, their attempt to “validate” the Buddhist sciences using the mechanistic theories and quantitative measures of the Western physical sciences is at best heuristic and at worst self-defeating. However clearly we show that Buddhist meditation has an effect on the brain or on stress, the theories and methods by which this is shown are decidedly not those by which the effect itself is achieved. Therefore, while such demonstrations may be welcome to all as “proof” that meditation is not simply a culture-bound ritual, they add nothing to the qualitative principles and intersubjective practices by which Buddhist science formulates, replicates and validates its desired effects. At the same time, they run the risk of reinforcing serious cross-cultural misunderstanding. While trying to open Western science to Buddhist influence, they confirm the ethnocentric bias that modern “empirical methods” offer humanity the only clear and reliable route to objective, precise, reproducible knowledge. However inclined we are to cling to quantifiable measures as more objective, exact or reliable, in researching sciences of the qualitative type these are at best insufficient, and at worst confusing or off the mark. Insisting on them as the gold standards of evaluation or translation of Buddhist science in spite of these risks betrays both an ethnocentric bias and a fatal methodological misunderstanding. One is reminded of a remark from philosopher Ludwig Wittgenstein’s *Investigations*:

If I tell someone, ‘Stand roughly here’—may not this explanation work perfectly? And cannot every other one fail too? But isn’t it an inexact explanation?—Yes; why shouldn’t we call it ‘inexact’? Only let us understand what ‘inexact’ means. For it does not mean ‘unusable’...Thus the point here is what we call ‘the goal.’ Am I inexact if I do not give our distance from the sun to the nearest foot, or tell the joiner the width of a table to the nearest thousandth of an inch? No *single* ideal of exactness has been laid down; we do not know what we should be supposed to imagine under this head...(PI, 88).

From the perspective of our post-modern consensus on science, the modern Western dichotomy of exact versus inexact, objective versus subjective science does not do justice to the discontinuity between modern Western and traditional Buddhist science. In order to say which type of science is more useful, one would first need to specify a human interest or aim relative to which the question can be answered. Today we are in a position to understand what Śakyamūṇi meant when he was asked in an exchange recorded in one of the Pāli scriptures to explain why one should follow a human teacher like him rather than a religious tradition supposedly revealed by an omniscient God. Picking up some leaves with one hand and pointing to the nearby woods with the other, the Buddha asked, “Which contains more leaves, my hand or that wood?” When his interlocutor affirmed that the handful contained fewer leaves, Śakyamūṇi replied, “The leaves in my hand represent the number of things one needs to know to reach freedom.” While fully unpacking the difference in aims assumed by these two traditions would need another paper, let me say here that the interests which have defined Buddhist science from the outset more closely resemble the therapeutic and liberative aims of the “human sciences” defined by Paul Ricoeur than those of our physical sciences. In terms of comparative intellectual history, both traditions transgress the artificial limits imposed on human beings by authoritarian religious traditions. The difference is that while modern Western science does so with an aim to perfect human knowledge and technical mastery, Buddhist science aims to perfect humanity itself. In terms of regulative ideals, Western science has preserved theological concepts of omniscient and omnipotent agency but distributed these across

human communities over time, conceding to monotheism that individual humans are not perfectible. Buddhist science rejected theological concepts of omniscient and omnipotent agency and replaced them with appropriate concepts of relatively omniscient, omni-compassionate agency, insisting that the only sure route to human freedom and happiness is for humans to realize and master our god-like genius. Hence Dignāga and Dharmakīrti argued that Buddhist science is impossible without a regulative ideal of a perfected human agent, one who embodies or personifies science. Anticipating Hans Gadamer, science is progressive not because it discards authority and tradition, but because it insists, one might say democratically, that each and every individual can and should personally reproduce and advance what is best in humanity and human cultural traditions. For that among other things is entailed in the Mahāyana aim of reproducing the Buddha's social agency. The discontinuity in methods used by the Western physical sciences and Buddhist mind sciences stems from this distinction in aims. Qualitative, intersubjective methods are preferred because they are appropriate to the goals of such human sciences, not to mention the mind/body systems in which our self-limitation exists and must be corrected.

Understanding this discontinuity in aims and methods helps expose the limits of recent approaches to comparing Western and Buddhist science. Those limits stem from an ethnocentric assumption that one can “translate Buddhism” without a serious attempt to translate the experience and practice of Buddhism in one's own mind and life; that one can “validate” meditative techniques by some measure other than valid personal experience and self-transformation; and that one can “study” Buddhist therapies in some way short of learning to heal oneself well enough to help others

reproduce the results. Given these introductory remarks, please bear with me as I review the steps I took in my own research and practice to arrive at a more accurate conceptual and practical translation of the Buddhist sciences.

