

Debate over Science: Moving Past Politics of Nostalgia

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IN a number of interventions spread out over the last two years, Geeta Chadha has taken issue both with Alan Sokal and myself over our opposition to post-modernist and post-colonial critiques of modern science.¹ She has followed the debate with a great deal of perseverance and passion. She has raised serious questions, which deserve a serious response. In what follows, I will try to respond to her most recent criticism (*EPW* November 21, 1998) of my most recent essay in *EPW* (April 18, 1998). Alan Sokal will separately address the issues Chadha has raised regarding his well-known parody of post-modernist science critics.

First, relatively minor points about my alleged tone and intent. As for the tone, Chadha charges me with "over-enthusiasm" in support of science. And as for my intent, she reduces my position merely to a backlash against the purveyors of the "politics of nostalgia", namely, Nandy, Shiva, Alvares and other assorted romantic traditionalists.

If I appear "over-enthusiastic" about science the problem, I contend, lies not with the content of what I am saying, but with the context in which this debate is taking place. Given the total, hyperbolic and near-hysterical attacks on science and modernity that have come to form the common sense of a large and influential section of India's "progressive" intellectuals and social movements, any defence of science, however qualified and nuanced it may be, runs the risk of appearing uncritically celebratory. Indeed, Geeta Chadha herself provides a good example of the kind of inflamed rhetoric that provides the backdrop of my intervention in the science debate. Take, for instance, her very reasonable question given the fact that science and technology have become a reason of the modernising state, should the left-progressives continue to give science a clean chit? But in a move characteristic of the genre of science critique that Sokal and myself are concerned with, she frames the science in question as a "package deal" of the kind between "electricity and Auschwitz", and follows it up with references to "genocide" and "totalitarianism" of development in

India. Given the fact that Chadha following Helen Longino and other feminists she cites so approvingly, insists that the content of scientific knowledge is co-constructed with the political context and cultural values it is hard to see how she can salvage any content or rationality of science that is not forever tainted by the memory of Auschwitz and other crimes against humanity. How can this kind of over-wrought, diabolical framing ever admit or even imagine a clean chit for science? Doesn't the frame foreclose anything but a most fervent condemnation of science and technology? Is it any surprise at all that Chadha should find my plea for a continued relevance of modern science in the cultural transformation of the brahmanical cosmopolis as "over-enthusiastic"?

I could, at this point, go on and ferret out passages from my essay in question that I am by no means arguing for a view of science as some kind of a new-left religion, nor I am beating the drum for progress-forever. Who in the right mind, at the end of this long and bloody 20th century, would want to cheerlead the troops onwards and upwards? Who can, after the Gulags, dream utopian dreams? What I have been arguing against is the philosophical logic and the political fall-out of the genre of total critique of scientific reason that has brought us to the point in India where all we are left with are our vaunted traditions, an injunction from the high priests of Indian social sciences not to cross the *Lakshman rekha* of "our own" ways of knowing, and a far-from-convincing defence of new traditionalism from Chadha and her feminist-epistemologist allies that "epistemic relativism need not be as damaging as made out to be."

Before I move on to more substantive issues, let me briefly set the record straight on the scope and intent of my critique of the critics of science. For no fault of her own – for she has not read my entire oeuvre – Chadha patronises me by assuming that I am only reacting to the likes of Shiva and Nandy. True, I have had to spend more time and energy demystifying Shiva because of the influence she

has had on the ecofeminists, farmers, and swadeshi movements at home, and because of the iconic stature she still has, despite some rumblings of discontent, in women's studies and science studies in the west. Yes, I single out Nandy because of the leading role he played in the scientific-temper debate. But I hasten to assure – or discomfit² – Geeta Chadha that I have far bigger fish to catch, so to speak, than the tired old romantics like Nandy and Shiva.

