

Completing the Global Renaissance: The Indic Contributions

Four Gates to the Mandala of Indic Traditions

These five essays contained herein are intended to provide an overview guideline for the participants in our inaugural session of the Global Renaissance Conference Series, entitled: “Completing the Global Renaissance: The Indic Contributions,” to be held in New York from July 24–29, 2002. These essays are only suggestive of the types of issues and approaches that can be taken with respect to each gate. We look forward to your additions, revisions, and critiques of these presentations.

The first essay is the overall overview of the “Mandala of Indic Traditions,” posted at the Infinity web site at:

http://www.infinityfoundation.com/mandala/indic_mandala_frameset.htm

The remaining four essays are the overview essays posted at that same site describing each of the four gates of the Mandala: Society Today, History, Inner Science, and Traditional Knowledge Systems. These four are posted, respectively, at:

http://www.infinityfoundation.com/mandala/society_overview_frameset.htm

http://www.infinityfoundation.com/mandala/history_overview_frameset.htm

http://www.infinityfoundation.com/mandala/inner_sci_overview_frameset.htm

http://www.infinityfoundation.com/mandala/tks_overview_frameset.htm

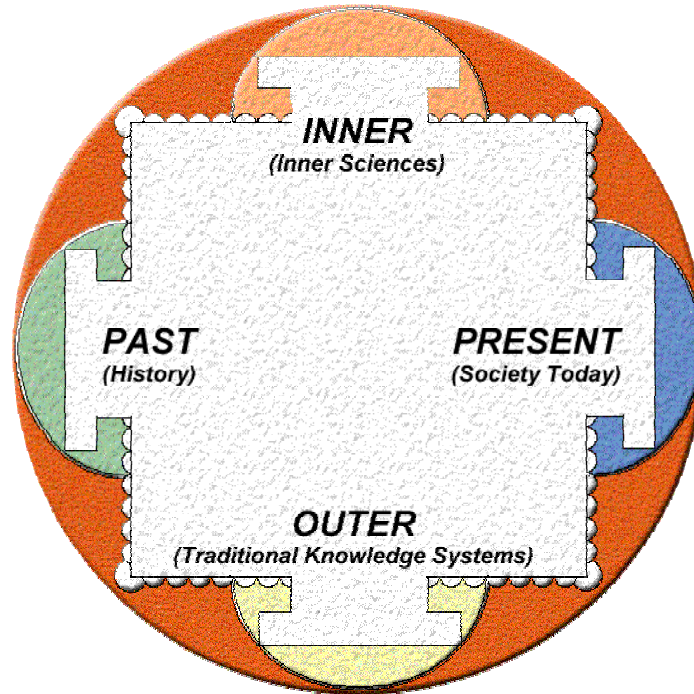
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Mandala of Indic Traditions: An Overview



The above mandala diagram shows four gates of entry to the study of Indic traditions. While there may be considerable overlap between the subjects and disciplines distributed among each of these four gates, nevertheless these four represent approaches or orientations toward Indic studies which are typically (if artificially) kept distinct.

Most individuals are usually drawn toward or exposed to Indic traditions from a perspective represented by only one of these gates. While a great deal may be learned from any one of these perspectives alone, such a one-sided approach invariably yields a distorted understanding of India and of Indic traditions as a whole. Thus, by presenting this mandala in its entirety we intend that audiences initially drawn to (or even expert in) one gate will be inspired to travel around the mandala to encounter and learn the perspectives of the other gates. In this way, once one is better educated about each of these four perspectives, one will have a more informed, nuanced, and holistic understanding of Indic traditions and may then be said to be truly "inside the mandala" of Indic studies. Once "inside" in this sense, one will have a different understanding than one did from the "outside" when one thought that India and her traditions were adequately understood via the one gate through which one was accustomed to viewing. This mandala construct is thus a device designed to encourage persons with these

different perspectives to develop, enrich, and transform their understanding of India. We believe that when sufficiently implemented on a large enough scale this has great potential to trigger multiple paradigm shifts in both Indic studies as well as in popular portrayals and understandings of India and Indic traditions.

The vertical axis of this mandala is more synchronic and spatial (inner-outer) in nature, emphasizing the domains of inner and outer arts and sciences, while the horizontal axis is more diachronic or temporal (past-present) in nature, covering portrayals of India's past history and present society. Again, any of these four can be seen to be interrelated, but they tend to represent typically separate orientations toward Indic studies. Our goal is to support not only improved scholarship at the entry point represented by each gate, but to develop a more holistic view of this mandala through promoting and supporting greater interdisciplinary engagement among scholars. Thus, for example, in addition to studying kings and wars, historians should consider the history of India's inner sciences and its traditional knowledge systems (TKS). Study of the latter reveals the enormous economic activity that made Indian society so materially rich that it attracted military incursions in the first place. Without appreciating such TKS', historical portrayals of India too often present invaders as bringing "civilization" to an economically primitive and socially feudalistic India.

Likewise models for understanding of "Society Today" will be far better informed through an appreciation of the disciplines of the other mandala gates. Without going around the mandala to develop a more "well-rounded" understanding of India, social and cultural phenomena in India today will too often be seen as exotica. A narrow approach which assumes that the source of India's social and economic problems today must be found only within the Indic traditions themselves (as opposed to being in large part the legacy of the history of colonialism, for example) has often lead scholars of anthropology, social science, and religion to grossly misread Hinduism and Buddhism as "world-negating." Ancient Sanskrit texts as well as contemporary beliefs and practices are then interpreted through that extremely distorting lens.

We believe that today the inner science and TKS gates have been explored the least and are the least well understood. Thus, while all four gates must be fully appreciated and thoroughly studied, far greater emphasis now must be placed on the study of these two gates. The histories, perspectives, theories, technologies, and methodologies of the inner sciences and the TKS' will provide the foundation for a "thicker description" (and hence a better understanding) of India's history and society today. These improved, more nuanced understandings will then feed back to better inform the other two, and we will have significantly advanced both the study of India and her diverse traditions, as well as our appreciation of what these rich traditions may yet have to offer to the global mandala.

The following document is from:

http://www.infinityfoundation.com/mandala/society_overview_frameset.htm

SOCIETY TODAY

Overview

DEVELOPING A GLOBAL CIVILIZATION

Definition of the Problem

Honest consideration of the history of European colonialism and its many genocides and of the extreme mass violence of the twentieth century has finally made it possible to question the unalloyed goodness of “modernity,” the reality of “progress,” and even the very “civilizedness” of “the West.” Still, in confronting the burning issue of our age – what is to be the nature and how the method of constitution of the global civilization mandated by advances in technology? – Western social sciences still operate in a vacuum, as if they alone have the superior intellectual key and the sole responsibility for solving all the urgent problems colonialism, industrialization, and modernization have created for the masses of people on this planet.

In regard to Indic civilization – in common with the civilizations of other “indigenous” “pre-modern” people – there stubbornly persists a pervasive stereotype that “traditional” Indians had no sense of time, no interest in history, no systematic ethical or political thinking, and no self-reflective thought about the nature of society. Supposed naïve pride in “timeless India” left India crippled, a society frozen in time. This supposed Indian ahistorical and otherworldly attitude is blamed for causing and perpetuating contemporary social ills such as caste rigidity, systematic sexism, communal violence, and poverty. It is further presumed that such socio-historical myopia made Indians incapable of developing the sophisticated, critical social theories they need to adequately address contemporary social issues.

This stereotype supports the neglect of powerful currents of Indian thought as codified in *Arthashastra*, *Dharmashastra*, *Nitishastra*, and the many ethical treatises of the numerous Indian spiritual traditions. It prevents the pursuit of ongoing development of Indic worldviews, as they are deemed to be dead-end and cul-de-sacs. This is in sharp contrast to the Christian pursuit of “constructive theology” throughout most of its history, as a way to upgrade itself with the times. Especially considering Christianity’s historically revealed essential nature through historically unique prophets and events, in contrast with the non-historically unique nature of Indic thought, it seems unfair that the Indic worldviews be disallowed a similar right to “progress”.

This also leaves “the modern West” all alone in its supposedly sole discovery of the fact that human beings live in societies which can be structured in various ways, either to the benefit or detriment of the individuals involved, and all alone in shouldering the burden

of responsibility of trying to come up with the best possible way of structuring the emerging global civilization – i.e., no help can be received from any “traditional,” “native” people such as Indians.

Under this still prevailing view, the remedy prescribed for India today – as also for the rest of the “non-Western” world – is the continuing importation or imposition of “civilization” from the West. This is subtly supported by the claim that Indic culture – like the currently dominant cultures of the Americas, Australia, and Africa – is imported to begin with, in consonance with the view of Indian history – like world history – as a series of invasions or migrations, in which “Western” people have ended up as unquestionably dominant (and therefore intellectually superior). The type of social understandings that India has produced, it is argued, have in fact been merely culturally bound social *models* with only limited (and limiting), indigenous application; these social models and descriptions, prescriptions, and proscriptions lack grounding in the type of meta-level structural analysis that might make them more universally applicable. Therefore, it is declared that Indic ideas do not qualify as true “social theories” in the contemporary sense of this term.

In contrast to such supposedly “traditional” models, post-structural and postmodern theoretical discourses are claimed to be unique in their highly useful deconstruction of categories, relativization of dichotomies (past/present, individual/society, base/superstructure), and problematization of existing social structures in such a way as to afford an analysis of the *systemic* dynamics and influences acting within and upon society. It is argued that this supposedly Western discovery has enabled sociologists for the first time to demonstrate how the very structure of a society’s economic, political, or educational systems *itself* has profound influences upon the individuals within that society. Such critical methodology presents more of a meta-level analysis, not constrained by particular contexts or essentialized notions, and so is more truly capable of developing “social theories” with universal applicability. It is claimed that this type of methodology and social theory are uniquely modern Western disciplines, developed by Western critical thinkers from Marx and Weber through Foucault, Bourdieu, and others, and that it has only been through recent exposure to such Western ideas that Indians have begun to engage in this type of dialogue.

Proposed Strategy to Respond

In this first colloquium, we want to gather a critical mass of scholars who want to reboot global cross-cultural dialogue, seen as competition amongst worldviews and truth-claims, on a non-hegemonic footing of initial equality, open to the possibility that one civilization or another may be superior on one point or another.

Scholars who do not share this mission tend to adopt one of four tendencies:

1. **Triumphalism:** These scholars state baldly that hegemony is historically natural and rationally desirable: The winners in history are, by definition, superior, as this is also a pattern seen in evolution. As in nature, the victor consumes the defeated,

- and appropriates the positive aspects of those conquered. Hence, the contemporary West is the latest and best civilization, and the rightful owner of everything has and could appropriate. Others should now join it, and abandon prior and defeated civilizations, since they are now obstacles and scourges. Very few still today overtly take this stance.
2. Denial: These deny that mainstream academic work is expressive of hegemony at all. While being in denial, they are intellectually familiar with the neo-colonized cultures. They are not so much in need of knowledge as of empathy. While issues of alternative interpretation are intellectually important in engaging with them, the larger aim is to seek to persuade them of the worth of changing their outlook.
 3. Paternalism: These persons genuinely feel empathetic to Indic or other non-Western traditions. They often speak passionately against Western triumphalism and for the interests of the subaltern. However, since they still tend to assume (perhaps unconsciously) the cognitive or intellectual superiority of the “modern,” or “Western” approach, they often discount the non-Western traditions’ abilities to speak for themselves. Such persons might have been well-meaning missionaries in previous centuries; nowadays they are either Marxist or “liberal.”
 4. Reverse triumphalism: These persons, who might also be called “nativists,” or “fundamentalists,” believe the “modern Western” approach to be wholly negative or even evil, and feel that the dogmatic assertion of some rediscovered and often imagined “indigenous” world-view to be their only recourse.

In this first colloquium we hope that persons who share our vision discover and encourage each other, and help to develop a movement of dialogue that avoids the above four patterns. In the following years’ colloquia, we hope to broaden this movement by including more scholars who may favor some form of the prevailing hegemonies.

Proposed Structure for the Society Today section of the First Colloquium

The overall four-gate structure of the mandala is only a provisional, creative framework to orient discussion and exploration; it is not intended to be rigid. Likewise, we have tentatively organized the themes for Society Today into the following three general areas, but we welcome suggestions to enhance this framework.

(A) Reconstruction and applicability of Indic Social Sciences

Here we focus on challenging the pervasive stereotype of Indic social unconsciousness with concrete examples and critical analysis. We collect critiques of the commonly held view that critical, structural analysis of society is a uniquely Western invention, discover to what extent indigenous Indian social thinkers have been engaged in this *type* of analysis, and present Indic social scientific theories which suggest similarities or continuities with contemporary types of critical approach.

(B) Indic Intellectual Challenges to Western modernism/postmodernism

Here we will explore the dissimilarities or discontinuities, seeking to highlight possible contributions that Indic theories might make to the global discourse, implicitly (or explicitly) challenging the chauvinistic and modernistic notions that contemporary Western critical social sciences necessarily produce superior analyses of and models for contemporary society.

(C) Strategies to Better Utilize Indic Contributions to the Global Renaissance

This final section deals in a broad summary way with the central concern of the Colloquium: To pinpoint misperceptions of the “Indic” in Society Today, especially as perpetuated through discourse and structures within the Academy, and to suggest ways to redress these distortions as well as to present potentially positive but overlooked Indic contributions. This includes both presenting empirical data that refute the current misperceptions, as well as theoretical analysis of such meta-level issues as the current structure of the Academy (its disciplinary and departmental divisions, curricula, and so forth), suggestions for its restructuring, and strategies for overcoming the structural, procedural, or attitudinal obstacles to better incorporation of non-Western and traditionally time-tested arts and sciences. It will also raise pedagogical and methodological issues regarding emic and etic approaches to Indic studies, the (re)integration of Hindu and Buddhist histories, and so forth. We hope to discuss the types of paradigm shifts that might be necessary across a wide variety of fields, and the types of ideal agenda for systematic investigation, publication, and dialogue over the coming decade, in order to involve mainstream academia in the process of completing, rather than resisting, the coming global renaissance.

The following document is from:

http://www.infinityfoundation.com/mandala/history_overview_frameset.htm

HISTORY

Overview

Revisiting India's History

There are numerous stereotypes about India, which taken together form a significant obstacle to serious study of India and India's cultural and spiritual traditions. Perhaps the most important of these are organized around the nexus of India's economic condition. India's poverty is often assumed to be a timeless and essential condition of the Indian people, somehow deriving from India's own worldview and/or cultural practices. The consequence of this belief is that India's cultural traditions are assumed to be responsible, at least indirectly, for the modern day problems. This adds an extra hurdle for the study and preservation of India's cultural traditions. Before such work can even begin, it is often necessary to exert a significant amount of energy dispelling the notions that these are "backward" and thus not worthy of serious consideration, not to mention preservation.