Methodology: Contextual Comparison and Translation

Assuming that language is embedded in the context of cultural behavior, I began by hypothesizing that the partiality of recent comparative efforts reflected a mapping of Buddhist theories and methods into Western contexts that would not support a full rendering of their intended meaning and use. For reasons which I shall return to shortly, let me draw an example from the scholarly study of Mahāyana Buddhism. Until recently, Nāgārjuna's thought was almost exclusively linked by Western scholars to his *Fundamental Central Way Verses (Mūlamadhyamakakārikā)*, and translated as a work of academic philosophy. As a result, he was misread as a skeptic or nihilist until he was translated by Western scholars familiar with the living context of the Tibetan monastic curriculum, where his thought was put to its intended contemplative-ethical use as indicated by Candrakīrti's *Central Way Introduction (Madhyamakāvātāra)*. As both a Buddhist scholar and Western psychiatrist schooled in the Indo-Tibetan tradition, I set out to achieve a similar correction in the realm of applied Centrist Studies. I wanted to translate the theories and methods of the Buddhist mind and health sciences in light of their intended and actual use as aids to psychological and behavioral self-correction. To do this would require an interdisciplinary approach that could integrate the methodologies of philology and philosophy with those of meditation research and

psychotherapy practice. At the same time I knew that no mere combination of methods would insure complete and authentic translation. Instead, I needed a way of matching usage contexts that would not just translate texts for the Western classroom or study meditation in the lab or clinic but rather render theories and methods usable as study aids and practice manuals that can guide therapeutic dialogue, meditative training and ethical action in the West, much as they did in their traditional academic and medical contexts. This may seem a gratuitous or overly ambitious standard given the conventions of modern science and scholarship. So in defense of my project I should point out that no lesser, more modest standard of translation would be acceptable in any Buddhist tradition I know of. Nor would this be the first time scholar-practitioners set out to translate Buddhist thought and practice into other languages and cultures given such a standard

I began to cross-reference usage contexts in the source cultures of Indian and Tibetan Buddhist science with their closest matches in the target culture of the post-modern West. In particular, I was interested less in the content of theories and methods than in the institutional context or procedural process in and through which theories and methods were developed, tested and evolved over time. This cross-referencing was done by surveying the history of science in Eurasia and correlating family resemblances in the institutional contexts and procedures governing scientific education in the Western and Indo-Tibetan traditions. In practice I focused on comparing scientific learning in more or less matching contexts in each of three eras: the ancient Greek and early Buddhist academy; the Neoplatonic academy of Plotinus and Candrakīrti's Nalāṅdā; and contemporary human science institutes in the West and Tibetan monastic

colleges in India. What follows is a distillation of those of my findings that lead me to evolve my current approach to the regeneration of the scientific and technical legacy of Nalāndā.

The Context of Multidisciplinary Human Science in the Buddhist Tradition

The first finding that emerged from my comparative survey of scientific learning in Buddhism and the West was that the cultural distance between these two traditions for most of history was far less than it is today. The prime reason for this is that the major discontinuity between Western and Buddhist science I alluded to above took place in and around the European Renaissance. In Western history, both types of science were known to the Greeks, with math and physics privileged in the quantitative Pythagorean-Aristotelian tradition and linguistics and meditation in the qualitative Empedoclean-Platonic. Since qualitative science was preferred by the hybrid Greco-Roman academy of Christian monasticism, Renaissance figures like Galileo chose the quantitative paradigm as an alternative to Church controlled science. Since that time, the relationship between these two paradigms has been inverted to the point where the word “science” is increasingly reserved for the quantitative, physical science of Galileo and his heirs.

When it comes to the Indo-Tibetan tradition, the history of science is markedly different. Among the many reasons for this, two in particular stand out in my mind. First, while the Indians were certainly not behind the Greeks in math or physics, they were far ahead in linguistics and self-regulation. Like Euclid’s geometry and

Archimedes' physics, Paṇiṇi's grammar and Patāñjali's yoga provided Indians with linked conceptual and practical systems so elegant and powerful that they quickly became and remained definitive in the analytic description and technical control of nature. This paradigm was associated with the syncretic Buddhist-Vedist tradition of linguistic philosophy (*Vyākaraṇa*). Although an alternative conceptual-practical system associated with the refinement of formal logic and physics gained some momentum in classical India, linked with Buddhist and Vedist Logical traditions (*Pramāṇa-Nayāyika*), it never replaced the qualitative methods of linguistics and self-regulation but was retained as a paradigm for elementary studies. Second, comparing the fate of Socrates and his peripatetic academy with that of Śakyamūṇi and his mendicant community, it is obvious that Indian social and religious institutions could marshal far greater tolerance and support of liberal, scientific education than their Western counterparts.

These two factors represent a complex of conditions that put education on a different trajectory in India than in the West. I characterize this difference by distinguishing the way the institution of monasticism interfaced with learning in the two civilizations. In the West, monasticism served as a tool of religious-political authority, helping Rome coopt the progressive academic traditions of Hellenism. In India, Śakyamūṇi crafted it into a liberative institutional vehicle that helped the Buddhist academy play a progressive role in the evolution of Indian science, society and religion. Although monasticism gave birth to universal education in both civilizations, Mahāyana universities arose roughly a thousand years earlier than their Christian counterparts. What is more, Mahāyana champions Nāgārjuna and Asaṅga based their liberal, scientific curricula on critical, universalized versions of the

qualitative methods of Paṇiṇi and Patāñjali, without the specter of repression by Indian political or religious authority. Although alternate versions of the curriculum based on Dignāga's logic were developed by Bhavaviveka and Dharmapāla, they never displaced the qualitative curriculum of Nāgārjuna and Asaṅga, as refined by Candrakīrti and his heirs. I believe this reflects the degree to which the Buddhist scientific tradition was free to develop critical versions of both linguistic and formal logical methods and felt no need to concede on either front to Vedist orthodoxy. So it was that when Tibetans set out to forge a Central Asian renaissance of Indian Buddhist science and civilization, they revived the Nalāndā curriculum much as it was, with its integrated use of formal logical methods for the basic arts and sciences and qualitative methods for advanced disciplines like hermeneutics (*neyanithārtha*), cognitive self-correction (*cittaviśodhana*) and transformational psychology (*tantra*). As a result, the most perspicuous historical point of reference from which to survey the entire Buddhist scientific tradition lies midway between the eras of Śakyamūṇi and Tsong Khapa, in the seventh century when the paradigms of formal and qualitative method were refined by Dharmakīrti and Candrakīrti respectively. .