In my forthcoming book, provisionally titled *Prophets Facing Backwards: Post-modernist Critiques of Science and New Social Movements in the Post-Colonial World* I challenge the performative contradiction that underlies all genre of immanent critique, be it deployed by romantic or critical neo-Gandhians (the 'new communitarians', as Sarah Joseph has called them recently in the page of *EPW*), Foucaultian post-colonialists and/or Foucaultian post-developmentalists, post-colonial discourse analysts, feminist standpoint epistemologists and all other derivatives discourses of post-modernist social theory in the west. My target, in other words, is the entire genre of immanent social criticism that rejects the historic break in human knowledge heralded by the scientific revolution as a western/eurocentric/colonial and patriarchal "metanarrative", and turns to "local narratives" for legitimating an "alternative modernity" grounded in "our own" conceptual categories and ways of knowing. I argue that all prophets of alternative modernity, as long as they reject as normative the progressive and secularising differentiation of fact-value, nature-culture, positive/analytical-mythopoetic/associative knowledge introduced by the institutionalised scepticism of modern science end up facing backwards. Or as Habermas put it, "post-modernity definitely presents itself as anti-modernity."²

Yes, I agree with Chadha, all critiques of science are *not* anti-science. To attack any criticism of science as an institution, a way of knowing or a body of knowledge as rejectionist or anti-science will indeed amount to a conservative backlash against feminists and all other critics who have asked some extremely pertinent questions about the role of science in perpetuating sexist and orientalist ideologies. Censoring all criticism of science will amount, moreover, to a dangerous deification of science which will be counter to the spirit of scientific inquiry which grants nothing,

not even itself, an immunity from further testing

But those critiques of science that deny the legitimacy of the very ideals and goals of scientific knowledge, as we know it, cannot but be anti-scientific Unfortunately, even though some may want to back-pedal and deny it, feminist epistemologists, postcolonial intellectuals and other assorted critics of "colonialism of the mind", have for too long led this kind of an attack on the very logic and rationality of science as being inseparable from the culturally derived conceptual grids, civilisational assumptions, gender and/or national identities of the knowers. It is *this*, supposedly "radical" denial of the very possibility of a self-reflexive and progressively less value-laden science that I, Alan Sokal, and other critics of post-modernist/social constructivist trends are concerned with. At the same time, we remain committed to holding scientific ideas, institutions and scientists themselves to most exacting but *reasoned* critique for their role in institutions and agencies that promote exploitation of nature and people, militarism, racism. To reduce our critique of the critics of science to a conservative "backlash", as Geeta Chadha and other partisans of science studies both in India and elsewhere have done, is to misunderstand our intent and to wilfully turn a blind eye to the substance of our critique.

Very briefly, what is this performative contradiction that turns the dreams of alternative/post-modernity into anti-modernity? It is simply this (to take the challenge Jurgen Habermas posed to critical theory) how can there be a critical theory of society when reason itself is identified with the urge to dominate? Or as Ambedkar put it far more simply and long before Habermas "Reason and morality are the two most powerful weapons in the armoury of a reformer. To deprive him of the use of these weapons is to disable him for action"³ It is my contention that post-modernist and social constructivist theories of knowledge reduce rationality and truth to a matter of local knowledge, consensus and cultural forms of life and thus, in effect deprive the subaltern the means to question these very local knowledges and forms of life that are a source of their oppression. *It is this deeply flawed underlying logic of situated criticism, and not the progressive intentions of the culturalist left, that makes the latter an unwitting bedfellow of the religious right* I do not doubt for a moment that the critical traditionalist left is in fact strenuously opposed to the cultural chauvinism of hindutva and the murderous

politics that follows from it. But their deference to tradition as the only legitimate source of knowledge keeps these critics tethered to the same ideological grazing grounds as the herd of hindutvawadis.