While the poverty in India is real (albeit not uniform), [1] the causes are complex. The assumption that India's poverty derives from some sort of "essence" or essential condition of India can and should not be taken as a starting point in an investigation of these causes. In fact, it is a hypothesis to be verified or contradicted through a thorough and unbiased examination of Indian history.

Such an examination of the colonial period has been undertaken by many economists but somehow kept out of modern accounts of India's history. One analysis, for example, was by Romesh Dutt, who explored the causes underlying the repeated famines that occurred in India under British colonial rule. Dutt wrote that

What are the causes of this intense poverty and these repeated famines in India? Superficial explanations have been offered one after another, and have been rejected on close examination. It was said that the population increased rapidly in India, and that such increase must necessarily lead to famines; it is found on inquiry that the population has never increased in India at the rate of England, and that during the last ten years it has altogether ceased to increase. It was said that the Indian cultivators were careless and improvident, and that those who did not know how to save when there was plenty, must perish when there was want; but it is known to men who have lived all their lives among these cultivators, that there is not a more abstemious, a more thrifty, a more frugal race of peasantry on earth. It was said that the Indian money-lender was the bane of India, and by his fraud and extortion kept the tillers of the soil in a chronic state of indebtedness; but the inquiries of the latest Famine Commission have

revealed that the cultivators of India are forced under the thralldom of money-lenders by the rigidity of the Government revenue demand. It (p. vi) was said that in a country where the people depended almost entirely on their crops, they must starve when the crops failed in years of drought; but the crops in India, as a whole, have never failed, there has never been a single year when the food supply of the country was insufficient for the people, and there must be something wrong, when failure in a single province brings on a famine, and the people are unable to buy their supplies from neighbouring provinces rich in harvests. [2]

When considering the poverty under which much of India suffers today it is important to take into consideration all of the historical factors which contributed to this condition. Clearly, in the case of India, we are dealing with a situation in which one of the world's wealthiest and most vibrant economies was transformed, over the course of several centuries, into one of its poorest and most moribund. In beginning such an investigation it is important to dispel essentialist notions, the assumption that India's economic condition is somehow peculiar to India, and investigate instead with a global perspective, invoking the same economic laws that apply to the other major economies of the world. This same point was made by Romesh Dutt, who argued that

Deep down under all these superficial explanations we must seek for the true causes of Indian poverty and Indian famines. The economic laws which operate in India are the same as in other countries of the world; the causes which lead to wealth among other nations lead to prosperity in India; the causes which impoverish other nations impoverish the people of India. Therefore, the line of inquiry which the economist will pursue in respect of India is the same which he adopts in inquiring into the wealth or poverty of other nations. Does agriculture flourish? Are industries and manufactures in a prosperous condition? Are the finances properly administered, so as to bring back to the people an adequate return for the taxes paid by them? Are the sources of national wealth widened by a Government anxious for the material welfare of the people? These are questions which the average Englishman asks himself when inquiring into the economic condition of any country in the world; these are questions which he will ask himself in order to ascertain the truth about India. [3]

While the causes for this transformation are no doubt manifold it is also clear that one cause in particular played a particularly important role.

This, naturally, is the economic exploitation that occurred under colonial rule in India. This is evident from an examination of the pre-modern world economy, in which India not only played a major and central role, but in which India was an exporter who ran up a significant budget surplus in her favor vis-à-vis her trading partners, especially with Europe and the Middle East. India's high quality products, such as textiles and steel, were in great demand throughout the world, and were unrivalled. Even the Europeans,

endowed with supposed cultural or racial "superiority", were unable to compete with India.

The eventual result was that Europe exerted its superiority in one area, military technology, and sought to seize control over a trade that was not in their favor, and over industries with which they could not compete. This highly uncompetitive and monopolistic behavior was far from exemplar, nor did it demonstrate the commitment to capitalism which later European scholars claimed on behalf of their colonial era forebears. Rather than being advocates of capitalism, the Colonial-era Europeans financed their own economic development at the expense of the economies of the nations whose resources they stripped and whose native industries they captured or destroyed, such as India.

The true story of the rise of the West, and of the corresponding decline of the rest of the world, has in fact been obscured by triumphalist European theories of history. These theories have typically attributed Europe's rise to dominance to her own superiority in intelligence, industry, and so forth. The counterpoint of this historicist move has been to deny the vitality and virtues of the colonized societies, in order to justify the otherwise unjustifiable exploitation conducted. This negation of India by Western historians and scholars is a significant reason that those who would now study and preserve India's cultural traditions. In order to combat this it is necessary to both expose the ideology underlying colonialist scholarship, and then in turn explore the true causes of the problems with which post-colonial societies such as India are now afflicted.

[1] It is important to note that India is *not* afflicted with the uniformly extreme levels of poverty as usually depicted. India is actually economically quite diverse, with some regions quite impoverished but with others economically robust and thriving.

[2] Romesh Dutt, *The Economic History of India Under Early British Rule* (London: Routledge & Kegan Paul, 1950), pp. v-vi.

[3] *Ibid.* p. vi.

On the Misportrayal of India: Toward A New Look at Indian History

Introduction

The study of India in the West has long been overshadowed by the concerns of Eurocentric historians, who, to the extent that they studied India at all, did so in a manner that privileged Europe as the motivating force of world history. Ever since the classical Greeks made contact with the Persians to the East, India has been an object of curiosity

for Europeans, although until recently their knowledge of India was largely second-hand and imprecise. As Europeans gained greater access to India, it was under the context of the British conquest and colonialization, and this significantly affected the resulting portrayal. India has been represented as lacking historical agency, and serving a role in history that is subservient to the agenda of Europeans. Despite the many recent critiques of colonial orientalist historiography, elements of this tradition linger on in contemporary studies of India, and, in particular, in textbooks geared for secondary school and undergraduate students.

The purpose of this essay is twofold; it will attempt to undertake the following aims:

1. Elucidate the paradigms of Indian historiography that have prevailed in academic writings, especially the notion that India lacks a historical tradition per se, and that India was a passive field activated primarily by the incursion of invading groups.
2. Counteract this notion and restore the historical agency of Indians by stressing the numerous ways in which India served as a powerful civilizing and economic force in the world, not because of invasions but in spite of them. Evidence concerning centrality of India in the pre-modern and early modern world economies will be mustered to contradict the notion that India was a passive or peripheral factor during this time period.

In this paper the latter task will take up the bulk of the essay, as scholars such as Ronald Inden have already powerfully and eloquently critiqued Eurocentric models of Indian historiography. In the former section I will thus summarize this critique for the benefit of those who have not yet had the benefit of reading these works. As this summary will necessarily not convey the full force of the arguments detailed elsewhere, the reader is encouraged to seek out and read these works as well.

I. Colonial Historiography: India in the Western Imagination

India has long been an object of interest for Europeans, at least since Greek times when Europeans first became aware of India as a powerful and important region of the world. As Klaus Kartunnen has shown in his 1997 monograph, Greeks were only imprecisely aware of the existence of India, and often confused it with Abyssinia in Africa. It was not until the Persian Empire expanded to include both the Greek province of Ionia and Northwest India that Greeks came into direct contact with India under the aegis of service in the Persian Empire. From this point until the dawn of the colonial period contact between Europe and India was infrequent, and usually mediated by third parties such as the Arabs.

With the dawn of the colonial era, there was initially great interest in India and Indian literature, philosophy and religion. Many members of the "orientalist" school gave a quite positive evaluation of India's cultural heritage, albeit in a rather romanticized fashion. [1] There was a reaction to this initial upsurge of interest, however, which resulted in the

negation of India's cultural heritage. In the context of the administration of India, the issue of the value of traditional Indian civilization manifested in the 1835 debate concerning education. This debate pitted those who sought to sustain and support the traditional Indian educational systems conducted in Sanskrit or Arabic, versus those who advocated the abolishment of these systems and their replacement by a British style of education conducted in English. The latter side won, having been championed by Lord Macauley, who wrote in his infamous February 2, 1835 minute that:

I have no knowledge of either Sanskrit or Arabic. But I have done what I could to form a correct estimate of their value. I have read translations of the most celebrated Arabic and Sanskrit works. I have conversed both here and at home with men distinguished by their proficiency in the Eastern tongues. I am quite ready to take the Oriental learning at the valuation of the Orientalists themselves. I have never found one among them who could deny that a single shelf of a good European library was worth the whole native literature of India and Arabia. [2]

The negation of Indian civilization served well the interests of British colonial administrators. But its dismissal was not based in knowledge, in a thorough understanding of Indian thought and literature, as Macauley himself admitted. Rather, it was based simply on an assumption of European superiority, an assumption based simply upon an ethnocentric worldview in which Europe was privileged vis-à-vis the rest of the world. As we shall see, this unscientific assumption was a powerful force in the development of the European representations of Indian history.

1. India as ahistorical: Hegel and the Marxists

One of the most influential figures in the Western historiographical tradition was Hegel. Well read in the orientalist writings and translations, Hegel reacted to what he considered to be excessive romanticism of these authors. [3] Hegel's portrayal of India, however, is flawed by a tendency to construct it as a passive and objectified counterpoint to the active agency he ascribed to the West. In so doing his depiction of India curiously mirrors the project of European colonialism which was at its peak during the nineteenth century when he lived and worked.

In his *Lectures on the History of Philosophy*, Hegel begins his section on India with an admission of sorts, explaining why Hegel has lost his respect for India. It was due the perception that India has no history, which he explains as follows:

If we had formerly the satisfaction of believing in the antiquity of the Indian wisdom and holding it in respect, we now have ascertained through being acquainted with the great astronomical works of the Indians, the inaccuracy of all figures quoted. Nothing can be more confused, nothing more imperfect than the chronology of the Indians; no people which attained to culture in astronomy, mathematics, &c., is as incapable for history; in it they have neither stability nor coherence. It was believed that

such was to be had at the time of Wikramaditya, who was supposed to have lived about 50 B.C., and under whose reign the poet Kalidasa, author of Sakontala, lived. But further research discovered half a dozen Wikramadityas and careful investigation has placed this epoch in our eleventh century. The Indians have lines of kings and an enormous quantity of names, but everything is vague. (Hegel 1995:125-126)

This characterization of India history is itself erroneous on several points, [4] which may simply reflect inadequate knowledge on Hegel's part. The frequent assertion that Indians lacked a historical consciousness has in fact been criticized of late, such as by Michael Witzel, who has shown that India did in fact have a historical tradition, which survives in the regions of India that were relatively unravaged by the assaults of the Islamic invaders during the early part of the second millennium of the common era. [5]

The claim that India lacks a historical consciousness is quite absurd on the surface, but it makes sense in the context of nineteenth century Europe, wherein concerted efforts were made to deny the historical agency of the colonized in order to justify their exploitation. [6]

In Hegel's evolutionary view, historical agency has proceeded from East to West, with India representing the infancy of humankind and Europe its mature, modern manifestation. He wrote that "universal history goes from East to West. Europe is absolutely the *end of universal history*. Asia is the beginning." [7] This idea was clearly a justification of Western colonial exploitation. But Hegel took the idea even further. Since his "history" is solely defined in Eurocentric terms, any act committed by the Europeans, no matter how reprehensible, is justifiable as a necessary step in human evolution. Hegel wrote that:

Because history is the configuration of the Spirit in the form of event, the people which receives the Spirit as its natural principle... is the one that dominates in that epoch of world history.... Against the absolute right of that people who actually are the carriers of the world Spirit, the spirit of other peoples has no other right. [8]

Hegel saw the evolution of human history as a unified totality, proceeding via the evolution of the "world spirit". The "world spirit", for Hegel, was Western, with other cultures relegated to the dustbin of history, forced either to adapt to the West or be trampled underfoot by this "world spirit", which in Hegel's writing appears as a complex metaphor for the reality of Western aggression.

In retrospect, one might expect that such characterizations would seem outdated, as indeed they do when approached critically. As Lévi-Strauss suggested, "a good deal of egocentricity and naïvety is necessary to believe that man has taken refuge in a single one of the historical or geographical modes of his existence, when the truth about man resides in system of their difference and common properties." (1966:249)

Unfortunately, Marx, who here faithfully followed his teacher Hegel, perpetuated the mistaken notion that India was a stagnant, ahistorical land. Marx described India in being caught in what he called the "Asiatic Mode of Production". He posited that India was trapped in a stagnant, unhistorical economic state in which "Oriental despots" who wielded unchanging, absolute power governed stratified villiages. His analysis was flawed by a serious ignorance of the actual economic conditions prevailing in India during his time, and of the numerous causes that underlay them.

The controversies surrounding this theory need not be rehashed here; an extensive critique of this theory has been undertaken by Hindess and Hirst, who concluded that "the notion of an 'Oriental' form of state is the product of Western political ideologies and Western attempts to give the East an essential and alien culture different in every respect from the West. The same concepts apply to the Orient and the Occident." (1975:219-20)

To a certain extent, the Marxist historians who have continued this line of inquiry have perpetuated the outdated and orientalist notion of India as frozen in time, passive vis-à-vis the active and liberating agency of the West. Teshale Tibebu has argued that "their obsession with the specificity ... [and] supposed superiority of Europe" is Western "civilizational arrogance", "ideology dressed up as history", and "Orientalism painted red", that is, the "continuation of orientalism by other means." [9]

2. Modern Orientalism: The Invasion Theory of Indian History

One might hope that by now a new model of Indian historiography would have developed, one which stresses the agency of Indians and rejects contrived culturally chauvinist constructions. Fortunately, new models are emerging, but unfortunately they have not yet fully supplanted the older models, which still linger on albeit in weakened forms. One model is what might be called the "invasion theory" of Indian history. In its strong form, it is simply a version of the Hegelian model, the assumption being that India as a passive, unchanging entity has only undergone historical change when motivated by outside forces, namely active aggressors. While the explicit version of this model has fallen out of fashion, it remains in an attenuated forms in narrative accounts of Indian history that are structured around invasions, making them implicitly appear to be the central events in Indian history.