This thumbnail history of East-West science leads me to the second finding of my basic research: that comparisons must reflect the way science or refined knowledge is actually viewed and used in the Buddhist tradition. If we are to arrive at a comparison of the Western and Buddhist scientific traditions that permits a general and working translation, that comparison must reflect the critical paradigms of truth and method evolved to support the most advanced levels of the Buddhist curriculum. Most comparisons of Buddhist and Western science are based on one of two textual

reference frames: the basic scientific canons (*abhidharma*) of Buddhagoṣa and/or Vasubandhu; and the logical canon (*pramāṇa*) of Dignāga and his heirs. This obvious choice becomes problematic given Mahāyana critiques of their realistic theories and formal logical methods, whether from the relativism of Nāgārjuna's Central Philosophy or from the deconstructive psychology of Aśaṅga's Idealism. As these critiques forged a new scientific consensus in India, Buddhist Realism and Buddhist Logic were relegated to the hermeneutic status of interpretable truths (*neyārtha*) and to a pedagogic role as propaedeutic to definitive Idealist and/or Centrist versions of Buddhist teaching, scientific and spiritual. A similar process occurred in the shift from the Vedist Logical paradigm of Vatsyāyana to the Non-Dualism of Śaṅkara and his heirs. To base a translation of the Buddhist sciences on a realistic version of Buddhist psychology or logic despite the consensus of Mahāyana thinkers and their Hindu counterparts would be conceding to modern Euroethnocentric bias, in my view. This is especially obvious given the final trajectory of Buddhist sciences reflected in Indo-Tibetan syntheses like the Kālacakra, where all physical and social sciences (*bāhya/adhyātmaśāstra*) were relativized with respect to the ultimate spiritual science of self-correction called alternative or pure science (*akṣaraśāstra*).

Given the findings of my historical survey, I chose as the textual reference frame for my comparative study the period in which the Buddhist academy debated between versions of the curriculum based on the methods of Buddhist Realism, Logic, Idealism and Centrism. In particular, I focused on Candrakīrti, the Mahāyana methodologist *par excellence*, whose view of Centrist method as a qualitative language therapy helped resolve a century long debate between formal logical syntheses of

Centrism and Realism (*Sarvāstivāda*) and qualitative deconstructionist syntheses of Centrism and Idealism. I was especially interested in contextualizing this debate at Nalāndā, where Candrakīrti refined his dialecticist (*prasaṅgika*) or consensualist (*lokaprasiddhi*) Centrism in dialogue with followers of Bhavaviveka and Dharmapāla, and in debate with language philosopher Candragomin, at a time when the seventh century Chinese visiting scholars Xuan-zang and I-tsing were compiling the best records we have of the Indian Buddhist academy. As for the rest of my findings, I would like to introduce them by briefly anticipating an objection to my choice of textual and contextual reference frames from the Mahāyana tradition.

I have already alluded to the cultural bias Western scholars and scientists have against qualitative methods. A survey of Buddhology since its inception shows one glaring consequence of that bias that sets the stage for an objection to my choice of Centrism as a focus of comparison. Given the commitment modern science has made to realistic theories and formal methods, Western scholars of Buddhism have consistently aligned Theravada traditions with empirical science and Mahāyana traditions with mystical or skeptical religion. This has fostered an alignment of Protestant Buddhology with the reformation rhetoric of some Theravadins, casting Pāli Buddhism in the role of pure or early Greek Christianity and Mahāyana Buddhism in that of corrupt Roman Catholic tradition. So the conventional wisdom against my choice of Nāgārjuna and his heirs as representative of Buddhist science has two prongs: first, Centrism is too skeptical, mystical or nihilistic to be compatible with science in any form; second, Centrism is a corrupt, revisionist form of Buddhism that mistakes and displaces Śakyamūṇi's original intention.

As for the first prong, the objection stands or falls with mystical-skeptical readings of Centrism dispelled by recent Indo-Tibetan Buddhist scholarship, such as Robert Thurman's work on reason and enlightenment in Tsong Khapa's hermeneutics. As I discussed in my dissertation, the objection is equally incoherent from a Western standpoint given the recent turn towards relativistic and constructivist views of science. As for the second prong, privileging the realistic theories and methods of Buddhagoṣa, Vasubandhu and Dignāga based on claims to the purity and priority of Theravada Buddhism is anachronistic since critical traditions and Nāgārjuna himself preceded their writings by centuries; it ignores evidence that a Mahāsaṃgika-Mahāyana version of the Buddhist canon in Sanskrit coevolved more or less contemporaneously with the Theravada version in Pāli; and it begs hermeneutic questions like which of Buddha's statements in any canon are definitive, and which account of Buddha's ultimate intention is authentic, Vaibhāṣika, Sautrāntika, Cittamātra or Mādhyamika. This reformist bias in modern Western Buddhology has been ably challenged by my colleague Christian Wedemeyer, especially in his work on Āryadeva's Tantric works.

