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## **A Case for Cognitive Justice**

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(unpublished paper – 2006)

My problem is, how do I take the best of Indian civilization and at the same time keep my modern, democratic imagination alive?

*Shiv Visvanathan (2000:21)*

[M]y problem, and “our” problem, is how to have simultaneously an account of radical historical contingency for all knowledge claims and knowing subjects, a critical practice for recognizing our own “semiotic technologies” for making meanings, and a no-nonsense commitment to faithful accounts of a “real” world, one that can be partially shared and that is friendly to earthwide projects of finite freedom, adequate material abundance, modest meaning in suffering, and limited happiness.

*Donna Haraway (1995:178)*

### **1. Introduction**

Cognitive justice is an ethical principle that attempts to respond to the problems described in the quotes above. Cognitive justice asserts the diversity of knowledges and the equality of knowers. The notion that different forms of knowledge or their knowers should be treated as equal is a provocative proposal in terms of the method of Science in which objectivity is one of the defining factors. Objectivity implies that a knowledge claim is true or false independent of the inquirer's perception.

The proposal that more than one form of knowledge can be correct has also attracted critique from those scholars with a critical outlook on knowledge, technology, and development. While critical of the biases of science, they fear that such attempts to do justice to other ways of knowing will result in a ‘anything goes’ relativism and the inclusion of even more ‘junk science’ or ‘pseudo science’ in the canon of Science<sup>1</sup>. These critics argue that more Science, focusing on reason and factual analysis, is the way to cure science from these biases.<sup>2</sup>

In this paper I will address the critique of cognitive justice and argue that cognitive justice is not a justification for abandoning critical inquiry but a call for a democratic,

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<sup>1</sup> In this context, Science with ‘capital S’ refers to the understanding of science as the only source of valid knowledge while science with ‘small s’ refers to science as a form of knowledge.

<sup>2</sup> An interesting debate took place in 1992 under the title “Science Rationality: Post-Modernism and the Left”. Among the participants were Ashis Nandy, Noam Chomsky, Barbara Ehrenreich, Kate Ellis, Frederique Margelin, and Michael Albert (Zmag, 2006).

pluralist understanding of science. I begin by presenting cognitive justice in relation to criticism that it justifies cultural relativism. I will explore understandings of relativism and differentiate between descriptive and normative positions in relativism. Secondly, I will discuss how feminist conceptions of objectivity may allow for a pluralist position and how the notion of scientific citizenship may bring politics back into the notion of cognitive authority. Based on these insights I will counter the argument that relativism implies a tolerance that forecloses the option for criticism and critical inquiry (Nanda, 2003) and argue that cognitive justice not only stands up against this charge, it can be read as an attempt to go beyond relativism towards the formulation of a new global language for science.

## 2. Cognitive Justice and the Charge of “Prophets Facing Backwards”

The concept of cognitive justice as proposed by Shiv Visvanathan (quoted in Kraak, 1999), an Indian anthropologist and human rights researcher, is a normative principle for the equal treatment of all forms of knowledge. Cognitive justice implies the diversity of knowledge and the equality of knowers. The critique of cognitive justice can be paraphrased into a specific charge: Cognitive justice is based on a relativist position which denies science's claims to objectivity and universality and therefore does not leave any grounds to fight or prevent the abuses of science.

Meera Nanda,<sup>3</sup> an Indian philosopher of science, accuses "well-known public intellectuals - Ashis Nandy, Vandana Shiva, Shiv Visvanathan, Claude Alvares, and others associated with Centre of the Study of Developing Societies in Delhi" (Nanda, 2005a) of justifying a cultural relativism that has been used in India to promote Hindu fundamentalism and Vedic science such as Vedic creationism. Nanda argues that "the critique of science and technology that emerged out of the so-called 'Delhi school of science studies' was not limited to uses or abuses of science: it questioned the content and methodology of science as we know it" (ibid.). In "Science, State and Violence: An Indian Critique Reconsidered, Ravi Rajan (2005) locates this genre of critique of modern science and technology in India in or around two Indian institutions, the Centre for the Study of Developing Societies (CSDS) in Delhi and the Patriotic and People-oriented Science and Technology Group (PPST) in Madras (Chennai). He echoes Nanda's claim that these science studies scholars consider violence as intrinsic to modern science and technology.

This charge requires some examination. Shiv Visvanathan argues that development should be understood in its relationship with science, in particular in relation to the violence justified by science and imposed by science. Visvanathan (1988) describes development as modern science in the form of rituals of the laboratory state, which is composed of four theses:

1. The Hobbesian project: Visvanathan describes the Hobbesian state as a "schema for science as society", a state ruled by the logic of science and the logic of bureaucracy. Hobbes saw the state as having a monopoly on violence and Visvanathan argues that it was state violence, in the form of

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<sup>3</sup>Prophets facing backwards: Postmodernism, Science and Hindu Nationalism is the title of a book published by Nanda in 2004. Unfortunately I could not secure a copy of the book in time for the preparation of this paper but have based my reading of her critique on her journal publications.

development, that resulted in the death or displacement of millions of people, for example the 20-30 million people who died in Mao's Great Leap Forward or the 40-80 million people displaced by dams (World Commission on Dams, 2000).