Now, India was of course invaded over the course of its long history, usually from the interior of Asia. This is not peculiar to India, but is a pattern seen throughout Eurasia, in which sedentary agricultural societies situated along the coasts or in river valleys were periodically invaded by nomadic, pastoral peoples from the interior. This pattern is also seen in East and West Asia as well as in Europe; it is unlikely that India suffered invasions with any greater frequency than these regions. In fact, it seems likely that East and West Asia were invaded more frequently simply because they are far more geographically open to attack. China's northern border, for example, is simply the open steppes of central Asia, whence invaders descended with alarming frequency. Lacking a natural barrier such as the Himalayan and Hindukush mountains that admirably shield India's northern border, the Chinese expended incredible time and energy constructing a

series of walls and guard posts. Naturally, no barrier is impermeable; walls can be breached and mountain ranges have passes. Since India is no exception in this regard, there is thus no good reason to particularly dwell on invasions as a motivating force in Indian history.

Once again, Hegel appears to have played an important role in this model of Indian historiography. In so doing, he ignored and indeed discredited the extensive influence India had on other Eurasian civilizations. He wrote in his *Philosophy of History* that

On the whole, the diffusion of Indian culture is only a dumb, deedless expansion; that is, it presents no political action. The people of India have achieved no foreign conquests, but have been on every occasion vanquished themselves. And as in this silent way, Northern India has been a center of emigration, productive of merely physical diffusion, India as a Land of Desire forms an essential element in General history From the most ancient times downwards, all nations have directed their wishes and longings to gain access to the treasures of this land of marvels, the most costly which the earth presents; treasures of nature --pearls, diamonds, perfumes, rose-essences, elephants, lions, etc. -- as also treasures of wisdom. The ways by which these treasures have passed to the West, has at all times been a matter of World-historical importance, bound up with the fate of nations. Those wishes have been realized; this Land of Desire has been attained; there is scarcely any great nation of the East, nor of the Modern European West, that has not gained for itself a smaller or larger portion of it. [10]

India so characterized makes the Western colonial aggression and resultant theft of resources appear as an essential and inevitable stage of history; this indeed is the ulterior motive, conscious or unconscious, in constructing an essentialized version of Indian history. The conclusion of this passage, which portrays the colonization of India as something practically every "great nation" has done, is also clearly an attempt at the legitimization of the colonial enterprise.

It is now widely recognized that such theories of history are basically ethnocentric justifications of European colonialism. While they are rooted in the very real hegemony achieved by the Europeans of most of the world during the nineteenth century, they err in assuming this achievement was due to an intrinsic superiority of the Europeans. This myth of the superiority of the West is in fact based upon a systematic erasure of the interdependency of humanity, and the negation of the many and real contributions of other regions of the world that made the European rise to power possible.

This colonialist historicism lingers on today in what might be termed the "invasion theory" of Indian history. This narrative assumes (usually implicitly) Hegel's idea that India is an intrinsically static, passive civilization, incapable on its own of having a history. Indian history then is taken as the result of a long series of invasions, beginning with the mythical "Aryans" and culminating in the invasion by the British. While there

was at times warfare between India and her neighbors, sometimes culminating in invasion, India here is no exception to the general trends of ancient and medieval history. As noted above, other areas of the world, such as Europe, the Middle East and East Asia, were subject to invasions as least as often as India. The assumption that invasions are THE motivating force in Indian history is to fall into the self-justifying theory of Indian history developed by the British to legitimate their exploitive colonization of India.

This pattern is often repeated in contemporary histories of India. These often begin with a cursory description of the Indus-Saraswati civilization, before moving on to describe the destruction of this civilization by the "Aryans", a nomadic people, supposedly originating in what is now southwestern Russia, whose invasion destroyed its older precursor, but who introduced to India their own culture which was to give rise to glories of the Vedas and classical Indian Vedic civilization. This is the first of the invasions that mark the "invasion theory" narrative. It is based on one bona fide fact: that there is in fact a strong linguistic connection between European and Indian languages. This theory slips from the factual and into the mythical, however, in making several assumptions. The first is the equation of language and race. The second is that language transfer was necessarily effect through the medium of invasion, rather than by diffusion, peaceful migration or some other means. There are several inconsistencies with this theory as well.

One is that there is actually no evidence that the Indus-Saraswati civilization was destroyed by invaders; this theory is in fact based upon the interpretation of several ambiguous *Rig Veda* hymns. There is no archeological evidence, as Shaffer and Lichtenstein have pointed out. In fact, the evidence points to a gradual abandonment of Indus Valley sites due to climate change, and particularly due to massive tectonic activity around 1900 BCE which changed the course of the Saraswati river and rendered the numerous cities located on its former banks uninhabitable. These changes occurred several centuries before the Aryans supposedly even arrived in India, which is usually dated around 1500 BCE. These changes led to the gradual migration of peoples East, into the Gangetic Valley, a event which is attested both in the archeologic record and in the Vedic texts themselves. As Shaffer and Lichtenstein put it,

The modern archeological record for South Asia indicates a cultural history of continuity rather than the earlier eighteenth through twentieth century scholarly interpretations of discontinuity and South Asian dependence upon Western influences. The cultural and political conditions of Europe's nineteenth and twentieth centuries were strong influences in sustaining this interpretation. It is possible now to discern cultural continuities linking specific social entities in South Asia into one cultural tradition. This is *not* to propose social isolation *nor* deny outside influence. Outside influences did affect South Asian cultural development in later historic periods, but an identifiable cultural tradition has continued, an Indo-Gangetic Tradition linking diverse social entities which span a time period from the development of food production in the seventh millennium BC to the present. (Shaffer and Lichtenstein 1999:255-56)

It is not my point here to argue that there was or was not an Aryan invasion. Given the ambiguity of evidence, it is a topic on which I must remain agnostic, although I should add that the burden of proof lies with those who insist on its veracity. Here I would only like to point out the peculiar fact that on such a tenuous theory rests an entire edifice of Indian historiography. The assumption of Aryan conquest of Northern India was elaborated into timelines of Indian as well as theories of social geography and demography that are extended well into the historical era, as if this one event of the distant past is the key to understanding all of Indian history. As Inden points out,

Presupposing their Aryocentric geography and oriental demography, scholars have represented these states on their maps and read the political history they fabricated from them. That history consisted of the narrative of a society that was made to be inherently dependent on the intervention of a Western political economy for its unity and prosperity. (1990:187)

The next invasion in the invasion theory timeline is that conducted by Alexander the Great. Our sources for this invasion are all Greek, which have of course a natural tendency to exaggerate the significance of this event, which in fact made no impression whatsoever on the Indian historical record. Even in the Greek sources, Alexander's sojourn in India is admittedly brief; having made it to the Indus River he quickly returned West again. The consequence of this event was the establishment of the Seleucid Greek kingdom in Persia and the Middle East, as well as the establishment of a smaller, independent Greek kingdom in Bactria, in what is now Afghanistan. Yet the impact on India was insignificant. As Rawlinson noted,

The actual effect of Alexander's invasion of India was negligible, and no mention of the event occurs in ancient Indian literature. Alexander's Indian campaign lived on in the romance of Alexander which goes back to Pseudo-Callisthenes, and adaptations of which existed in more than thirty languages of medieval Europe and Asia Minor. The Indian episode has always been subject to fantastic figuration. In Jean Racine's drama, Alexander falls in love with the Indian princess Cléophile, for instance. After Alexander's death, the empire which he had founded quickly dissolved, and by 317 B.C. nearly all traces of Greek rule has vanished. (Rawlinson 1975:430)

Their expansion into India proper was prevented by the rise of the Mauryan dynasty in the late fourth-century BCE, which succeeded in uniting most of India under centralized rule.

There is no doubt that the Greeks had an influence in North India and were in turn influenced. But this influence has been exaggerated, extending beyond the realm of the probable and into the realm of the wildly improbable. Greek influence was particularly attributed to the rise of Buddhist art and the development of Mahayana Buddhism, casting India's most significant cultural export as a product of European influence. These

theories have been largely discredited, however, and exposed as what they truly are. As Stanley Abe put it,

The late nineteenth-century interest in claiming an originary role for the Greek tradition in early Buddhist art must, at least in part, be understood in the context of this larger European project to construct a cultural lineage back to purely Aryan Greece. The erasure of the non-Aryan within the West was played out in the assertion of Greek (Aryan) influence onto Gandhara. In this sense, the discovery of Greek influence in Gandhara has as much to do with the need of the West to secure its own internal dislocations and self-representation as it does with Buddhist art. (1995:84)

Following the Greeks, the invasion theory timeline moves on to the Mauryan dynasty, and then to the invasions of the Kushans and Sythians. The Gupta dynasty is then covered, only to move on to the devastation caused by the invasion of the Huns. Following the Huns, India is usually portrayed as undergoing a political decline characterized by fragmentation and decentralization, as well as a cultural decline, resulting in the rise of "unorthodox" religious traditions such as the Tantric schools of Buddhism and Hinduism. India was then purified by the violence of the Islamic invasions, resulting in the re-establishment of centralized rule under the Moghuls.

This narrative framework is found in many histories of India, including some quite modern ones. The classic version of this history is Vincent Smith's *The Oxford History of India* (1919), which has been duly deconstructed by Inden, who makes quite clear the ideology underpinning the "invasion" narrative. Inden wrote that

To have represented the kingdoms of India as relatively autonomous agents, as complex, inter-related polities that could unite through pacts as well as 'force' within a single imperial formation and create new centres not determined by a fixed military topography, would have undermined this whole orientalist project. So Smith dispatched cruel Huns to prepare the way for the still worse advent of Islam, which would in turn, clear the way for the miraculous arrival by sea of the better Aryan, the Western or European. He could clip the Dravidian jungle and prevent the Russians setting fire to the whole green expanse. The history of medieval decline did not stop, however, by preparing for the modern. If Smith's history of ancient India was, in effect, a history of its present, his narrative of medieval India was really a parable of the future, of what would happen in India if the British withdrew. (1990: 188)

At issue here are not necessarily the "facts" of history, but rather the ideology that underlies certain configurations of "facts", and the relative degrees of emphasis placed upon them. Even if all were true that would not render the "invasion theory" histories unproblematic. Histories are, after all, narratives, and as such are selective in the narrative elements in which they choose to convey. Histories are ideological in precisely

this way; ideology is present in the choices historians make. This is not necessarily a conscious process. As Edmund Leach noted,

"Bad" history is seldom constructed out of fantasy; it is simply that we tend to accept as good history whatever is congenial to our contemporary way of thinking. The good history of one generation becomes the bad history of the next.

In presenting an essentialized view of India as a passive land of invasions, historians of the colonial era concocted histories congenial to their contemporary way of thinking. For us now, presumably, these are bad history, but one might wonder if the persistence of this narrative might indicate that we are not as far from the colonialist mentality as we would like to believe. How might a new history be constructed? This will be the subject of section two of this essay; here we should conclude with the hope that new histories do not fall into the same trap of essentializing India. While we can and should seek a history that places greater emphasis on India's historical agency, we should not do so with the assumption that there is any essential "India" out there which needs to be rediscovered. India is and probably always has been a complex of different cultural and ethnic groups who cannot be reduced to any particular essence. But in writing a history, such diversity can be respected, while at the same time paying more attention to the ways in which Indians throughout history have played an active role both in constructing their own history as well as in acting as influential players in the world.

II. Restoring India's Historical Agency: India's Centrality in the World

1. The Ancient Period

Civilization is often thought to have begun in the Middle East, the so-called "Fertile Crescent" extending from the Tigris-Euphrates watersheds southwest toward the Nile Valley. While there is no doubt that many important milestones in the development of human civilization were reached there, there were also other areas of Eurasia where, it is increasingly evident, there arose other civilizations whose contributions rival those of the Middle East.

One such area is the Indus river valley in what is now modern Pakistan and India. Modern archaeological research is making it increasingly clear that the civilization which arose there in ancient times, the "Indus Valley" civilization, is far older and independently developed far more in the way of agriculture and urban planning than was previously recognized.

It is not possible here to summarize all of the research concerning this civilization; this has in fact been provided by an admirable recent (1997) work by Bridget and Raymond Allchin. Recent research at Mehrgarh has indicated that plants and animals were independently domesticated by 7000 BCE in this area (See Allchin and Allchin 1997, pp. 125 f.) There is also evidence of the use of copper smelting technology by 5000 BCE. (Allchin and Allchin 1997:131) By about 3000 BCE the skillful urban development

which came to characterize the Indus Valley civilization, and with the rise of urban civilization there was likewise a rise in the arts, crafts and trade. (See Allchin and Allchin 1997, pp. 145-152) The mature (third millennium) Indus Valley civilization was particularly noted for its high quality craftsmanship, involving advanced techniques of metallurgy, as well as craft techniques such as pottery bead making, inlay, seal making, stone sculpture and architecture. Jewelry of particularly fine character was produced, using advanced techniques such as etching semi-precious stones with alkali or painting them with metal oxides and then firing them to produce white or black patterns on the stones. (See Allchin and Allchin 1997, pp. 173-74)

Given the high quality of Indic products at this time, it is of no surprise that they were widely disseminated through trade. Indic-Saraswati artifacts are distributed throughout South Asia, indicating that the Indus Valley civilization traded with its immediate neighbors. There is also evidence of long distance overland trade, such as the presence in India of raw materials, such as lapis lazuli, found only inland in regions such as Iran and Central Asia. (See Allchin and Allchin 1997, pp. 176 f.)

The Indus Valley civilization also developed a sea trade with the cities of Mesopotamia, where Indus Valley goods were prized. This sea trade connected West India with West Asia going back to at least 2000 BCE. [11] This is indicated both by the large number of Indus Valley products unearthed at Mesopotamia sites, as well as by repeated inscriptions found there referring to the men and ships of "Meluhha", a term now which is now recognized as referring to the Indus Valley region. (Allchin and Allchin 1997:177) This trade, while no doubt declining when the Indus valley sites were abandoned due to climatic changes, probably never disappeared entirely. It probably continued even into the historical period, albeit with interruptions, as Singh has suggested (in his 1961 article) on the basis of early textual materials.