The third finding of my comparative study—the compatibility of Theravada and Mahāyana versions of Buddhist science—further counters this objection. In contrast to the sectarian rhetoric exemplified in the Śrī-Laṅkan reformation, the institutional structure and curriculum of Mahāyana universities like Nalāndā presupposed an inclusive framework more in line with Buddhist hermeneutics and the cumulative logic of science than with sectarianism. For instance, Xuan-zang and Yi-jing both indicate that mastery of the Theravada canon was assumed along with language proficiency as a

requirement tested by Nalāndā's entrance examination. This report alone would suggest that institutions like Nalāndā saw themselves as providing higher education meant to build on elementary learning offered by local schools of various Buddhist and non-Buddhist denominations. It is also consistent with the fact that students who entered Nalāndā as novices (*śramaṇera*) would eventually be ordained as *Mūlasarvāstivāda* monks, effectively becoming Theravadins who may or may not also uphold a complementary Mahāyana philosophy or practice. A final consideration here is the hermeneutic and pedagogic inclusiveness that characterizes Buddhist teaching, Theravada and Mahāyana. Expressed in the doctrine of liberative art (*upāyakauśalya*) and the prohibition against rejecting any Buddhist precept or faction, this inclusiveness was reflected in the Mahāyana hermeneutic strategies of gradualism. The fourfold pedagogic gradualism expressed in Nāgārjuna's *Jewel Garland (Ratnāvalī)*, for instance, includes three levels of teaching consistent with Theravada practice and only one with Mahāyana. His other works support this by aligning his critical theory of two realities with the therapeutic framework of the four noble truths: voidness is the ultimate pedagogic convention meant like a cathartic to free us from reifying all conventions, just as Nirvana is the ultimate liberative truth meant to heal us of all self-defeating cognition and action. By insisting that all scientific theories and logico-empirical methods are mere conventions whose truth is relative to the ultimate therapeutic aim of freeing beings from self-limiting habits of mind and action, Nāgārjuna is reiterating a critique of knowledge and expertise that is fundamental to all Buddhist arts and sciences, Theravada and Mahāyana. And by insisting that the only ultimately coherent Centrist methodology or pedagogy is a consensual or dialogical language therapy that

empathically assumes others' viewpoints in order to help them see through reified mental habits, Candrakīrti is able to bring the Mahāyana academy back down to its Theravada foundations. In sum, the choice of Nāgārjuna and Candrakīrti's methodology as definitive for the Nalāndā curriculum defines the Mahāyana academy by its decision to subject the production of scientific knowledge and technical expertise to the human quality control of a self-corrective art and science of enlightened social agency, based on the therapeutic truth and method of the Theravada tradition.

This brings us to the fourth major finding of my comparative study: the contextual definition of Buddhist science as a multidisciplinary human science. Once we understand that the institutional strategy of the Mahāyana academy is to extend the progressive social role of Theravada learning into the mainstream of Indian science and civilization, it is a fairly simple matter to map the Centrist canon and its use into the context of Nalāndā's universal curriculum and mission. While modern Buddhology has tended to map Centrist texts into the context of academic philosophy in the West, as I said this is far from the context in which Centrist philosophy enters the Buddhist academy of modern Tibet. You may recall I measured this distance in contexts by contrasting the texts chosen to define the thought of Nāgārjuna and Candrakīrti in the two traditions: typically the *Wisdom* (MMK) and *Lucid Exposition* (*Prasānnapādā*) in the Western academy and the *Jewel Garland* and *Central Way Introduction* in the Buddhist. Although three recent studies of Candrakīrti's *Introduction* have appeared the era of Tibetan-informed Buddhology, the distance between these traditions persists. The two studies by Western scholars focused exclusively on the critical philosophy chapter, while the Tibetan scholar translated and commented on the entire text, respecting its

traditional use to locate Centrist thought in the context of contemplative-ethical practice. I concluded that the distance here reflects a basic mismatch in the contexts of the modern Western and Buddhist academies, one which has obscured the translation of Mahāyana Buddhism in general and Centrism in particular. In the context of the Western academy post-enlightenment, the creation of autonomous disciplines emulating or reacting to the methods of Galilean science has led to a reading of Mahāyana texts as pure philosophy divorced from science, meditation and ethics. Yet the structure of the Centrist canon belies this matching, reflecting instead a clear congruence with the multidisciplinary therapeutic structure of the Theravada curriculum.

Far from the disarticulated, disembodied knowledge sought in the modern West, the modern Buddhist academy continues to integrate humanly relevant knowledge with meditation and ethics based on the therapeutic aims and methods spelled out in the four noble truths. To make this explicit, I mapped the Centrist canon of Nāgārjuna and Candrakīrti onto the three core disciplines basic to all Buddhist learning (*tridhadhisya*).

Thus, Nāgārjuna's *Wisdom* and Candrakīrti's *Lucid Exposition* elaborate a relativistic theory of knowledge to apply to the discipline of wisdom, while the *Jewel Garland* and *Introduction* define an altruistic style of social agency to align technical expertise with the discipline of ethics. In an effort to bridge the gap between Buddhist and Western traditions of Centrist studies, I chose to base my comparative study on texts that help contextualize Centrism by providing a missing link between its self-corrective approach to knowledge and its altruistic approach to social agency. Aligned

with the core discipline of meditation, Nāgārjuna's *Reason Sixty* (*Yuktiśaṣṭika*) and Candrakīrti's *Reason Sixty Commentary* (*Yuktiśaṣṭikavṛtti*) describe how the de-reifying language therapy of Centrist philosophy is put into practice as a self-corrective method of contemplation that in turn serves to foster the Mahāyana ethos of enlightened altruism and universal social agency. Taken together these meta-disciplines govern the universalization of the Buddhist arts and sciences in the Mahāyana academy, with language-therapy universalizing linguistics (*śabdavidyā*) and logic (*hetuvidyā*); self-corrective contemplation universalizing psychology (*adhyātmavidyā*); and altruistic agency universalizing physical science and technology (*śilpaṣṭhaṇavidyā*), medicine (*cikitsavidyā*) and political-economy (*arthaśāstra*).