But enough about my larger project. Let me return to my main purpose, that is, to answer the specific issues Chadha has raised. Her critique follows a double track. First, she juxtaposes my "over-enthusiasm" for science with Shiv Visvanathan's hyper-critical reading of the dismal role of science and technology in our more than 50 years of maldevelopment in India. Having disposed of these two positions as two extremes, she proceeds to present her own qualified defence of anti-enlightenment ideas and epistemic relativism as the middle-of-the-road solution for science studies and social movements in India. I have serious misgivings about both these tracks.

Let me begin with her "simple juxtaposition". My problem with it is that it is, well, too simplistic. By holding my defence of science as a mirror image to Shiv Visvanathan's radical rejection of it, Chadha simply assumes that I am unwilling to entertain any critique of science or that I am unwilling to see that there are genuine problems with the way science and technology have been deployed in development projects. According to Chadha, I see Indian science critics either as mimicking western academic fashions or as indulging in nostalgia. But she claims that I fail to see that the sources of disenchantment of the Indian nation-state and its failed development policies. She then offers Shiv Visvanathan account of his own disenchantment with "science, secularism, development, reason and progress", as 'sociological evidence' to show that I do not understand the local sources of science critique in India.

This caricature of my position is doubly unjustified. First, I clearly and repeatedly applaud and support the anti-scientific, anti-technocratic and humanistic impulse of the critics of science. I credit the critics for "insisting that the voice of the displaced be heard, that culture not always give way to technocratic reason" (p 918). I repeatedly insist that "science must be scrutinised for its ideological biases" (p 915). It is by no means the case that I am blind to, or I minimise, the dangers of letting science become the reason of the state. Indeed, as a one-time journalist-activist, I have myself produced a sizeable volume of critiques of top-heavy development initiatives, and have actively supported development alternatives.⁴ When

I criticise the critics of science, I am most emphatically not challenging their unease and disenchantment with what has passed as development and modernisation, although I do sometimes challenge their evidence and their analytical acumen. *But what I insist upon challenging is the widespread tendency among Indian science critics to read maldevelopment into the very rationality of science itself to make the often highly exaggerated, unsupported and ideologically biased claims of 'failure' of development as somehow inherent in the reductionist/instrumentalist, western and masculinist rationality of science itself*

That is why I find it highly ironic that Chadha would think that Shiv Visvanathan's critique of development will provide "sociological evidence" that I demand for the local roots of disenchantment with science. On the contrary, Visvanathan's compendium of the ills of development that Chadha cites is very good example of what I think is *wrong* with the left's critiques of science and development. Highly complex, multi-faceted developments, from the Emergency, to the Delhi riots to the Narmada dam – and yes, both Visvanath and Chadha forgot to add the green revolution¹ – are read as an unfolding of the "genocidal", "totalitarian" telos of scientific reason in

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the service of a murderous, modernising state I have examined in details the *theoretical bankruptcy and empirical blind spots* of this style of development critique, as it relates to the green revolution⁵

The philosophical problem I have with the kind of critique Chhadha holds up as a 'corrective' to my work is as follows. This genre of criticism, in keeping with the broadly post-modernist, anti-enlightenment trends, allows no relative autonomy to the *content* of scientific ideas and technological innovations and the political *context* of their use: the political consequences of displacement and oppression are seen as built into the content and logic of science or modernity itself. Furthermore, these critics see the historic rift in the traditional, largely Hindu, cosmopolis introduced by forces of modernity, however uneven they are, as a narrative of loss and fall from an original state of whole and healthy communities. While some among this genre of critics may be explicitly romantic about the past, nostalgia is neither necessary nor sufficient for this position. What is fundamental to this position is a belief – deeply resonant with post-modernist theories in the west if not explicitly derived from them – that the very criteria of rationality, progress, and indeed, well-being are relative to the social context and cultural assumptions. Because the critics attempt to measure development against the criteria of well-being, sociability derived from the moral economy of traditional "communities" whose integrity and continued survival they are committed to – they tend to entirely overlook, or at least seriously minimise, both the constraints these communities imposed on its members, as well as the real openings for improvement of welfare and personal freedoms that is a possibility of modernisation. In the process, not only do they not feel any need to put their ideological assumptions regarding the purported "crisis of modernity" to the test of evidence from the ground, they seriously misread the aspirations and demands for the fruits of modernity by ordinary people⁶