2. The Classical Period

While India had extensive trade relations with its immediate Western neighbors, i.e. Babylon and Persia from a very early date, not much is known concerning its relationship with regions further West, such as Egypt and Greece. Regarding relations with North Africa and Europe, not much is known concerning the "pre-classical" (i.e., pre-500 BCE) era. By the time the classical period commenced, roughly the fifth century before the common era, there is more information available concerning this trade. During the late sixth and early fifth centuries BCE, when the Persian empire was at its height, most of what was then Greece and much of Northwestern India were united under Persian rule. Interestingly, the Greek historian Herodotus, who lived in the fifth century BCE, provides in the third book of his *Histories* a list of the tribute paid by all twenty of the provinces of Persia. Regarding the province of Northwest India, he commented that "the Indians, the most populous nation in the world, paid the largest sum: 360 talents of gold-dust." (de Sélincourt 1996:192) This was a princely sum, considering that the other provinces all paid in silver. According to Herodotus, the overall revenue of the Persians under Darius was 14,560 Euboean talents, 4680 of which were provided by Indians in the form of gold dust. India provided almost one third of their revenue, far more than was contributed by

Greece, Egypt, Babylon or any of the Persian provinces. And when we take into account that only a relatively small portion of India was under Persian authority, there seems little doubt that India was quite economically better off than her Western neighbors. [12]

The large number of Indian goods known to the Greeks from a relatively early date indicates the early establishment of cultural links between Greece and India, at least indirectly via trade. For example, Indian goods such as cassia and cinnamon were known in Greece by the fifth century, i.e., during the lives of Herodotus and Sappho. (Karttunen 1997:329) There is little doubt that trade occurred overland via the Persians, and it is possible that the sea route running west across the Arabian Sea from India, and then north through the Red Sea to Egypt might have been known by this time. It certainly was known to the Greeks by the second century BCE, when Eudoxus led the first successful Ptolemaic Egyptian mission to India via the sea route. (Karttunen 1997:329) But we should note that the mantle of innovation does not here fall on the shoulders of the Greeks; this route was clearly known to both the Indians and Arabians at a much earlier date, as archeological and literary evidence suggests. (See Karttunen 1997:329-30, and also Singh 1961).

During the Roman period there was a brisk sea trade between India and Rome, mainly in spices and valuable trade items. Many of these Indian goods were known to Romans such as Pliny, who recognized them as being of Indian origin. (See Karttunen 1997, pp. 148-49) By the Roman era the pattern that came to dominate trans-Eurasian trade for the next two millennia was well established. This pattern was one of trade imbalance, in which the goods produced in India and Southern Asia were highly valued by peoples in the more northern and western parts of the continent, who were unable in turn to produce goods in sufficient quantity or quality to offset this imbalance.

Throughout the ages the trading connections between Europe and Asia have been based on the Europeans' desire to obtain the luxury products of the East. Thus trade involved goods that were light in weight but high in price. The products given in exchange by the Europeans consisted partly of textiles, metal goods and the like, but also to a significant extent of precious metals in uncoined and above all in coined forms. (Attman 1981:8)

Pliny commented on the Roman trade with India, and on the sizable trade imbalance made up by the export to India of silver coins. This report has been verified through the discovery of large hoards of Roman silver coins through South Asia. (Attman 1981:8)

This trade was not an extension of any invasion on the part of "vigorous Westerners" into India, as those who exaggerate the prowess and historical consequences of Alexander's invasion might imagine. Even here the Indians were not passive recipients of the West's aggressive tendencies, as Seleucus Nicator learned in 305 BCE when he tried to repeat Alexander's invasion and gain control of India, and was instead soundly defeated by Chandragupta Maurya. On the contrary, Indian traders were active agents in other cultures, and brought with them cultural influences as well as trade goods. Indeed,

this trade, however, was not merely indirect nor was it limited to a trade in goods. There is evidence that there was a community of Indian traders living in important Western trade centers such as Alexandria. [13] Writers such as Clement of Alexandria, who claimed that not only was Greek philosophy derived from non-Greek sources, including Buddhist and Brahmanical sources from India, [14] provide evidence for the cultural influence of these Indians living in the West.

Less is known about India's relationships with its Eastern neighbors during the early half of the classical period, but clearly there was contact. For example, our word "China" derives from the Sanskrit *cina* or *mahacina*, which clearly derives from the Chinese word *qin*, the name of the Qin dynasty which ruled China during the first quarter of the third century BCE. By the first centuries of the common era there was clearly an extensive land trade between India and Central Asia and China, whence Buddhism spread across Asia following the trade routes, as Xinru Liu has shown. [15] But religion clearly did not forge these cultural links, but merely deepened them, spreading across previously established trade routes.

Buddhism spread across the Central Asian trade routes that linked India to China. India was also linked to other nations bordering the Indian Ocean via the sea routes. There was a thriving exchange of both trade goods, Buddhism, and Buddhist relics between India and Sri Lanka and China; these contacts began at least by the early fifth century; there are records of a Sri Lankan embassy reaching China in 405 CE. [16] Accounts of travelers during this period indicate that India was a thriving, sophisticated amalgam of diverse and interrelated civilizations. For example, the Chinese pilgrim Xuan-zang, who traveled throughout India during the first half of the seventh century, describes thus the city of Kanyakubja (later called Kanauj), which was the capital of King Siladitya who at the time ruled most of North India:

This kingdom is about 4000 *li* [17] in circuit; the capital, on the west, borders on the river Ganges. It is about 20 *li* in length and 4 or 5 *li* in breadth. The city has a dry ditch round it, with strong and lofty towers facing one another. The flowers and woods, the lakes and ponds, bright and pure and shining like mirrors, (*are seen on every side*). Valuable merchandise is collected here in great quantities. The people are well off and contented, the houses rich and well found. Flowers and fruits abound in every place, and the land is sown and reaped in due seasons. [18]

This wealth was in part based on trade, and China grew to become a major trading partner of India, particularly in the following centuries. Indo-Chinese trade via the water route reached a peak during the tenth through thirteenth centuries. This contact was largely facilitated by the Cola kingdom (850-1279 CE), which from its base in South India expanded aggressively into Southeast Asia, and traded extensively with China until the collapse of the Song dynasty in the thirteenth century. This trade was so extensive that Hindu temples were evidently set up in Southern Chinese port cities to accommodate the Cola merchants. The remains of one of these, complete with bilingual Tamil-Chinese inscriptions, have been discovered and excavated in the city of Chuan-zhou in Fujian

province. [19] Indian merchants played an important civilizing role in Southeast Asia, where Indian language, religion and political ideas were a tremendous influence. [20]

3. The Medieval Period

During the period ranging between the seventh through eleventh centuries, trade between India and the West was controlled by the Arab Caliphate, which exchanged Indian luxury goods for European gold. This trade imbalance was mitigated somewhat by the Arab trade with Russian and Nordic merchants, where at trading centers on the Volga the Europeans traded slaves, furs and swords for Indian luxury goods as well as gold and silver coinage. This trade ceased during the tenth century when Turkestan and Khorasan passed from Arab to Turkish control. (Attman 1981:10-12).

During the eleventh century, Italian merchants began traveling to Egypt and Syria, exchanging textiles, furs, metals, weapons and slaves for Indian and Arabian luxury items. During the crusades Venetian and Genoan merchants dominated trade with the Middle East. Trade items sought by the Europeans included spices, silk and cotton, dyestuffs and drugs, which were highly valued throughout Europe.

These items were of high value, and in exchange for them Venice and Genoa provided textile and metal products from the industries of Western Europe. But the value of the exports from Europe was far from sufficient to balance that of imports from the Orient. A balance was achieved through massive exports of gold and silver from the cities of Italy, France and Spain. (Attman 1981:15)

Thus the pattern of trade imbalance in India's favour established during the Roman era was replicated once Europe arose from its dark age and was reacquainted with high quality Indian merchandise via the Arabs. This led to a chronic bullion shortage throughout Europe, a problem that became particularly acute during the fifteenth century.

This trade imbalance, naturally, contributed to the wealth of Indian society, which was attested by foreign travelers from throughout the world. For example, a Persian account, the *Mukhtasiru-t Tawarikh*, describes India or "Hindustan" in the following manner:

India is a very large country, and it is so extensive that other countries are not equal to a hundredth part of it. Notwithstanding its extensive area, it is populated in all places. It abounds in all quarters and every district with cities, towns, villages, caravanserais, forts, citadels, mosques, temples, monasteries, cells, magnificent buildings, delightful gardens, fine trees, pleasant green fields, running streams, and impetuous rivers. On all the public roads and streets strong bridges are made over every river and rill, and embankments are also raised. Lofty minarets are made at the distance of each *kos* to indicate the road, and at every two *parasangs* inns are built of strong masonry for travelers to dwell in and take rest. At each inn can be obtained every kind of food and drink, all sorts of medicine, and all

kinds of necessary instruments and utensils. On all roads shadowy and fruitful trees are planted on both sides. Wells and tanks are dug which contain fresh and sweet water in abundance. The passengers go along the roads under the shadow of trees, amusing themselves, eating the fruits and drinking cold water, as if they were taking a walk among the beds of a garden. The merchants, tradesman and all travelers, without any fear of thieves and robbers, take their goods and loads safe to their distant destinations. The whole of this country is very fertile, and the products of Iran, Turan, and other climates are not equal to those of even one province of Hindustan. In this country there are also mines of diamonds, ruby, gold, silver, copper, lead, and iron. The soil is generally good, and so productive that in a year it yields two crops, and in some places more. All kinds of grain, the sustenance of human life, are brought forth in such quantities that it is beyond the power of pen to enumerate. [21]

This wealth of India, based in part on its central position in extensive array of trade networks, was noticed by Marco Polo, who evidently wrote based on his own observations as well as the observations of his thirteenth century contemporaries. [22] Marco Polo's account of his travels is filled with wonder at the power and wealth achieved by the Chinese and Indians; Europe was lucky to get the crumbs from their economic table. Marco Polo wrote, concerning the fabulous wealth of gems in Sri Lanka, that

And do not believe that the good diamonds come into our Christian countries but they go and are carried to the Great Khan and to the kings and barons of these different regions and realms (of 'India'), for they have the great treasure and buy all of the dear stones. For those which come into our country, nothing comes but only their leavings." (Critchley 1992:89)

While Marco Polo may be here or elsewhere exaggerating, the general comparison relative economic power is probably accurate.

Polo continued with his account, writing that

Leaving the island of Zeilan [Sri Lanka, Ceylon], and sailing in a westerly direction sixty miles, you reach the great province of Maabar [Malabar], which is not an island, but a part of the continent of the greater India, as it is termed, being the noblest and richest country in the world. (Wright:380-81)

Ceylon, with its wealth of gems as well as its central position on the Indo-China sea trade route, undoubtedly achieved a relatively high degree of development vis-à-vis other regions of the world in the thirteenth centuries.

Elsewhere, with reference to Malabar, Marco Polo wrote that

In this kingdom there is a vast abundance of pepper, ginger, cubebs, and Indian nuts; and the finest and most beautiful cottons are manufactured that can be found in any part of the world. The ships from Manji [southern China] bring copper as ballast; and besides this, gold brocades, silks, gauzes, gold and silver bullion, together with many kinds of drugs not produced in Malabar; and these they barter for the commodities of the province. There are merchants on the spot who ship the former for Aden [in Ethiopia], from whence they are transported to Alexandria. (Wright:417)

This passage points to a central fact. From a very real perspective, India was at the center of an international trade network that linked it with East and Southeast Asia to the east and, to the west, with Africa and the Middle East and thus, ultimately, Europe. Europe's role in this network was rather peripheral; while Indian and other Asian goods were highly desired in Europe, Europe's relative dearth economic resources limited it to a rather marginal role in the world economy until the sixteenth century.

4. The Age of Exploration

The so-called "Age of Exploration" was largely inspired by the desire of Europeans to access the wealth and know-how of India. Up until the fifteenth century this access was largely mediated by the Muslim world. Prior to this time, however, political turmoil led to a serious constriction of overland trade during the fourteenth and fifteenth centuries, and thus a reduction of European access to Asian goods via this route. According to Hunt and Murray,

The collapse of the Mongol Empire in the mid to late fourteenth century followed by the depredations of Timurlane severely disrupted the northern trade routes, limiting the importance of the Black Sea ports of Caffa and Tana as gateways to the caravan routes to the East. At the same time, the expansion of the Ottoman Turks into Europe further squeezed access to the Black Sea, severely diminishing the importance of the Genoese colony at Pera opposite Constantinople, even before the capture of those cities by the Turks in 1453. To illustrate, the returns of taxes from Pera declined from Genoese \$1.6 million in 1334 to \$1.2 million in 1391, and to a mere \$234,000 in 1423. (1999:180)

These events led to reduction of trade along the overland routes; the rise to power of the Malmuks in Egypt in the fourteenth century, and the unsuccessful Crusader attacks on Egypt, also limited European access to the India via the sea route which terminated in Egypt. Hunt and Murray argued that

the Malmuk conquest of Armenian Cilicia left the Italians largely dependent upon the Malmuk government for trade with Egypt and the Levant and access to spices and silks from the Farther East. Around the same time, trade between the Farther East and Egypt, which had long been

in the hands of a powerful group of wholesalers called the Karimis, was taken over by the Malmuk sultan. His government had been facing the increasing cost of financing an aggressive foreign policy coincident with declining revenues from an economy suffering from depopulation. The sultan accordingly seized upon the direct control of trade as the prime means of restoring his fortunes and proceeded to wring as much profit as possible out of international business. He established state spice and sugar monopolies, which fixed the prices at which those items could be sold to Europeans. The Italian traders' difficulties were compounded in two further ways. First, the sultan proved to be an awkward business partner -- arbitrary, suspicious, and prepared to use the considerable force at his command to press his negotiations. The second was the on-again, off-again papal prohibition against trading with the Malmuks, which, although not very effective, was nevertheless troublesome to Christian traders. (1999:180)

Excessive taxation by the Malemuks in Egypt in the fifteenth century drove up the price of pepper excessively, triggering the attempts by the Portuguese to discover an alternative route. [23] Indeed, by fifteenth century Europeans were in the predicament of funding the Ottoman's aggression against them, by buying trade products from them at inflated, monopoly prices. (Hunt and Murray 1999:183)

Much has been made of the supposed superiority of Europeans, which allegedly led to their rise to power in the early modern world, and their creation of capitalist economies. Clearly, this was a complex development. However, to a very real extent it was triggered by a desire to access the superior goods and economy of India. Indeed, when Indian goods gained full access to European markets they put indigeneous and inferior European industries out of business. According to Morineau, "Three factors were connected in the conquest of the market by Indian products: a fashion, a recognized intrinsic quality considered not to be reproducible in Europe, and a saving in comparison with competing domestic products." (1999: 256)

European aggression may have in part been inspired by desire for the riches of the other, while India's apparent non-agressiveness in relations with foreign powers, may have resulted from a natural complacency born of abundance. As Abu-Lughod suggested,

The wealth of India, the raw materials from jewels to spices, the high development of her agriculture, and the quality of her industrial output made her the object of other's desires. She sold more than she bought Ironically, wealth rather than poverty seemed to keep her from playing a more aggressive role in the thirteenth-century world system, a system driven more by need than by satiety. (1989:285)

It was a desire to access Indian goods no longer readily accessible via Muslim controlled routes that inspired the Europeans to seek alternative routes to India. In so doing the

Europeans did not create global trade networks as much as they disrupted the existing ones, using military force to usurp control over vital trade routes.