As a final note before I turn to my findings on the Western front, I should say a few words about the interpersonal context of scientific education in Buddhism. Another key way in which the Mahāyana academy extended the therapeutic structure of Theravada learning to further its universal mission was to integrate its vast, content driven curriculum of text-based classes with an equally intricate process driven system of human self-correction basic to all Buddhist monastic education. This process system included traditions of scholarly tutelage, ethical mentoring, contemplative self-development and collective self-correction through group confession or debate. This compound strategy helps flesh out the unique context of the Mahāyana academy and shows how its integral curricular content and pedagogic process worked together to foster an institutional culture of self-corrective ideals and procedures. Far from the context of the Western scientific academy in which a professor typically teaches her own textbook to a lecture-hall full of students she may barely recognize much less

mentor, the context of the Buddhist scientific academy is explicitly self-corrective and profoundly dialogical. The typically Buddhist classroom is at the center of a network of dialogical relationships stretching through a complex community over time, arraying ten or more people, actual and virtual, around one text: the Buddha and his student in an original source context; a textual commentator and his student in a secondary source context; an oral commentator and his student in a tertiary source context; the second generation oral commentator and student of the text and commentary; the current student's extracurricular personal tutor (*ācārya*); his extracurricular practical mentor (*upadhyāya*); and his peer(s) in a debate, retreat and/or confessional group. While this complexity has been observed by Robert Thurman in the context of the esoteric Mahāyana hermeneutic refined in the *Extremely Brilliant Lamp* (*Pradīpoddyoṭaṇa*) attributed to Candrakīrti, it is rarely observed as basic to all Buddhist education. In any event, such extended dialogical networks constitute a deep procedure of self-correction that complements the logic and method of self-correction central to all Buddhist learning. Together the self-corrective procedures of linguistic self-analysis, contemplative validation of experience and intersubjective replication of results take the place in the Buddhist scientific tradition filled in the West by the depersonalizing procedures of statistical formulation, experimental validation and inter-laboratory replication.

The Context of Multidisciplinary Human Science in the Modern West

The fifth and final finding of my comparative study is perhaps the most difficult: that is, to select the closest contextual match or matches for Buddhist science in the West. We have already dealt with many of the problems that arise when translators assume a match between the institutional mission and context of the Western and Buddhist academy. My own experience searching for a context at one major American university is a case in point. Relegated to a secular department of religion, the Buddhist Studies program is surely the most hospitable place in which to teach Buddhist literature. Yet the disciplinary requirement that such teaching remain abstract and theoretical becomes obvious once one takes the next step in Buddhist learning, to teach classes in the practice of meditation or ethics. As a religion professor at Columbia, my course on religious experience and contemplative states was extremely well received by all, with the clear understanding that I stop at teaching students *about* meditation. I was able to get around this roadblock by offering some practical instruction on an extracurricular basis at the invitation of a student run meditation group.

Ironically, as a professor of psychiatry with full clinical privileges at the same university, I was able to teach meditation techniques in the practical context of a psychiatry clinic, under the rubric of stress-reduction. There the contextual barrier was equal though opposite: that I teach Buddhist meditation techniques but stop short of teaching Buddhist theories or ethics. As clinic director, I got around this roadblock by founding a Center for Meditation and Healing where I introduced clients to meditation, offering ongoing classes to those interested in a stress-free outlook and lifestyle to

support their practice. Yet the situation was still far from ideal. Two other academic contexts initially seemed to promise more complete matches. Columbia is one of few universities with a Center for the Study of Science and Religion, a seemingly ideal target context for translating the theory and practice of Buddhist science.

Unfortunately, its location within the Graduate School of Arts and Science meant that it too would be subject to the strictures against teaching meditation and ethics as practical disciplines. Plans for adding a meditation “lab” through the biology or physical education departments never got off the ground due to lack of institutional support. Finally, the Psychoanalytic Institute seemed promising because it upholds Freud’s vision of psychotherapy as a complete, multidisciplinary science of mind, linking it with the related sciences of experimental psychology, brain research, medicine, anthropology and linguistics as well as humanities disciplines like literature and philosophy. Theoretically this would provide the best possible match, since it arrays Western analogues for the Buddhist arts and sciences around a dialogical practice whose qualitative, intersubjective methods match well with those of mainstream Buddhism. Yet the historic need of psychoanalysis to prove itself against the gold standard of quantitative, empirical science compounded by its academic niche within the Medical School meant that any explicit link with the study of religion would be so politically charged as to be out of the question. If Jungian analysis is beyond the pale because of its unapologetic link with contemplative psychology and spirituality, the Buddhist mind sciences would hardly find a home with academic psychoanalysis. Of course, founding an independently funded interdisciplinary center at the university might hold out a last chance of a truly appropriate matching context for Buddhist

science within the Western academy, but similar centers had been rejected at Columbia in part because they crossed accepted disciplinary lines and challenged Western concepts of science, medicine *and* religion..