Take for instance, the last item on Visvanathan's list of the sins of modernisation, namely, the Narmada dam, which he equates in his book with the "banality of evil". Narmada dam is undoubtedly a complex issue and equally honest and well-meaning people can take opposite stand on its desirability: concerned and devoted activists like those associated with ARCH-Vahini and indeed a significant number of the affected tribal groups themselves have taken a stand in favour

of the dam⁷. But the radical critics foreclose any reasoned discussion of why even the affected people may find the dam attractive, provided they are ensured a fair part of the benefits that can accrue from it. Instead, Visvanath trivialises the very rationale for the dam by reducing it to "progress and electricity" and gives it a sinister turn by calling it an "evil". Such a framing impedes an even-handed, dispassionate – dare I say, scientific – investigation of the merits and demerits of the dam. It also, incidentally, hides from view the undemocratic strong-arm tactics of the "Gandhian" opponents of the dam⁸

The relevance of the debate over the dam to the issue at hand is this: where does this framing device of the Narmada-dam-as-an-evil derive from? If you care to deconstruct the arguments of the opponents of the dam, they rest on a philosophical assumption that an alien and unhealthy notions of 'progress' is being imposed upon the indigenous people, whose cultural rights to their own traditions and knowledges are being destroyed. I'll repeat, this kind of critique need not be explicitly nostalgic – the critics can admit that the past was far from perfect. What they deny, however, is that a confrontation of local knowledges and mores with modern ideas, techniques and lifestyles has anything positive to contribute to the life-opportunities of those affected. That confrontation is seen only as a loss and as a disaster. This assumption is not allowed to be put to a serious sociological investigation by the critics, or more accurately this presumption against change is held despite sufficient evidence to the contrary, some coming from the supposed 'victims' of the dam itself⁹. It is this kind of uncritical a priori preference for local knowledges and traditions as adequate criteria for development that I question.

Take Vandana Shiva's critique of the green revolution as a source of violence against women (and men, too if you include her critique of the GR as a source of the ethnic separatism in Punjab)¹⁰. Shiva opposes the GR and the increase in the participation of rural women in the wage economy on the grounds that it breaks the supposedly harmonious, co-operative and nurturing relationship rural women have with nature and with their communities. The moral economy of the peasant, Shiva insists, values women's unpaid work in the farm economy, preparing manure, feeding the cattle, weeding and the like. Again, it is only when you hold the moral economy of the peasantry as truly moral – that is, capable of fairness, justice and autonomy – that you can hold it as the

criterion for judging and discarding the transition from a private to a public patriarchy that is going on in the Indian countryside as a result of the green revolution¹¹. It *should* matter to anyone who calls herself/himself a feminist that the so-called moral economy, and the place it assigns to women, has been a major contributory factor to nearly all the indices of female neglect and subservience in our society. It *should* matter to anyone who calls herself/himself a secularist that Shiva and others associated with the ecofeminist movement are well regarded by, and willing and active participants in neo-Hindu organisations closely linked with the hindutva parivar¹². It *should* matter to all those who call themselves progressive that highly patriarchal, largely upper-caste, land-owning farmers' movements can so easily co-opt ecofeminist and anti-imperialist rhetoric, while retaining women within the traditional family structure and while (at least one of them) voting for the BJP¹³.