According to Palat and Wallerstein,

Though the serpentine caravan trails between West Asia and the subcontinent and the sea lanes criss-crossing Indian Ocean waters had linked widely dispersed peoples across the Euro-Asian landmass since antiquity -- transmitting artistic styles and production skills, religious beliefs and social customs, administrative practices and trading protocols - - the nature of these linkages was being transformed by the early fifteenth century. (1999:30-31)

The crucial event in this regard was the Portuguese circumnavigation of Africa during the fifteenth century, which opened up an alternative sea route. According to Attman,

The position of dominance which Venice had achieved in trade with the Orient was seriously affected when the Portuguese sailed round Africa in their heavy cannon-carrying ships and established a great trading power on the coasts of the Indian Ocean. They managed to conquer Hormuz (1515) and as a result gained control of the Persian Gulf but not of Aden. By cutting off supplies from India to the Red Sea, the Portuguese tried to acquire control of the spice trade in Europe along with the power to fix prices, and thus to destroy the power monopoly previously enjoyed by Venice. The King of Portugal succeeded in breaking the monopoly, and this was the main objective of the Portuguese policy of competition. On the other hand they failed to sever Venice's lifeline, the trade route across the Red Sea. This was due in large part to the Ottoman conquest of Syria in 1516 and Egypt in 1517. In fact the Ottoman military power was able to stand up to the Portuguese in the Indian Ocean and kept the trade route past Aden. (1981:19)

As a result overland trade continued for about a century longer, ceasing only when the Dutch and English East India Companies were founded at the beginning of the 17th century, with the purpose of monopolizing the trade with India at its source. [24]

During the sixteenth century the Portuguese increasingly traded with India via the sea route, largely paying for Indian goods with silver. (Attman 1981:34) This overall increase in trade, paid largely with silver coins, was made possible by the silver acquired by the Spanish in North and South America via the exploitation of American resources and Native American labor. [25] The Spanish "discovery" of the Americas was a result of Columbus' misguided attempt to discover a trans-Atlantic sea route to India, a mistake which was not immediately realized. According to Hunt and Murray,

Those discoveries, of the New World and the route around the southern tip of Africa, were of course motivated by the twin objectives of securing

direct access to the spices and fabled luxury goods of India and the Far East and promoting the Christian religion. This drive to circumvent the middlemen of the Near East and defeat the forces of a resurgent Islam was soon to be rewarded beyond the wildest dreams of anyone concerned. (1999:185)

Portuguese naval missions combined trade with organized looting and plundering.

According to Scammell, following the initial explorations,

the expeditions that rapidly followed were well armed and provided immense profits from wholesale looting as well as trade. The attitude of these aristocratic invaders is elegantly summed up by a historian: "They had no wish to become growers of pepper or ginger. But the diversion from infidel control of so lucrative a commerce was, like the taking of tribute and loot, an occupation suitable for a Christian gentleman. [26]

In the early period the European "explorers" were little more than pirates, profiting off of the resources and skills of other civilizations, whose works they could not replicate even if they tried. The myth of European superiority, although based on the reality of European superiority in arms, was slow in developing and was not widely held during the fifteenth and sixteenth centuries, when the "explorers" were encountering civilizations at least as sophisticated as their own, if not more so. According to Furber,

Though the Portuguese has proved the superiority of Europe in weapons and in military power on the sea, the great Asian empires-Chinese, Japanese, Ottoman, Persian, and Mughal-commanded European respect. All were widely recognized in 1600 as the seats of great, though non-Christian, civilizations, whose artisans produced goods of quality that as yet Europeans could not hope to equal. Most Europeans were obsessed with hostility toward Islam, and the idea that allies for the continuance of the crusade against Muslims could be found among non-Muslim Asian peoples had not been entirely given up. The rulers of the Mughal empire in India, founded by Babar, a Muslim invader from central Asia in the 1520s, and consolidated by Akbar fifty years later, did not control India to the extent that the "Grand Turk" (sultan) at Constantinople, the shah of Persia, and the emperors of China and Japan controlled their respective domains. The Asian regions where local political authority was weakest, India and the Malay archipelago, were destined to become the seats of European empire." (Furber 1976:7)

The European "explorers" were basically opportunists who took advantage of opportunities as they arose. Primarily interested in self-enrichment, they were not necessarily initially focused on conquest and colonialization per se. As Thomaz (1997) has argued, the Portuguese were not particularly interested in the control and colonization of land per se, but were primarily interested the control of sea routes. Their land holdings,

ranging from Hormuz to the Malaccas, tended to consist of forts on small but strategically located islands or coastal regions. The initial step of European expansion was to secure the sea routes to their main objectives, the ports of India and Southeast Asia.

The Europeans were not particularly interested in free trade, however. The Portuguese approach was to seek a trade monopoly enforced by military might. This might was initially directed at rival Muslim traders, toward whom the Europeans already felt a significant degree of hostility on account of their failed crusades over the previous few centuries. Portuguese militarization in Asia was triggered first by its conflicts with Mameluks of Egypt; this conflict was settled by their definitive defeat of a large Egyptian fleet at Diu in 1507 CE, and the fall of the Mameluks to the Ottoman Turks in 1517. (Lach 1965:112-13) Militarism was further necessitated by the increasing presence of European rivals and privateers in the Indian Ocean. The militant nature of European "trade" in Asia necessitated the seizure of key ports such as Hormuz at the mouth of the Persian Gulf and Diu in Gujarat. Such seizures were the initial movements in the unfolding of colonialism, although the Portuguese themselves did not go far beyond the seizure of key ports.

Portuguese did, however, see their role in India as a "crusade"; they thus applied their militant attitude toward the Muslim world toward India as well, which may have been inspired by their conflicts with Muslim traders over access to southwest Indian ports. Lach comments that in Goa, both secular officials and the missionaries were united in their unsuccessful attempts to eradicate Hinduism:

Still, the fact that the Christians, whether secular or religious, sought to impose their beliefs on everyone and to place non-Christians under severe religious and temporal disabilities induced in the non-Christians a profound hostility toward their overlords in Portuguese India. The close ties between church and state, strained though they sometimes were, gave the natives the impression that they were but two ends of the same stick that could be administered at the will of either power. The animosity of the natives was exhibited through their flights into the interior, through cutting into Portuguese revenues by flooding their rice paddies with salt water and shutting down their silk and food stores, and through protest meetings, petitions, and other means of passive resistance. Such actions often brought reprisals from the Portuguese in the form of destroying temples, killing cows, and polluting watering places. Open revolt and the killing of missionaries and converts sometimes followed, particularly in areas where the power of Portuguese arms could not readily be brought to bear. While the Portuguese were clearly powerless to conquer Hinduism by arms, it is worth recalling that the Muslims, who conquered far more of India, were equally unable to exterminate the native beliefs. (Lach 1965:244-45)

Colonialization appears to have been an after-effect of militarized trade. This is the case even with regard to the British East Indian Company, which came to be the primary agent

of the British colonization of India. Initially, however, the British East Indian Company was founded simply to provide an alternative to the Levant overland trade in spices, which was still dominated by the Venetians. According to Chaudhuri one should "look at the rise of the English East Indian company, not as an independent commercial venture, but as an attempt to separate the spice trade from the main body of the Levant trade and to drive it by a new route." (Chaudhuri, 1965, p. 12; *op cit.* Brenner 1996, p. 285).

In fact the East India Company, in the first 50 years of its existence, had no interest in the development of colonies, preferring to engage in trade only, following the pattern set by the Portuguese. This would change by 1650; during the turbulent 1640's, the power of the old guard royalist merchants was broken, and a new class of merchants wrested control of the Company. They followed the pattern set by the colonial merchants in American and the West Indies, and sought to establish a network of colonies linking England, Africa and India in a complicated network of exchange relationships. (Brenner 1996:301-2)

Even when the Europeans had gone to the length of securing control over the trade routes, they did not thus solve the basic pattern which had long dominated trade between India and the West: Indian goods were in far greater demand in Europe than were European goods in India. Merchants might profit handsomely through the sale of Indian goods, which were of both better quality and lesser price than similar European products. The result was both a drain of bullion from Europe to India, as well as stiff competition for European producers who were unable to match either the price or quality of Indian goods.

The Europeans were not the only ones who ran a sizable trade deficit in their indirect dealings with India. The Ottomans traded extensively with India, and consumed a great deal of Indian goods, primarily textiles. This was due, in part, to the disruptions of the Levant and Middle Eastern economies resulting from centuries of intermittent warfare. Indian merchants traveled and traded directly with the Safavid Persians and Ottomans. [27]

By the late eighteenth century the Ottomans were heavily reliant on the import of Indian goods. The reports of La Prévalaye, a Frenchman who documented the prices and quantities of goods sold in Istanbul markets during 1785, as well as other evidence documented by Veinstein (1999:110-11) show that Indian goods, and in particular textiles, were consumed in very great quantities in the Ottoman capital especially. This situation was noted by Naima, an Ottoman historian writing in the late eighteenth century. He wrote that:

we spend enormous sums for merchandise from India... but the Indians do not buy anything from the Ottoman territories, and they find nothing they need here. The customs receipts deriving from this trade do not compensate for the moral prejudice it results in. With them revenue is abundant and expenses nil, since they have no needs to satisfy in foreign countries, and so the wealth of the world gets concentrated in India. [28]

The textiles produced in India, and in Bengal in particular, were of extremely high quality, the product of a highly skilled, efficient but diffuse labor force. [29] Trade in these goods were controlled by powerful merchant houses, who were quite the match for the East India Company. Chaudhury reports, with regard to trade in Bengal in the eighteenth century, that

The European companies hardly ever commanded the markets from time to time for particular commodities, nor did they even dominate the 'commercial outlook'. These were the exclusive prerogatives of the Asian merchants, who, it appears, through their wealth, influence and business acumen controlled the entire wholesale trade within their area of operations. (1995:131)

The British, unable to compete with the Asian merchants in business, resorted to force, taking control of Bengal in 1757 under the pretext of the "Plassey revolt". The result was that the British achieved Pyrric victory in Bengal, for their use of force led to the decline of the very trade they so longed to control. According to Chaudhury,

The *gomastas* of the Company and its servants ushered in almost a reign of terror, coercing and exploiting the weaver-artisans. The weavers were no registered with a particular *gomasta* and were not allowed to work for anyone else. And they were transferred from one *gomasta* to another 'like so many slaves'. As a near contemporary British observer pointed out, 'their hardship is scarcely to be described'. (1995:335)

This sad state of affairs was indeed noted even by a contemporary British historian. Alexander Dow, in his *Hindustan*, observed that pre-Plassey Bengal "at that time was one of the richest, most populous and best cultivated kingdoms in the world.... We may date the commencement of decline from the day on which Bengal fell under the dominion of foreigners." (*op cit.* Chaudhury 1995, p. 335)

European technological superiority often overrated. As Frank noted, citing the work of Dharampal (1971) and Kuppuram and Kumudamani (1990),

there are several accounts of British import of samples of Indian *wootz* steel, which specialized British laboratories found equal to that of Sweden and superior to any made in Britain in 1790. Moreover, among the ten thousand Indian furnaces at the end of the eighteenth century, many still produced comparable iron and steel both faster (in two and a half hours instead of four) and cheaper than the British did in Sheffield. (Frank 1998:202-3)

If it was not European superiority in technology that led to the decline of the Indian Ocean trade and European dominance in this arena, what then were the causes of this decline?

Evidence suggests that there already was a decline in the Indian Ocean trade during the seventeenth century, which may have been connected to the decline of regional powers such as the Safavids in Iran and the Moghuls in India. [30] Another factor may have been the Ming Chinese decision to withdraw from international trade, which left a significant power vacuum in the east Indian Ocean region. [31] Europeans took advantage of this decline to usurp control of this trade through the use of brute force. Arasaratnam attributes the decline in trade along the Coromandel coast of India to the interruption of trade between India and Southeast Asia caused by the Europeans. He wrote that

As far as Coromandel was concerned, European trade, in its new forms and directions, cut deep into the trade that had been traditionally carried on in that region It was this [Southeast Asian] artery that was punctured violently by the Dutch in the course the seventeenth century. Indian trading links were cut off one by one with the Moluccas, Macassar and the Celebes, Bantam and the north Javanese ports, [and the] west coast of Sumatra. In a series of military and naval actions, these ports and markets were shut off from competitive trading. It meant denial of a lucrative export market in textiles for Coromandel shippers. It meant the wresting from their hands of the export trade in spices to Coromandel. And it meant the denial of mineral -- gold and tin -- which had formed a profitable import to India. It must be emphasized that these were achieved by brute force and not by superior commercial enterprise. [32]

The use of such brute force to secure a monopoly evidently replaced a much more cooperative and free, non-compulsory system of trade. As Chaudhuri convincingly argued,

before the arrival of the Portuguese ... in 1498 there had been no organized attempt by any political power to control the sea-lanes and long-distance trade of Asia The Indian Ocean as a whole and its different seas were not dominated by any particular nations or empires. [33]

In other words, unable to compete in a situation of free and un-compulsory trade, the Europeans used force to shut down free trade and position themselves as the beneficiaries of uncompetitive monopolies. Far from being the torchbearers of capitalism as Weber and others would have us believe, Europeans wielded force to construct an uncompetitive, uncapitalistic despotism which far exceeded that achieved by any of the so-called "oriental despots". The theories of Hegel, Marx were not only Eurocentric, but fantastic in that they represent an ideal rather than actual version of history, with Europe aligned along the positive pole and Europe's "dark side", the sordid side of European hegemony, projected upon the dominated other. As Blaut argues contra Weber, capitalism did not arise due to any innate superiority on the part of the Europeans, such as greater rationality or so forth. Rather,

Capitalism arose as a world-scale process: as a world system. Capitalism became centrated in Europe because colonialism gave Europeans the

power both to develop their own society and to prevent development from occurring elsewhere. It is this dynamic of development and underdevelopment which mainly explains the modern world. (Blaut 1993:206)

These historical arguments should be seriously considered; and Max Weber's view that capitalism derived from a peculiarly Western mode of "rationalization"[34] should be reevaluated in their light.