As for the larger field, even a cursory review was enough to show that my personal experience was far from unique. Researchers and clinicians committed to studying the Buddhist mind sciences and healing arts as something more than an academic curiosity were making real progress but eventually running up against the limits of Western science and medicine. Those in research disciplines from physics to psychology had to grapple with constraints imposed by a cultural consensus identifying science exclusively with mechanistic theories and quantitative methods. Intriguing parallels between Buddhist scientific theories and modern theories in quantum physics, biology, neuroscience, psychology and medicine were received as accidents of history not valid parallels, because the language and methods behind Buddhist theories does not conform to modern Western conventions. Even where the parallels were supported by current methods, as in neuroscientific studies or clinical trials of meditation, the findings were taken out of the living context in which Buddhist theories and methods were developed, tested and practiced.

The most interesting example here is the work of researchers in the young field called cognitive science, consciousness studies, or multidisciplinary science of mind. While these researchers are empowered to take an interdisciplinary approach that respects the intersection of philosophy, linguistics, psychology and neuroscience that assumed in the context of Buddhist science, they generally avoid the practice of psychotherapy which was central to psychoanalysis, the modern West's first science of

mind. The main reason for this is the controversial status of psychoanalysis and psychotherapy as a qualitative practice based on the intersubjective method of free-associative dialogue. In their efforts to apologize for the therapeutic logic and qualitative methods of Buddhist science, they feel a need to avoid the controversy surrounding a very similar science in the West. Contrary to their intentions, the attempt to “validate” the Buddhist sciences using the mechanistic theories and quantitative methods of the Western physical sciences is at best heuristic and at worst self-defeating. As I mentioned above, however clearly we show that Buddhist meditation has an effect on the brain or on stress, the theories and methods by which this is shown are decidedly not those by which the effect itself is achieved. Therefore, while such demonstrations may be welcome to all as “proof” that meditation is not simply a cultural belief, they add nothing to the therapeutic aims and qualitative methods by which Buddhist science formulates, replicates and validates its desired effects. While these studies may encourage some in the West to meditate, they do so at the risk of propagating the ethnocentric bias which has blocked our understanding and ability to transplant Buddhist science.

As the more astute of my colleagues have observed, the questions here are analogous to those facing Western psychotherapy research, where demonstrations in terms of effects on brain or behavior are more or less extraneous to the system of theories and methods by which therapy works. This is why I agree with those who would match the Buddhist sciences with the multidisciplinary science of mind in the West, with the proviso that the best match is with those controversial forms of mind science that revolve around psychotherapy, including the various schools of

psychoanalysis. This match assumes that the science of psychotherapy, with its qualitative formulas, state-specific methods and intersubjective replication of results, is in fact the most appropriate cognitive-practical context for a working translation of Buddhist science, with its therapeutic theories, meditative methods and intersubjective replication of results. As a final note, I should add that for such a context match to be rigorous, psychotherapy would not only need to be at the hub of the disciplines involved—neuroscience, medicine, psychology, linguistics, therapeutic philosophy and comparative religion—it would also need to freely and fully appropriate the relevant knowledge and methods of these disciplines by a critical process like that some call the psychoanalysis of science. The gist of this appropriation is to match the central role of self-correction in the Buddhist sciences by mapping it against its closest analogue in the West: the role played in psychoanalytic training by the requirement of a training analysis and ongoing self-analysis. This focus on the need to subordinate the production of abstract knowledge and technology to the production of objective human agency means that the ideal target context for translating Buddhist science would be something like what psychoanalytically informed French thinkers call *les sciences de l'homme*: a complete and lay-appropriate multidisciplinary science of human health, happiness, freedom and responsibility.

Conclusion: Towards a Global Renaissance of the Nalāndā Legacy

By way of introduction to my thoughts on the regeneration of the Nalāndā legacy, let me update you on my recent efforts at creating a context for translating the

Buddhist mind and health sciences in the West. As Freud founded his psychoanalytic institute to get around the limitations of the European academy, I have recently set about founding the first Buddhist psychotherapy institute I know of in the West to circumvent the limits of the American academy. Based in midtown New York, I designed the Nalāndā Institute for Meditation and Healing to create a suitable context for a working translation of those aspects of the Indo-Tibetan sciences that readily apply to New York life. Although free-standing, the institute is affiliated with the Center for Buddhist Studies at Columbia University and the Center for Complementary and Integrative Medicine at the nearby Cornell Medical College. These affiliations link the work of the institute with the scholarly translation system and clinical research behind it, as spelled out in my forthcoming translation of the *Reason Sixty and Commentary* and in the preliminary report on my Avon Foundation study on the effects of meditation in women with breast cancer. Illustrating the fruits of this linkage are a series of meditation manuals for Nalāndā classes translating the basic principles and practices of the Buddhist sciences into a language informed by academic Buddhology and validated in clinical trials at Columbia and Cornell.

While drawing on its links with the Western academy, the aim of the Nalāndā Institute for Meditation and Healing is to create a unique learning environment where people can study all three disciplines of Buddhist science simultaneously and with the benefit of individual tutoring and mentoring in the Buddhist practice of cognitive, attitudinal and behavioral self-correction. Among the world's first institutes of meditation-based psychotherapy, the methodology of Nalāndā New York depends on a tradition-neutral model of therapeutic communication, stress-reduction and learning-

enrichment outlined in my writings on intersubjective language therapy and meditative psychotherapy.