The underlying problem is that the genre of science-critique that we are examining has decided – based upon highly ideological and untested assumptions – that it is the dislocations of the traditional communities, their social mores and their ways of knowing that is the real source of misery, poverty and oppression of Indian masses. The "epistemological anti-imperialists", all those who agitate for and write learned discourses for "decolonisation of the mind", have been struggling over the right to define the criteria for a good society: they believe that the post-colonial project of modernity has been a "derivative discourse" (to use Partha Chatterjee's phrase) of colonial masters. They want to let the "real India" – the one supposedly "othered" and silenced by the west – to set the criteria not just for itself, but for a more civilised, ecologically conscious, more holistic alternative west as well. (This explains the recent alliance between the leading theorist of feminist standpoint epistemology, Sandra Harding and the post-colonial critics of science: the third world "others" are to be allied with women in the west in order to force modern science to the criteria of justification derived from their own life experiences, cultural assumptions, ways of knowing, etc. Here we have a complete reversal of the enlightenment rather than let developments in scientific knowledge critically illuminate discourses sanctioned by traditions, religion and patriarchy, we have traditions sitting on judgment on modern science)¹⁴. In this search for alternative, locally grounded criteria, the left critics

of science differ from hindutva ideologues only in their secularist intentions and rhetoric, not in their defence of a cultural essentialist view of difference.¹⁵ To these critics, as also for the hindutva troops, it is modernity, including above all "western" science, and *not* our peculiarly inegalitarian Hindu inheritance that is primarily "implicated in oppressive social structures", to quote from Chadha.¹⁶

The critics have failed to convince me that we live in a society, which is suffering from excesses of science and reason. On the contrary, I believe that scientific temper never has a chance in India to loosen up the Hindu cosmopolis, nor has it ever received a full play to create a new public sphere where better argument could trump inherited status of caste, gender and class. Let us not forget that post-colonial India chose to idolise the conservative Gandhi as its voice of conscience, as its mahatma, over that grievously neglected and much maligned man of reason, Babasaheb Ambedkar. Reason in public life was too dangerous for the brahmanical elites who came to rule post-colonial India. Our country's tragedy is that the votaries of scientific temper were – and are – without political power. And this tragedy is compounded by the fact that the left which is the natural ally of the powerless, has been too wedded to the high culture of Indian traditions. How else to explain the alacrity with which influential segments of left intellectuals have taken the post-modern bait to defend the "non-western difference", regardless of how this difference actually plays out locally?

The second track of Chadha's critique of my position is that I am too dismissive of the progressive potential of anti-enlightenment critiques. She writes, "it is not impossible to combine anti-enlightenment ideas with critical thinking." The *only* example she gives of how this may happen is Lata Mani's analysis of the colonial construction of the tradition of sati. This is no place to launch into a full-fledged critique of Mani's position. But the fact remains that Mani can make the colonial construction look like a distortion and an imposition only by maintaining a deafening silence on the legitimations of sati and ascetic widowhood, both customary and scriptural, in pre-colonial society India.¹⁷ The cumulative effect of these kinds of colonial discourse analyses is to avoid a critical assessment of the role of Hindu cosmology in pre-colonial society, elements of which are very much in place in contemporary society. Chadha will have to spell out the alleged critical potential of

these anti-enlightenment ideas, for it is not obvious to me at all.

As for Chadha's promised arguments for "epistemic relativism" as the most appropriate strategy for liberatory movements, they are simply too weak and underdeveloped to merit any discussion. Yes we should see all truth as fallible and provisional – but that is no critique of science. Indeed, fallibilist and scepticism are prime *scientific* virtues. The real crunch for all relativists is how to decide between competing versions of truth. No self-described relativist has been able to offer an adequate solution to this problem. Geeta Chadha is no exception.