Therefore, when considering the poverty under which much of India suffers today it is important to take into consideration all of the historical factors which contributed to this condition. Clearly, in the case of India, we are dealing with a situation in which one of the world's wealthiest and most vibrant economies was transformed, over the course of several centuries, into one of its poorest and most moribund. While the causes for this transformation are no doubt manifold it is also clear that one cause in particular played a particularly important role. This, naturally, is the economic exploitation that occurred under colonial rule in India. As Romesh Dutt argued,

It is, unfortunately, a fact which no well-informed Indian official will ignore, that, in many ways, the sources of national wealth in India have been narrowed under British rule. India in the eighteenth century was a great manufacturing as well as a great agricultural country, and the products of the Indian loom supplied the markets of Asia and of Europe. It is, unfortunately, true that the East Indian Company and the British Parliament, following the selfish commercial policy of a hundred years ago, discouraged Indian manufacturers in the early years of British rule in order to encourage the rising manufactures of England. Their fixed policy, pursued during the last decades of the eighteenth century and the first decades of the nineteenth, was to make India subservient to the industries of Great Britain, and to make the Indian people grow raw produce only, in order to supply material for the looms and manufactories of Great Britain. This policy was pursued with unwavering resolution and with fatal success; orders were sent out to force, Indian artisans to work in the Company's factories; commercial residents were legally vested with extensive powers over villages and communities of Indian weavers; prohibitive tariffs excluded Indian silk and cotton goods from England; English goods were admitted into India free of duty or on payment of a nominal duty. The British manufacturer, in the words of the historian, H. H. Wilson, "employed the arm of political injustice to keep down and ultimately strangle a competitor with whom he could not have contended on equal terms;" millions of Indian artisans lost their earnings; the population of India lost one great source of their wealth. It is a painful episode in the history of British rule in India; but it is a story which has to be told to explain the economic condition of the Indian people, and their present helpless dependence on agriculture. (1950: vii-viii)

The current challenge, then, is to reverse this trend and restore to India her rightful position of importance in the world economy. One way in which this might be accomplished is to reverse the impression that India always has (and thus, by implication, always will be) an impoverished country. This impression served the interests of the British, for provided cover for the exploitation they perpetrated through the claim, in effect, that the wealth they stole never existed. Once this impression is removed, then it might be possible to recover some of the skills and practical knowledge that previously contributed to India's greatness in the world, and apply these to current situations. It might thus be possible to discover solutions to some of the many problems which Western domination and the use and abuse of Western technologies have caused in the world.

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[1] For a history of the European encounter with Indic thought see Clarke 1997, especially pp. 54 ff. See also Halbfass 1988.

[2] Muir 1915, p. 299. This minute is reproduced in its entirety in pp. 298-301 of this work.

[3] See Clarke 1997, pp. 65-67.

[4] For example, Classical Indian astronomy was no more inaccurate than the classical Greek Ptolemaic system, which Europe followed until the seventeenth century, and in many respects the former was more accurate. Regarding the Vikramaditya era, it is true that there were several kings with that name in Europe (just as there were many kings named Louis, Charles, etc. in Europe), but it does not follow from this that the Indians confused them. There in fact never was confusion concerning the Vikramaditya era, starting 57 BCE, and Hegel is absolutely wrong that this era actually begins in the eleventh century. One might argue that there never was a king of that name who lived at that time, but one could also argue that there was no Christ born at the year zero, or, that, if he did live, that he was born then -- there actually is evidence suggesting that he was born during the year 6 BCE. These arguments are thus quite spurious. It is interesting that he takes this rather inconsequential reason for dismissal Indian *wisdom*, as if the contents of the text are negated if it is misdated! Perhaps mistaken views concerning Indian history (or lack thereof) are at the root of much of the dismissal of India and things Indian.

[5] See Witzel 1990.

[6] The connection of Hegel to the colonial context in which he wrote was noted by Robert Young, who wrote: "Hegel articulates a philosophical structure of the appropriation of the other as a form of knowledge which uncannily simulates the project of nineteenth century imperialism; the construction of knowledges which all operate through forms of expropriation and incorporation of the other mimics at a conceptual level the geographical and economic absorption of the non-European world of the West." (1990:3)

[7] Hegel 1955, appendix 2, p. 243; *op cit.* Enrique Dussel, *The Invention of the Americas* (New York: Continuum, 1995), p. 20

[8] *op cit.* Dussel 1995, p. 24.

[9] Tibebu 1990, pp. 83-85, quoted in Frank 1998, pp. 15-16.

[10] Hegel 1956, pp. 141-42, *op cit.* Inden 1990 p. 70.

[11] See Stein 1982, p. 18.

[12] See de Sélincourt 1996, p. 192.

[13] See Rawlinson 1975, pp. 435 ff.

[14] See *Stromateis* 1.15, translated in Ferguson 1991, pp. 72-78.

[15] See her 1995 and 1998 works on this subject.

[16] Contacts between Indian and China were ongoing from the fifth century. For a synopsis of this contact see Bastiampillai 1995.

[17] A *li* is a Chinese unit of measurement equal to approximately one third of a mile.

[18] Translated in Beal 1884, part I, p. 206.

[19] See Sen 1995, pp. 32-33.

[20] For a summary of Indian cultural influence in Southeast Asia see Lamb 1975.

[21] Translated in Dowson vol. 22, pp. 3-4.

[22] In recent years there has been quite a bit of controversy concerning whether or not Marco Polo actually visited the places he describes, particularly China. Frances Wood, for example, in her 1998 book, argues that he did not in fact visit China. On the hand, John Larner has argued, in a 1999 work, against her position, and I find his case to be the

more convincing. It seems less likely, however, that Marco Polo actually visited India. If not, his account must have been based upon the accounts of other merchants who actually had been there. His views thus reflect common presuppositions about India, if not direct eyewitness testimony.

[23] See Rothermund 1981, p. 17.

[24] See Attman 1981, p. 27.

[25] See Attman 1981, p. 53.

[26] Scammell 1981, p. 269, *op cit.* Hunt and Murray 1999, p. 220.

[27] See Veinstein 1999, p. 98.

[28] Naimaa, *Ravdat al-Husayn fi hulaasat al-ahbaar al-Hafiqayn*, Istanbul 1281H, vol. 4, p. 293. Trans. in Veinstein 1999, p. 111.

[29] (See Chaudhury 1995: 132 ff.

[30] See Frank 1998 pp. 231 ff.

[31] See Abu-Lughod 1989, pp. 340 ff.

[32] Arasaratnam 1995, pp. xiv, 28,29, *op cit.* Frank 1998, pp. 270-71.

[33] Chaudhuri 1985, p. 14, *op cit.* Abu-Lughod 1989, p. 275.

[34] See Weber 1930, esp. pp. 25-26.

The following document is an edited version of the document at:

http://www.infinityfoundation.com/mandala/inner_sci_overview_frameset.htm

INNER SCIENCES

Overview

This gate deals with education regarding the Indic inner arts and sciences (Sanskrit *adhyatma-vidya*). It is the point of entry for those interested in Indic and cross-cultural philosophy, epistemology, ethics, linguistics, psychology and mind science, spirituality, meditation, yoga, and other models for and techniques of personal transformation.

There is not only one tradition of Indic inner science; rather there are many varied and diverse disciplines and sub-disciplines of Indic inner science, usually in dialogue with each other over many regions, languages, and centuries, sometimes complementing and just as often competing with each other. Moreover, the diverse Indic understandings of "personal" identity and transformation (the proper purview of the inner sciences) interrelate in extremely complex ways with equally diverse Indic "social" theories (sometimes mistakenly assumed not to exist by contemporary scholars). This interrelationship between Indic inner sciences and Indic social, political, and environmental sciences is an area in critical need of further exploration.

What is inner science?

We have found it useful to subdivide the Indic inner sciences into the following three broad categories:

- **ETHICS**
As an inner *science*, the field of ethics involves not so much the formulation of normative prescriptions and proscriptions as it does a careful analysis of the way in which an individual's state of mind, motivations, and so forth can affect his perceptions, experiences, and interpretations of himself and the world. It also includes many practical techniques for deconditioning and reconditioning the mind/body, for systematically cultivating desired states or attitudes such as patience, love, compassion, a sense of universal responsibility, and so forth.
- **WORLD VIEW (THEORY)**
The second broad category, world view (theory), includes many of the critical and analytical branches of philosophy; epistemology; philosophies of language; theories and models of consciousness and cognition; and the like.
- **TECHNOLOGY (PRACTICE)**
The third broad category, technology (practice), includes advanced techniques for the cultivation of transformative insight (identity and reality therapies); coarse

physical yogas; yogas of subtle states; meditative technologies; creative imagination techniques; yogas of bliss and beauty; and so forth.

These Indic inner sciences comprise a range of theoretical and practical disciplines which are "scientific" in the sense that (1) they are based on empirical observation and experimentation, and (2) their findings are interpreted through heuristic yet rational models subject to public verification, scrutiny, debate, and revision. Contrary to prevalent stereotypes which dismiss such inner sciences as "merely subjective," these "inner" sciences are frequently more scientifically rigorous than their "outer" counterparts for the simple reason that the latter, which purport to explore external "objective" realities, are often based upon the naïve assumption that the perceptual data, as captured by the sense organs and organized in the brain, accurately correspond to the "reality" they allegedly represent. As physicist and philosopher Piet Hut has written:

Already, quantum mechanics has shown us that a purely objective ontology of the world is far more problematic than classical mechanics assumed. How a subject, human or machine, measures an object determines in a fundamental way what the outcome can be. Reality seems to reside as an unformed mixture of actuality and potentiality, until a measurement forces a momentary semblance of actuality to appear. Shocking as this would be for a nineteenth-century physicist, who knows what further developments lie in wait, in the next thousand years? As a specific guess, I anticipate that first-person felt experience and third-person description will both become part of an extended form of scientific method, in a framework that will transcend the current dichotomy. (From "As in a Dream," located at:
http://www.infinityfoundation.com/s_es/s_es_hut-p_dream_frameset.htm)

From a very early date the Indic empiricists did in fact problematize this dichotomy. They systematically addressed it by developing increasingly sophisticated perceptual models for sensory and cognitive faculties (our final data gathering instruments), increasingly sophisticated techniques for sharpening these faculties or instruments well beyond their "normal" capacities, and -- always in conjunction with these instrumental developments -- increasingly sophisticated epistemological methodologies for analyzing the mutually interdependent relationship between the measured and the measurer, between perception and conception.

The paradigms underlying these Indic sciences present challenges and alternatives to the materialistic metaphysics underlying contemporary physical and biological sciences. While these modern sciences have produced many impressive results, their dogmatic adherence to a materialist paradigm has severely restrained their ability to really understand or explain especially the innumerable modalities of consciousness. Biology, the dominant science informing the fields of health, physiology, and consciousness studies, has been particularly limited in this regard. Furthermore, though the impact of the Indic inner sciences has perhaps been most discernable on contemporary cognitive sciences, this impact has been greatly minimized through cognitive scientists' tendency to

veer away from the human subjectivity in the attempt to reduce all "mental" phenomena to material processes. It is not that we should dismiss the possible value of materialistic models -- indeed, contrary to popular conception, many Indic scientific disciplines have included materialistic reduction as one possible alternative among many, a paradigm that could be adopted in certain circumstances if helpful toward a specific end. However, these same Indic sciences have also developed many alternative, non-materialistic paradigms that have often proven far more effective at describing and explaining the multitude of phenomena (perceptions, conceptions, states of awareness, emotions, etc.) that take place within or as "consciousness." Thus, "consciousness studies" is but one important area in which Indic inner sciences can make a very valuable contribution.

These Indic disciplines have given rise to detailed analyses of the mind and mental states, demonstrating that what is often simply treated as "consciousness" is in fact a complex and multifaceted phenomenon, actually consisting of multiple levels of consciousnesses. Likewise, they have given rise to models of the "body" that entail far more than the coarse, material form, models that describe subtle and extremely subtle levels of physiology as well. Furthermore, the psycho-physical models thus developed have provided detailed explanations for how these varying levels of mind and body interact in complex ways, how they function not as dualistically separate phenomena but more as modalities or reflexes of each other (somewhat akin to how matter and energy are conceived in modern physics). Moreover, these models have not been merely descriptive in nature; they have also served to provide diagnostic, predictive, and prescriptive information. Thus, they have given rise to thought experiments designed to remove negative emotions and negative thought and/or behavioral patterns, as well as to yogic techniques designed to achieve profound mental and physical transformations, from states of deep relaxation and physical well-being to more deep states of mental clarity, focus, perfect concentration, heightened cognitive powers, and so forth.

In recent years, outer scientific research of advanced yogis has begun to develop descriptive and explanatory models to bridge the coarse physical to subtler aspects (mental/emotional/spiritual) of the person. While this research began with concerns for gross physical health, it grew to incorporate concerns for "stress reduction" and then for more advanced "autogenic training," revealing new insights about the relationship between the volitional and autonomic levels of human functioning.

There are a great many developmental yogic systems (in addition to the more well-known varieties of hatha and kundalini). In varying ways, they each situate the body/mind within a highly sophisticated evolutionary context in which yogic processes are understood to activate and "mature" latent potentials within the body/mind, potentials which are themselves innate developmental processes. For such reasons, while yogic practices certainly are a type of "technology" (sometimes involving external, even coercive, "techniques"), it is important also to understand such yogic practices as *expressions* of these latent, innate body/mind processes.

"Ethics" also occupies an essential role in all yoga systems. Ethics is foundational to the healthy functioning of the body, breath, emotions, and consciousness. Yogic models thus

convey a *continuity* of "the ethical" with these constitutive aspects of the individual (situated in his or her cultural and historical context), a continuity that represents the individual's *harmonious functioning* of his or her parts or subsystems with one another as well as with greater wholes or macro-systems. Such continuity of the ethical with the "purely physical" appears in the moral tenor of contemporary ecological concerns, concerns that also link the supposed "amorality" of nature systems to discernable principles of harmony and inter-dependency. Here, too, Indic inner sciences are reflected in numerous millennia-old "outer" science, "green," or sustainable community technologies.

Over many centuries, primarily through the spread of Buddhism (India's greatest global export), these Indian traditions were transmitted to and became present at the vital core of most Asian civilizations, and thus they have a long and well-documented track record throughout Asia. They have exerted traceable influence on the shaping of those peoples, especially in the character formation of their leading individuals. Modern science is just beginning the process of re-discovering, understanding, and re-validating many of the inner science claims. Some modern scientists have only recently begun to treat living inner scientists as colleagues with a valid theory and method of their own, and to date only a very small percentage of the enormous historical record of these traditions preserved in thousands of theoretical and practical texts has yet been translated into any European language. Given their resonance with modern physics, and given that they have provided the underpinnings of much of modern consciousness theory, we should not downplay the possible future contributions or breakthroughs that the inner sciences might provide in our scientific quest to understand reality. And we cannot underestimate the immense practical applications of even modest improvements in our ability to control and develop the human being's mental, emotional, and physical powers. The resources spent to explore star systems, genetic structures, and the core energies of the material world need to be complemented by reasonable investments to explore the core patterns, energies, and subtle essences of the inner world. We need to access the resources of these traditions and (where we deem it useful) apply their knowledge to modern education and adapt our modern society and environment to that knowledge. History and opportunity urge us to move decisively.