Observing the Nalāndā tradition of serving the secular and lay Buddhist community as well as monastic professionals, the institute offers classes and counseling to the public as well as training and supervision for physicians and psychotherapists. Classes in meditation and yoga cover the full spectrum of principles and practices within the Nalāndā curriculum, while the interpersonal structure of Nalāndā pedagogy is recreated by complementing classes with individualized programs in professional development, meditation-based psychotherapy, stress-reduction and mind/body health, abstinence and recovery, intimacy and parenting and positive aging and dying. Another significant feature is the intimate relationship between the institute's public health educational mission and its symbiosis with academic research programs. As in the Mahāyana academies of India and Tibet, the outreach mission of Nalāndā New York is meant to provide direct and indirect support to scholarly translation projects and scientific research on modes of action and clinical application.

Of course, I share with you my intention and experience in founding Nalāndā New York in the awareness that a free-standing institute loosely affiliated with the Western academy may not be the ultimate context of choice for the translation of Buddhist science in the West. My colleagues and I are in the process of raising the necessary funds for founding an interdisciplinary center at a receptive university, without any particular timeline. I have described the structure of our institute in some detail in order to clarify how we envision such an academic center. Recreating the unique multidisciplinary curriculum and self-corrective structure of Nalāndā within

the Western academy would require crossing several disciplinary lines, fostering a context something like a center for the study of science, spirituality and health, a sort of academic bridge between the medical school, the psychoanalytic institute and the Buddhist studies program. In such a center, accessible as an interdisciplinary undergraduate major, graduate program and postgraduate training, meditation and yoga would be required much as physical education, lab work or clinical rotations are in current science programs, and ethical theory and practice would be required much as humanities classes and performing arts workshops might be in arts programs. Also required would be a series of advisory and supervisory relationships resembling those found in some liberal arts colleges, small graduate programs and psychoanalytic training institutes.

Practically speaking, such a center could be built in a handful of major universities without requiring the endowment of multiple professorships. Administrative overhead could be kept to a minimum, and the expertise of faculty in various departments within Arts and Sciences and Medicine. In a university with a center for the study of science and religion, or for the study of spirituality and medicine, a center director and coordinator may not even be necessary. Academically, assuming an active program in Sanskrit and Tibetan studies, all that would be needed at first is one junior professorship in the Buddhist mind and health sciences and two other positions, a monastic expert in ethics and an expert in meditation and yoga.

Most important and perhaps most difficult to achieve would be an institutional buy-in to the unique focus on a curriculum and pedagogy of self-correction. This philosophical obstacle has a lot to do with the lack of resolution in certain “post-

modern” debates facing the liberal, scientific academy in the West. The first of these is the debate between the physical and social science communities over objectivity versus cultural relativism; the second is the related debate between secularists and traditionalists over the role of science versus religion in education; and the third is the debate between objectivists and pluralists over the possibility of multiple, more or less complementary approaches to science and spirituality. Since it is obviously impossible for me here to adequately define, let alone address these debates and their resolution, I must refer the curious to my masters thesis and doctoral dissertation. For the purposes of our discussion, let me simply say that I believe I have shown that these problems were clearly recognized in Buddhist and Vedist thought after Nāgārjuna and decisively resolved at Nalāndā by the eighth century. That resolution is reflected in the complementary Buddhist paradigms of embodied objectivity or objective self-correction refined by Candrakīrti and Dharmakīrti. The gist of that resolution is to confirm Śākyamūṇi’s critique of the idea of absolute objectivity or omniscience, as well as his defense of appropriate objectivity or relative omniscience as not only possible but the most economical way to insure that human knowledge and action will yield personal freedom and collective happiness. The other debates I mentioned were resolved by a corollary to this conclusion: any human cultural tradition, scientific or spiritual, that promotes objectivity through self-correction is objective insofar as it helps correct egocentric or ethnocentric biases limiting human open-mindedness, communication and/or cooperation. In other words, since the objectivity of human knowledge and expertise is inexorably relative to the objectivity of those who develop and use them, the best way to guarantee it is to maximize the natural, social and

cultural processes of self-correction by which human individuals and groups may become more objective over time.

While modern philosophers of science have had to adapt themselves to this way of thinking in recent years, it is all so new and obscured by heated debates that few individuals and fewer communities in the West have had time to evaluate or respond to the news. One voice in the Anglo-American academy that may be a harbinger of the kind of shift needed for a genuine recognition of the prescience and timeliness of the Buddhist sciences is legal philosopher Thomas Nagel. I leave you with some quotes from Nāgārjuna and Candrakīrti, followed by excerpts from Nagel's classic, *The View From Nowhere*. First, from Nāgārjuna's *Reason Sixty*:

Alienated beings who hold the self real
Misperceive being and nothingness;
Confused and under the influence of addictions,
Their own minds deceive them (YS, 24).

Just as the Victors say "I" and "mine"
For a heuristic purpose,
So they speak of "life systems," "media" and "elements,"
For a heuristic purpose (YS, 33).

Explanations of things such as material elements
In reality reduce to consciousness;
And since insight can dispense with them,
Are they not artificial constructions (YS, 34)?

Alas! Those who insist
On a non-relative self or world
Are impoverished by worldviews
Like idealism and materialism (YS, 44).

Once one comes to reify being,
One holds intolerable, malignant views,
Which foster attachment and aversion,
And give rise to conflict (YS, 46).

The magnanimous are free
 From [self-centered] conflict or bias;
 For they who have no [egocentric] position,
 How can there be opposition (YS, 50)?

Like a child attached to his reflection
 Because he perceives it as real,
 The world is caught in a trap of [false] objectivity
 Because of [consensual] delusion (YS, 53).