Notes

- 1 See her earlier critiques of my work *EPW* April 1996, and Sokal's hoax *EPW*, August 30 1997.
- 2 Jurgen Habermas, 'Modernity – An Incomplete Project' in Paul Rabinow and William Sullivan (eds) *Interpretive Social Science: A Second Look* University of California Press, 1987.
- 3 See Ambedkar's little masterpiece, *The Annihilation of Caste*.
- 4 For the alternatives, see my *Planting the Future: Resource Guide to Sustainable Agriculture in the Third World*, International Alliance for Sustainable Agriculture, Minneapolis MN, 1990. As for development critique my journalistic writings, mostly in *The Indian Express* but also in the alternative and mainstream press in the US span a period of nearly 10 years.
- 5 See my 'Who Needs Post-Development? Discourses of Difference, Green Revolution and Agrarian Populism in India' forthcoming in *Journal of Developing Societies* June 1999. Also see 'History Is What Hurts: A Materialist Feminist Perspective on the Green Revolution and Its Ecofeminist Critics' in Rosemary Hennessy and Chrys Ingraham (eds) *Materialist Feminism: A Reader in Class, Difference and Women's Lives* Routledge New York, 1997.
- 6 Indeed less ideologically biased studies have shown that many of the allegedly 'post-development' movements like the Chipko actually contain within them a popular demand for a *more*, not less, access to the fruits of modernity. See for example Emma Mawdsley 'After Chipko: From Environment to Region in Uttarakhand' *Journal of Peasant Studies* vol 25, July 4 1998. See also Greenberg et al. 'The New Traditionalist Discourse of Indian Environmentalism', *Journal of Peasant Studies* vol 24, 1997.
- 7 See Jean Dreze et al, *The Dam and the Nation* Oxford University Press, New Delhi, 1997 and William F Fisher (ed) *Toward Sustainable Development: Struggling over India's Narmada River*, M E Sharpe, New York, 1995.
- 8 See the most disturbing account of the activities of Narmada Bachao Andolan by M S Gill in Fisher, 1995.
- 9 See Amita Baviskar's *In the Belly of the River*, Oxford University Press New Delhi 1997, for instance. The above mentioned volumes

also contain evidence that can justify the dam not just in terms of 'progress and electricity but in terms of justice and well-being.

- 10 While there is no doubt the GR contributed to deepening the communal divide between Sikhs and Hindus. But to single out GR as the main, if not the sole as in Shiva's highly reductionist reading, would hardly do justice to situation on the ground.
- 11 For more details, see my 'History Is What Hurts' op cit.
- 12 Shiva holds regular seminars at neo-Hindu outfits associated with the Shivananda Ashram in Canada. The other leading light of environmentalism, Sunderlal Bahuguna, appeared at the centenary celebrations of Shivananda at the Divine Life Society. See Lise McKean *Divine Enterprise: Gurus and the Hindu Nationalist Movement*, University of Chicago Press Chicago, 1996.
- 13 See my 'Who Needs Post-Development?' op cit.
- 14 See Sandra Harding, *Is Science Multicultural? Post-Colonialisms, Feminisms and Sciences and Epistemologies* (Bloomington Indiana University). See also my forthcoming paper 'From Standpoint Epistemology to Scientific Temper: Towards a Theory of Non-Ethnocentric Universalism of Modern Science' in *Feminist Theory*.
- 15 See, for example the classic texts of hindutva by Deendayal Upadhyay, *Integral Humanism* or DB Thengadi's *Modernisation without Westernisation*. Both are available on line at <http://www.hvk.org/>
- 16 Chadha's exact words are "the role model provided by scientific rationality for liberatory movements needs to be critically examined in view of the results produced by science studies that implicate science in oppressive social structures". The interesting question which of course Chadha does not explore is whether these 'findings' of science studies – which by her own admission is a western academic discipline and has not yet come to India – can be directly applied to India. Do we in India really live in a society where science has fulfilled its cultural transformative potential and where it has become a handmaiden of power? I contend that this dismal reading of science-society relationship is far from justified for India, if it is justified even for the west.
- 17 For similar concerns see critique of Mani by Sheldon Pollock, 'Deep Orientalism? Notes on Sanskrit and Power Beyond the Raj' in Carol Breckenbridge and Peter Van der Veer (eds) *Orientalism and the Post-Colonial Predicament*, University of Pennsylvania Press 1993.

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