Scholarly Orientation and Methodology

Our contemporary higher educational system has already produced at great cost a small corps of outstanding inner science scholars who, in spite of lack of mainstream recognition of their field, now hold important positions in major universities. These scholars are as highly trained in their own field as physical scientists are in theirs. They have mastered difficult Asian languages, most notably Sanskrit and Tibetan, and are deeply involved in the exploration of the epistemological challenges and psychological dimensions of "inner space" enjoined by inner science studies, and are committed to seeing that such new knowledge and inner powers be used for the good of all.

Many of these scholars are individually challenging outmoded paradigms and methodologies, restrictive stereotypes, and the "received wisdom" regarding Indic

"religions." The Infinity Foundation (IF) and the Global Renaissance Institute (GRI) have sought to bring into association such isolated individuals to create a critical mass that can have a major impact on the future not only of Indic scholarship, but also of all contemporary academic disciplines and indeed global culture as a whole. We have now nurtured a core working group which will form the basis for further, ongoing collaborative research, publications, conferences, and so forth.

As we have expanded our community of inner science scholars we have developed an awareness of the types of characteristics which seem most valuable to our educational mission. Our current (and future) inner science scholars have not only each mastered their own particular sub-field of inner science, but -- of no less importance -- they are also well-trained in contemporary academic disciplines, methodologies, and concerns. Thus, they are well equipped and motivated to bring the inner science disciplines "out of the closet" and into serious, meaningful dialogue with mainstream disciplines from psychology to philosophy, sociology, psychotherapy, and so forth. This will involve a sustained effort and commitment to truly translate (as much as possible) terms, concepts, methodologies, and so forth into each others' language and idiom.

While no scholar or discipline can be (or often should be) "value neutral," our scholars are fully committed to academic and scientific standards valuing "objectivity" (variously defined and problematized), self-awareness, critical thinking, full disclosure, and so forth. In conformity with long-standing Indic methodology and tradition regarding such inner sciences, (and entirely contrary to the stereotypes of supposedly "mystical" Indic traditions), personal "experience" (whether dubbed "religious" or not) is not necessarily held to trump public, empirical "perception" (whether dubbed "factual" or "scientific" or otherwise) -- rather these two are both seen to be mutually interdependent, each affecting the other and posing (as much as answering) the question of "what is really real?" Thus, the many and varied technologies of the Indic inner sciences, and the vast, meticulously categorized array of "altered" experiences and perceptions to which they give rise, have always been positioned in and interpreted through equally varied and sophisticated systems of epistemology. And thus, public debate over such issues as the nature, interpretation, and verifiability of such experiences is and always has been at the very heart of the Indic inner sciences.

Thus, to be "objective" in our pursuit of the inner sciences means that -- while we are each *informed* by our particular contexts, and while our positions on scholarly issues will certainly have measurable impact on issues in the "real world" -- we seek to consciously avoid arguments, stances, methodologies, etc. which are themselves *driven* by particular, narrow agenda, whether religiously sectarian, politically partisan, or philosophically rhetorical. This spirit of scientific discovery and openness (rather than dogmatic apologetics or polemical rhetoric) is necessary not only to "get at the truth" of the inner sciences, but also to ensure that these sciences are afforded the serious, mainstream scholarly attention they deserve.

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http://www.infinityfoundation.com/mandala/tks_overview_frameset.htm

TRADITIONAL KNOWLEDGE SYSTEMS

Overview

It is now recognized that western criteria are not the sole benchmark by which other cultural knowledge should be evaluated. While the term 'traditional' sometimes carries the connotation of 'pre-modern' in the sense of 'primitive' or 'outdated', many of the traditional sciences and technologies were in fact quite advanced even by western standards as well as better adapted to unique local conditions and needs than their later 'modern' substitutes. In countries with ancient cultural traditions, the folk and elite science were taken as part of the same unified legacy, without any hegemonic categorizations. However, modernization has homogenized various solutions, and this loss of ideas is similar to the destruction of biodiversity. Colonizers systematically derogated, exterminated or undermined the local traditional science, technology and crafts of the lands and people they plundered, because of their intellectual arrogance, and also to control and appropriate the economic means of production and the social means of organization. Modern societies created hegemonic categories of science verses magic, technology verses superstitions etc., which were arbitrary and contrived. But many anthropologists who have recently worked with so-called 'primitive' peoples have been surprised to learn of some of their highly evolved and sophisticated technologies. The term 'Traditional Knowledge System' was thus coined by anthropologists as a scientific system which has its own validity, in contradistinction to 'modern' science.

The United Nations University proposal defines Traditional Knowledge Systems as follows:

Traditional knowledge or 'local knowledge' is a record of human achievement in comprehending the complexities of life and survival in often unfriendly environments. Traditional knowledge, which may be technical, social, organizational, or cultural was obtained as part of the great human experiment of survival and development.

Laura Nader describes the purpose of studying TKS: "The point is to open up people's minds to other ways of looking and questioning, to change attitudes about knowledge, to reframe the organization of science -- to formulate a way of thinking globally about traditions."

HISTORICAL BACKGROUND

Modern science can perhaps be dated to Newton's times. But Traditional Knowledge Systems date from more than 2 million years, when *Homo habilis* started making his tools and interacting with nature. Since the dawn of history, different peoples have

contributed to different branches of science and technology, often in a manner involving interactive contacts across cultures separated by large distances. This interactive influence is becoming clearer as the vast extent of global trade and cultural migration across large distances is being properly recognized by researchers.

However, one finds that generally the history of science as commonly taught is mostly Eurocentric. It typically consists of two phases: It starts with Greece, neglecting the influences of others upon Greece. Then it 'fast forwards' many centuries to the Enlightenment period around 1500, to claim modern science as an exclusively European triumph, by neglecting the influence of others, especially India, upon the European Renaissance and Enlightenment. The European Dark Ages is presumed to be dark worldwide, when in fact, the rest of the world thrived with innovation and prosperity while Europe was at the peripheries until the conquest of America in 1492.

Thanks to especially the work of Joseph Needham, China's contributions to global knowledge have recently become known to a wide range of scholars. Even more recently, thanks largely to Arab scholars, the important role of Islamic empires in the transmission of ideas into Europe has become better appreciated. However, in the latter case, many discoveries and innovations of India, as acknowledged by the Arab translators themselves, are often depicted as being of Arab origin, when in fact, the Arabs often retransmitted what they had learnt from India over to Europe.

Therefore, the vast and significant contributions made by the Indian sub-continent have been widely ignored. The British colonizers could never accept the fact that Indians were highly civilized even in the third millennium BC, when the British were still in a barbarian stage. Such acknowledgment would destroy the civilizing mission of Europe that was the intellectual premise for colonialization. British Indologists did not study TKS, except to quietly document them as systems competing with their own, and to facilitate the transfer of technology into Britain's Industrial Revolution. What was found valuable was quickly appropriated (see examples below), and its Indian manufacturers were forced out of business, and this was in many instances justified as civilizing them. Meanwhile, a new history of India was fabricated to ensure that present and future generations of mentally colonized people would believe in the inherent inferiority of their own traditional knowledge and in the superiority of the colonizers' 'modern' knowledge. This has been called Macaulayism, named after Lord Macaulay who successfully championed this strategy of Britain most emphatically starting in the 1830s.

Because it became difficult for Europeans to ignore the massive archaeological evidence of classical Indian science and technology, they propounded that Indus Civilization had to be a transplant from the Egyptian and Mesopotamian civilizations. These constructions in historiography have tended to be cumulative rather than re-constructive, i.e. more layers were constructed without re-examining or correcting prior ones. Unfortunately, since independence there has not been much improvement in such distortions of history, and this has continued to negatively impact the understanding and appreciation of TKS. Many in India's intellectual elite continue to promote the notion that pre-colonial India

was feudalistic, pre-rational, and by implication in need of being invaded for its own benefit.

This has created a climate in which entrenched prejudice against TKS still persists in contemporary society. For example, according to TKS activist Madhu Kishwar, India's government today continues to make many TKS illegal or impossible to practice. Even after independence, many British laws against TKS have continued, even though their original intent was to destroy India's massive domestic industry and foreign trade and to replace them with Britain's Industrial Revolution. It is significant to note that today less than 10% of India's labor works in the 'organized sector', namely as employees of a company. The remaining 90% are individual freelancers, contract laborers, private entrepreneurs, and so on, many of whom still practice their traditional trades. However, given the perpetuation of colonial laws that render much of their work illegal, they are highly vulnerable to all sorts of exploitation, corruption, and abuse. The descendants of India's traditional knowledge workers, who built massive cities, technologies, and dominated world trade for centuries, are today de-legitimized in their own country under a democratic government. Many of today's poor jatis, such as textile, masonry, and metal workers, were at one time the guilds that supplied the world with so many and varied industrial items.

It is important to note that amongst all the conquered and colonized civilizations of the Old World, India is unique in the following respect: Its wealth was industrial and created by its workers' ingenuity and labor. In all other instances, such as the Native Americans, the plunder by the colonizers was mainly of land, gold and other natural assets. But in India's case, the colonizers had a windfall of extraordinary profit margins from control of India's exports, taxation of India's economic production, and eventually the transfer of technology and production to the colonizer's home. This comprised the immense transfer of wealth out of India. From being the world's major exporting economy (along with China), India was reduced to an importer of goods; from being the source of much of the economic capital that funded Britain's Industrial revolution, it became one of the biggest debtor nations; from its envied status as the wealthiest nation, it became a land synonymous with poverty; and from the nation with a large number of prestigious centers of higher education that attracted the cream of foreign students from Eurasia, it became the land with the highest number of illiterate persons. This remains a major untold story. The education system's subversion of India's TKS in its history and social studies curricula is a major factor for the stereotyping about India. Even when told of these things, few westerners and elitist Indians are willing to believe them, as the prejudices about India are too deeply entrenched.

THE GLOBAL PROBLEM TODAY

The present day globalizing economy with its mass media glorification of the western lifestyle is resulting in the homogenization of human 'wants' and in unachievable expectations. Conventional western technology by itself cannot deliver or sustain this false promise to the world, for several reasons:

- Westernized living is unachievable by billions of poor humans, because the capital required simply does not exist in the world, and the trickle down effect is too slow to reach the bottom tier where most of humanity lives.
- Western civilization depends upon inequality -- there must be cheap labor 'somewhere else', and cheap natural resources purchasable from somewhere, without regard to the big picture of world society or global ecology. This practical necessity of the present-day global capitalist system conflicts with the equal rights of states and persons long theorized and promoted. All sorts of reasons are offered against such drastic proposals as opening all borders and allowing free competition among all available laborers, contradicting the 'freedom' position so popular in theory.
- The western economic development model demands 'growth' to sustain valuations in the stock markets, and growth cannot be indefinite. A steady state economy in zero growth equilibrium would devastate the wealth of the west, since the financial models are predicated on growth.
- Even if the above obstacles could be overcome and the world's six billion persons were to achieve western lifestyle, it would be unsustainable for the planet's natural resources to sustain.

When Gandhi was asked whether he would like India to develop a lifestyle similar to England's, his reply may be paraphrased as follows: The British had to plunder the Earth to achieve their lifestyle. Given India's much larger population, it would require the plunder of many planets to achieve the same.

If the idealized lifestyle is unavailable to all humanity, then on what basis (morally, intellectually, and in terms of practical enforcement) do a few countries hope to sustain their superiority over others so as to maintain such a lifestyle? The point is that employing TKS is an imperative for humanity at large, while reducing global dependence on inequitable and resource draining "advanced" knowledge systems.

We have to study, preserve, and revive the Traditional Knowledge Systems for the economic betterment of the world in a holistic manner, as these technologies are eco-friendly and allow sustainable growth without harming the environment. India's scientific heritage needs to be brought to the attention of the educated world, so that we can replace the Eurocentric History of Science and Technology with an honest globalization of ideas. This goal requires generations of new research in these fields, compilation of existing data, and dissemination through books, seminars, websites, articles, films etc.

INDIAN CONTRIBUTIONS TO GLOBAL SCIENCE

Civil Engineering

The Indus-Sarasvati Civilization was the world's first to build planned towns, with underground drainage, civil sanitation, hydraulic engineering, and air-cooling architecture. Oven baked bricks were invented in India in approximately 4,000 BC. From complex Harappan towns to Delhi's Qutub Minar and other large projects, India's indigenous technologies were very sophisticated in design, planning, water supply, traffic flow, natural air conditioning, complex stone work, and construction engineering.

Metal Technologies

They pioneered many tools for construction, including the needle with hole at the pointed end, hollow drill, and true saw. Many of these important tools were subsequently used in the rest of the world, centuries later during Roman times. India was first to produce rust-free iron. In the mid-first millennium BC, the Indian wootz steel was very popular in the Persian courts for making swords. The British sent teams to India to analyze the metallurgical processes that were later appropriated by Britain. Making India's metal works illegal was motivated partly by the goal to industrialize Britain, but also because of the risk of gun manufacturing by potential nationalists. India's exporting steel industry was systematically dismantled and relocated to Britain.

Textiles

India's textile exports were legendary. Roman archives contain official complaints about massive cash drainage because of imports of fine Indian textiles. One of the earliest industries relocated from India to Britain was in textiles, and it became the first major success of the Industrial Revolution, with Britain replacing India as the world's leading textile exporter. Many of the machines built by Britain used Indian designs that had been improved over long periods. Meanwhile, India's textile manufacturer's were de-licensed, even tortured in some cases, over-taxed, regulated, etc., to 'civilize' them into virtual extinction.

Shipping and Ship Building

India participated in the earliest known ocean based trading systems. Regarding more recent centuries, it is known to scholars but not to the general public that Vasco da Gama's ships were captained by a Gujarati sailor, and much of Europe's 'discovery' of navigation was in fact an appropriation of pre-existing navigation in the Indian Ocean, that had been a thriving trade system for centuries before Europeans 'discovered' it. Some of the world's largest and most sophisticated ships were built in India and China. The compass and other navigation tools were already in use at the time. ('Nav' is the Sanskrit word for boat, and is the root word in 'navigation', and in 'navy', although etymology is not a reliable proof of origin.)