Seeing with their wisdom eye
 That things resemble reflections,
 The magnanimous do not get caught
 In the mire of so-called “objectivity” (YS, 54).

Those who contemplate the void
 And do not waver with the wavering mind,
 Cross the intractable sea of existence,
 Seething with snakes of addiction (YS, 59).

Now listen to these remarks from Candrakīrti’s *Commentary*:

Once the practitioner sees that what the “God” of his consciousness reifies as being existent or non-existent is deceptive and fictive in nature, he sees it as uncreated with respect to intrinsic reality and hence definitively understands it. Since the mind thus poised knows [things as] uncreated with intrinsic reality, it is purged of endless [constructs of] things like material elements that are created with such [apparent reality], and hence becomes free of them as a reflected image ceases when the form reflected is removed (YSV, ad.k.34, 752-753).

The activity [of mind] which interferes with the vitality of the faculty for exalted wisdom is referred to by Nāgārjuna as its ‘demon’....It is evident in their [reified] construction of things that the misbegotten have not escaped the realm of misknowledge and hence are ‘in the range of their demon.’ Once one no longer creates such [reified constructions], one does not fall under the demon’s dominion, as it cannot invade one’s subjectivity (YSV, ad.k.36, 756).

Once one makes the presumption of being, one will succumb to derivative views which objectify such [being] by constructing its beginning, middle and end; hence that reifying habit is the root from which all worldviews spring. Once one has arrived at a worldview, the addictions which arise from that [view] as cause develop. One develops attachment to one’s own view and takes pride in that; and one develops aversion to opposing views, and therefore gets completely confused (YSV, ad.k.45, 775).

When freed from egocentric position and opposition by their freedom from [reifying] being as such, those [magnanimous individuals] with such [purged] intuition will definitely terminate their addictions (YSV, ad. k.50,780).

In the empathic objectivity of the noble, [egocentrically biased minds] seem like children, ignorant of the nature of existence, caught in the trap of the [addictive] lifeworld, whatever they do. With an intellectual eye purified by wisdom [however], the noble see objective reality precisely as it is...hence, “the [magnanimous] do not get stuck in the mire of so-called ‘objectivity’ (YSV, ad.k.53, 784).

Finally, compare these excerpts from Nagel:

I shall offer a defense and also a critique of objectivity. Both are necessary in the present climate, for objectivity is both underrated and overrated, sometimes by the same persons...These errors are connected: they both stem from an insufficiently robust sense of reality and of its independence of any particular form of human understanding (5).

What really happens in the pursuit of objectivity is that a certain element of oneself, the impersonal or objective self, which can escape from one’s creaturely point of view, is allowed to predominate....Scientism is actually a special form of idealism, for it puts one type of human understanding in charge of the universe and what can be said about it...Of course, some of the opposition is foolish: antiscientism can degenerate into a rejection of science (9-10)

We are in a sense trying to climb outside our own minds, an effort that some would regard as insane and that I regard as fundamental (11).

I want to do something else and that is to describe a kind of reconciliation between the objective standpoint and the inner perspective of agency, one which reduces the radical detachment produced by initial contemplation of ourselves as creatures in the world (126).

This involves the idea of an unlimited hypothetical development on the path to self-knowledge and self-criticism, only a small part of which we may actually traverse. We assume that our own advances in objectivity are steps along a path that extends beyond them and beyond all our capacities...and can never be completed, short of omniscience (128).

What is wanted is some way of making the most objective standpoint the basis of action, of subordinating it to my agency...We cannot act on the world from outside but we can in a sense act from both inside and outside our particular position in it (135).

Our objectivity is simply a development of our humanity, and doesn't allow us to break free of it; it must serve our humanity and to the extent that it does not we can forget about it...The objective self is a vital part of us, and to ignore its quasi-independent operation is to be cut off from oneself as much as if one were to abandon one's subjective individuality (221).

Of course, the art and science of self-correction, Buddhist or Western, are in no way meant to exclude or substitute for any other science and technology. They are meant to complement and enhance conventional science, much as "alternative science" is meant to guide the ordinary physical and social sciences in the Kalacakra tradition or "extraordinary science" improves "normal science" in Kuhn's vision. The difficulty we post-moderns have understanding this is the main cultural block that must be overcome for the creation of contexts suited to the authentic translation of Buddhist science. The block relates to the current climate Nagel describes, in which all forms of science are supposed to fit neatly into one of two mutually exclusive categories, "hard science" or "pseudoscience." And it stems from the culture-specific conflict that defines that climate of exclusivity: the war between modern Western quantitative science and the traditional authority of Constantine's Imperial Christianity. Philosophically aligned with the therapeutic Centrism of Nāgārjuna and Candrakīrti, Nagel sees the true path of science as a middle way between reified extremes like scientism and antiscientism. Fortunately for us and the future of civilization, I believe he is quite wrong when he assumes that "...the methods we need to understand ourselves do not yet exist." Far more than an ancient precursor of modern physics, biology, psychology or mind/body medicine, Buddhist science is as a tradition-neutral system of objective self-correction and ethical self-transcendence that has the potential for helping humanity harness the knowledge and expertise of all

world cultures to the global aims and means of universal freedom and responsibility. As the cradle and time-capsule of that extraordinary tradition of scientific learning, Nalāndā and its living legacy stand among the most precious gems of human civilization. We have every reason to expect that their recognition and refurbishing in the present climate of global crisis and opportunity will spark a second renaissance of the classical world's liberating wisdom and healing arts.

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