Water Harvesting Systems

Scientists estimate that there were 1.3 million man-made water lakes and ponds across India, some as large as 250 square miles. These are now being rediscovered using satellite imagery. These enabled most of the rain water to be harvested and used for irrigation, drinking, etc. till the following year's rainfall. Village organizations managed these resources, but this decentralized management was dismantled during the colonial period, when tax collection, cash expropriation, and legal enforcements became the primary function of the new governance appointed by the British. Recently, thousands of these 'talabs' have been restored, and this has resulted in a re-emergence of abundant water year round in many places. (This is a very different approach compared to the massive modern dams built in the name of progress, that have devastated the lives of millions.)

Forest Management

Many interesting findings have recently come out about the way forests and trees were managed by each village and a careful method applied to harvest medicines, firewood, and building material in accordance with natural renewal rates. There is now a database being built of these 'sacred groves' across India. Again, it's a story of an economic asset falling into disuse and abuse because of dismantling the local governance and uprooting respect for traditional systems in general. Massive logging by the British to export India's timber to fund the two world wars and other civilizing programs of the empire are never mentioned when scholars try to explain India's current ecological disasters. The local populations had been quite sophisticated in managing their ecology until they were disempowered.

Farming Techniques

India's agricultural production was historically large and sustained a huge population compared to other parts of the world. Surpluses were stored for use in a drought year. But the British turned this industry into a cash cow, exporting massive amounts of harvests even during shortages, so as to maximize the cash expropriation. This caused tens of millions to die of starvation while at the same time India's food production was exported at unprecedented rates to generate cash. Also, traditional non-chemical based pesticides have been recently revived in India with excellent results, replacing Union Carbide's products in certain markets.

Traditional Medicine

This is now a well-known and respected field. Much re-legitimizing of Indian medicine has already been done, thanks to many western labs and scientists. Many multinationals no longer denigrate traditional medicine and have in fact been trying to secure patents on Indian medicine without acknowledging the source.

Mathematics, Logic and Linguistics

Besides other sciences, Indians developed advanced math, including the concept of zero, the base-ten decimal system now in use worldwide, and many important trigonometry and algebra formulae. They made several astronomical discoveries. Diverse schools of logic and philosophy proliferated. India's Panini is acknowledged as the founder of linguistics, and his Sanskrit grammar is still the most complete and sophisticated of any language in the world.

There were numerous other indigenous Indian industries. India's manufactured goods were highly prized around the world. We must evaluate the historical importance of these TKS based on their economic value for their time, when their importance could be compared to today's high tech industry. India's own English educated elite should be made aware of this to shed their Macaulayite inferiority complexes. Furthermore, the development, refinement and extension of TKS offer potential benefits capable of resolving or diminishing some of the inequities in modern societies worldwide.

FOLK SCIENCE

Besides the above examples of Indian contributions to the very foundations of so-called 'western' science, another category of Traditional Knowledge Systems is non-literate folk science. Western science as a whole has condemned and ignored anything that it did not either appropriate or develop, as being magic and superstition. However, in countries such as India that have cultural continuity, ancient traditions survive with a rich legacy of folk science. In North America and Australia, where original populations have been more than decimated, such continuity of folk tradition was disrupted. In Western nations with large colonies in the Old and New Worlds, such knowledge systems were looked down upon. It is this prejudice that subverts the importance of folk science, and ridicules it as superstition. The process of contrasting western science with folk knowledge systems extends to the demarcation of knowledge systems in different categories of science versus religion, rational versus magical, and so on. But we need to insist that these western imposed hegemonic categories are contrived and artificial.

Western science seldom realized that non-literate folk science preserves the wisdom gained through millennia of experience, direct observation, and has been transmitted by word of mouth. Development projects based solely on new technologies are pushing the Traditional Knowledge Systems towards extinction. This traditional wisdom of humankind needs to be preserved and used for our survival.

Westernized 'experts' go to non-literate cultures assuming them to be 'knowledge blanks' which need to be programmed with modern science and technology. Ramkrishnan, the renowned ecologist, humbly admitted that the ecological management practiced today by the tribes of the northeastern states of India is far superior to anything he could teach them. A good example in this regard is the alder (*Alnus nepalensis*), which has been cultivated in the jhum (shifting cultivation) fields by the Khonoma farmers in Nagaland for centuries. It has multiple usages for the farmers, since it is a nitrogen-fixing tree and

helps to retain the soil fertility. Its leaves are used as fodder and fertilizer, and it is also utilized as timber. One could cite numerous such examples. Unfortunately, many plants which the tribes traditionally cultivated for specific benefits have now disappeared in the name of progress.

The vast majority of modern medicines patented by western pharmaceutical firms are based on tropical plants. The most common method to select candidates for detailed testing has been for western firms to scout tropical societies, seek out established 'folk' remedies, and to subject these to 'western scientific legitimizing'. In many cases, patents owned by multinationals are largely for isolating the active ingredients in a lab, and going through rigorous protocols of testing and patent filing. While this is an important and expensive task, and deserves credit, these are seldom independent discoveries from scratch. Never has the society that has truly discovered it through centuries of empirical testing and trial and error received any recognition, much less any share of royalty. India's recent fights in international courts, over western patents of its traditional intellectual property in agriculture and medicine, have brought much needed publicity for this arena.

Colin Scott writes: "With the upsurge of multidisciplinary interest in 'traditional ecological knowledge', models explicitly held by indigenous people in areas as diverse as forestry, fisheries, and physical geography are being paid increasing attention by western science specialists, who have in some cases established extremely productive long-term dialogues with local experts. The idea that local experts are often better informed than their western peers is at last receiving significant acknowledgment beyond the boundaries of anthropology."

But in too many cases, western scholars reduce India's experts to 'native informants' destined to live below the glass ceiling: the pandit as native informant to the western Sanskritist; the poor woman in Rajasthan as native informant to the western feminist seeking to cure her of her tradition; the herbal farmer as native informant to the western pharmaceutical firm appropriating medicines for patents; etc. Given their poverty in modern times, these 'native informants' dish out what the western scholar expects to hear in order to fit his/her model, because in return they receive gifts, rewards, compensation, recognition, and even trips and visas in many cases. Rarely have western scholars acknowledged India's knowledge bearers as fellow scientists and equal partners, as co-authors or as co-panelists. This competitive obsession to make 'original' discoveries and to put one's name on publications, has exacerbated the tendency to appropriate with one hand, while denigrating the source with other hand so as to hide the plagiarism. We have referred to this as 'academic arson'.

RITUALS AS KNOWLEDGE TRANSMITTERS

Villagers in remote areas like Uttaranchal have events called 'Jagars', in which the Jagaria sends the Dangaria into a sort of trance. The Dangaria then helps sort out problems, provides remedies for ailments, resolves social conflicts of the village society etc. One could dismiss this as superstition; but this is also considered a traditional method of

reaching the unconscious. Does the Jagaria use his spiritual powers to reach and tap the unconscious region of the mind of the Dangaria? Or, as propounded by Vaclav Havel, did these rituals represent the attempts of ancient humans to come to terms with the unknown, the non-rational, and the unconscious parts of our beings? Were these devices useful to invoke lost memories of the ancient past?

We are, therefore, not willing to dismiss Jagar as some mumbo-jumbo, but a phenomenon worth scientific investigation. This should be an important scientific research connecting Traditional Knowledge Systems to Inner Sciences. Ironically, from Jung onwards, many westerners have studied and appropriated these traditional 'inner sciences', renamed and repackaged them. Meanwhile, the original discoverers and practitioners have been dismissed as primitive societies awaiting cure by westernization.

Myths & Legends

Myths and legends sometimes represent the attempts of our ancestors to explain the scientific observations that they made about the world around them and transmitted to the future. They chose different models to interpret the observations, but the observations were empirical. Let us compare some of the old legends with modern scientific observations about the geological history of the Indian subcontinent. We will discuss three examples, and each could be seen as fiction or hard fact or some combination of both:

1. The geology of Kashmir (India)

The geology of Kashmir (India) has been studied for more than 150 years now. As a result of these studies, it is now known that due to the rise of the Pir Panjal range around 4 million years ago, a vast lake formed, blocking the drainage from the Himalayas. Subsequently, the river Jhelum emerged as a result of the opening of a fault near Baramula, draining out the lake about 85,000 years ago. This is accepted as the geological history of the Kashmir valley.

Now let us compare this to the old legend: In Kashmir there is a very old tradition which describes a vast lake, called Satisara, in the valley in very ancient times. Kalhana, a poet chronicler, wrote his book Rajatarangini, or 'The River of Kings', in 1150 AD. In this book, he mentions an ancient lake (Satisara) giving a reference from a still earlier text, Nilamata Purana. Aurel Stein (1961), who translated Rajatarangini, describes the legend of Satisara in these words: "This legend is mentioned by Kalhana in the Introduction of his Chronicle and is related at great length in Nilamata.... The demon Jalodbhava who resided in this lake was invisible in his own element and refused to come out of the lake. Vishnu thereupon called upon his brother Balabhadra to drain the lake...". Ignoring the mythical struggles between gods and demons, the legend does depict an account resembling the draining out of the primeval lake.

2. The sea level on the West Coast of India

The sea level on the West Coast of India, as elsewhere during the Ice Ages, was about 100 meters lower than today and started rising only after 16,000 years ago. This is the accepted eustatic history.

The related legend says that when Parasurama donated all his land to the Brahmins, the latter asked him how he could live on the land that he had already donated away. Parasurama went to the cliff on the seashore and threw his Parasu (hatchet) into the sea and the sea receded, and then he occupied the land that thus emerged. This is possibly a reference to the regression of the sea and the newly emerged land.

3. The river Satluj

The third example is of the river Satluj, a tributary of the Indus today. In finding its new course, the Sarasvati braided into several channels. This is the accepted geology.

The relevant legend says that the holy sage Vashista wanted to commit suicide by jumping into the Sarasvati, but the river wouldn't allow such a sage to drown himself, and broke up into hundreds of shallow channels, hence its ancient name Satadru. Unless the early author of such a legend observed the braiding process of the Satluj, he could not have imagined such a legend. This is another instance of legends coinciding with a modern geological observation.

Theorizing the possible role of myths, Scott says: "The complementarity of the literal and the figurative help us to realize that the distinction between myth and science is not structural, but procedural.... Myths in a broader, paradigmatic sense are condensed expressions of root metaphors that reflect the genius of particular knowledge traditions.... Numerous studies have found that the "anthropomorphic" paradigms of egalitarian hunters and horticulturalists not only generate practical knowledge consistent with the insights of scientific ecology, but simultaneously cultivate an ethic of environmental responsibility that for western societies has proven elusive."

The Israelis have been very successful in rediscovering many lost technologies relevant to their environment and culture by investigating their ancient myths and traditions. Through this, they have become pioneers in many processes of economic value that conventional European technology lacks.

THE GOAL

India's intellectual resources are not limited to (though they are limited by) its 'Indi-Genius' doubting intellectual elite. Today, there are Indian economists, social developers, and scholars who are working hard to revitalize many TKS'. Resources for research and teaching of India's Traditional Knowledge Systems should be made available for the following reasons:

- India has amongst the best cases for successful revival of TKS: It has a rich heritage still intact in this area. It has the largest documented ancient literature relevant to TKS. It has the intellectual resources to appreciate this and to implement this revival, provided the Macaulayite mental blocks could be shaken up through re-education of its governing elite. It has dire needs to diversify beyond dependence solely upon the new panacea of globalization and westernization.
- India's scientific heritage, besides its philosophical and cultural legacy, needs to be properly understood. The aim is not inspired by chauvinism, but to understand the genius of Indian civilization better. This would overhaul the current assessment of India's potential.
- To correct the portrayal of the History of Science, the History of Ideas, mainstream accounts of World History, anthropology and culture. This entails emphasizing to scholars and educators that TKS should be included, especially India's achievements and contributions to world science that have been very significant but unappreciated.
- To include Traditional Knowledge Systems in economic planning, because they are eco-friendly, sustainable, labor rather than capital intensive, and more available to the masses. This should be done in parallel with the top down 'modern' scientific development using westernized 'globalization', as the two should co-exist and each should be used based on its merits.

INTERCONNECTIONS WITH OTHER GATES OF THE MANDALA

Inner Sciences

The Inner Sciences of India have been on the one hand appropriated by the west, and on the other hand have been depicted as being in conflict with the progressive, rational, and materialistic west. In fact, inner and outer realms are often viewed as opposites, that can at best be balanced because one contradicts the other. This assumes that Inner Sciences make a person and society less productive, creative, and competitive in the outer realm. However, India's TKS are empirical evidence to demonstrate that Inner Sciences and outer development did coexist in a mutually symbiotic relationship. This is a major reason to properly study India's TKS. Without removing this tension between inner and outer, it would be difficult to seriously motivate the modern world to advance in the Inner Sciences in a major way. Inner progress without the outer would be a world negating worldview, which India's TKS record shows not to be the case in classical India. Outer progress without inner cultivation results in societies that are too materialistic, too selfish to the point of genocides and holocausts, eco-unfriendly, and dependent upon force and control for social harmony.

History

Until the 1800s, TKS generated large scale economic productivity for Indians. It was the TKS based thriving Indian economy that attracted so many waves of invaders, culminating with the British. Traditionally, India was one of the richest regions in the world, and most Indians were neither 'backward' nor uneducated nor poor. Some historians have recently begun to come out with this side of the story, demonstrating that it was massive economic drainage, oppression, social re-engineering, and so forth at the hands of colonizers that made millions of 'new poor' over the past few centuries. This explanation yields a radically different reading of the poverty in India today. Upon acknowledging India's traditional knowledge systems, one is forced to discard accounts of its history that essentialize its poverty and the accompanying social evils. The reality of TKS contradicts notions such as:

- India was less rational and scientific than the west.
- India was world negating in its outlook (which is a misreading of the Inner Sciences), and hence did not advance itself from within.
- India's civilization was mainly imported via invaders, except for its problems such as caste that were its own 'essences'.
- Indian society was socially backward (to the point of being seen as lacking in morality); hence it depends upon westernization to reform its current problems.

Society Today

Is India a 'developing' society, or is it a 're-developing' society? Without appreciating the TKS of a people, how could anthropologists and sociologists interpret the current condition of a society? Were they always poor, always living in polluted and socially problematic conditions as today, in which case these problems are essences? Or is there a history behind the present condition? This history should not, however, excuse the failures of fifty years of independence to deal properly with the economic and social problems that persist. Going forward, Traditional Knowledge Systems are eco-friendly, symbiotic with the environment, and therefore can help provide a sustainable lifestyle. Since the benefits of heavy industries do not trickle down to the people below the poverty line or to so-called developing countries, a revival of traditional technologies and crafts must complement the modern 'development' schemes for eradication of poverty. In this regard, the distinction between elite and folk science was non-existent in ancient times: India's advanced metallurgy and civil engineering was researched and practiced by artisan guilds.