2. The imperatives of progress: Visvanathan describes progress as the legitimised use of social engineering on all those objects defined as backward or retarded. One of the imperatives is linear, irreversible time. Progress and development become linear movements in an evolutionary process, identifying cultures in time.<sup>4</sup>
3. The vivisectional mandate: Visvanathan describes vivisection, the inflicting of pain on animals for the purpose as scientific research, as a paradigm for scientific activity in which the other becomes the object of experiment: “[T]he scientization of a problem carries with it the seeds of vivisectional violence” (ibid.). In his example he describes the connections between vivisection of the animal body and the assembly line, between Science and the Nazi concentration camp or the bombing of Hiroshima. The imposition of suffering on millions of people is justified in the name of development.
4. The idea of triage: combining the concepts of controlled experiment, obsolescence, and of vivisection - whereby a society, a subculture or a species is labeled as obsolete and condemned to death because scientifically reasoned judgment has deemed it incurable or beyond help, given available knowledge, time, and resources. In his example, Visvanathan discusses two influential essays by Garret Hardin, “The Tragedy of the commons” (1968) and “Lifeboat ethics” (1974). He argues that science has failed to understand and guarantee life. Science has become a “major cognitive gatekeeper”, which prevents a sacred<sup>5</sup> and ecological vision of the world.

Visvanathan argues that it is the triage ethics of modern science that leads to the violence of development. This violence is not only the result of the abuse of science; violence is entrenched in science itself. It creates a “monoculture of the mind” (Shiva, 1997), which doesn't recognise “the need for a plurality of worldviews, and often, of the validity of alternative knowledge systems”. This modern imagination levels diversities of all kinds (Rajan, 2005). Visvanathan's approach (2000; 2002) can thus be understood as an attempt to bring diversity into science. He recognises the risks of this project, for example in terms of its appeal to fundamentalisms, but argues that Science contains its own grammar of violence that needs to be addressed.

In a presentation on “*Western Science, Power, and the marginalisation of Indigenous Modes of Knowledge Production*”, Visvanathan (quoted in Kraak, 1999) argues that the impact of post-Second World War science on third world countries should be characterised as the museumisation of indigenous knowledge and scientific endeavour. “It entails the relegation of indigenous knowledge forms as obsolete artefact, useful only for historical display. It comprises the imposition of controlled

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<sup>4</sup>In a similar way do neo-evolutionary theories of development, which form the basis of the modernisation process, understand progress as an evolutionary process from undeveloped via developing to developed societies.

<sup>5</sup>The term sacred can be understood as part of what Visvanathan has called the holism of an ecological worldview: “the affinity of a society for nature, an intrinsic sense of the sacred regarding plants and animals, and an attitude to technology impelled by a sense of *communitas*” (Visvanathan, 2001).

laboratory conditions, rationalist thinking and other western knowledge rules and prescriptions which have broken the connection between third world communities and their own cosmologies (their own understanding and control of the environment)" (ibid). In addition, almost all post-colonial nationalist movements embraced the "modernisation premises of western science". But western science has not been able to provide these societies the promised prosperity, quite the opposite: "poverty, ecological destruction and the displacement and museumization of traditional technologies" (ibid.).

Visvanathan (1999) argues that romantic or revivalist ideas of a return to indigenous and traditional knowledge and solutions are unrealistic in the "political and economic onslaught of globalisation". The solution, he argues, lies in a political economy and cosmology based on the following principles of cognitive justice:

- All forms of knowledge are valid and should co-exist in a dialogic relationship to each other.
- Cognitive justice implies the strengthening of the 'voice' of the defeated and marginalised.
- Traditional knowledges and technologies should not be 'museumized'.
- Every citizen is a scientist. Each layperson is an expert.
- Science should help the common man/woman<sup>6</sup>.
- All competing sciences should be brought together into a positive heuristic<sup>7</sup> for dialogue.

Visvanathan sees cognitive justice, democracy, social justice, and an ethics of freedom as the building blocks of a framework for an alternative conception of science. Rajan (2005:10) paraphrases the framework of Visvanathan and the other scholars working in the Science, Development and Violence genre:

Firstly, we seek the acceptance, justification and celebration of pluralism—especially the pluralism of knowledge systems. Next, we seek a new notion of rights, one that allows, among other things, for different knowledge cultures and systems to coexist, and to be treated equally. This obviously goes along with a different attitude to the right to information and access. We therefore seek openness and access, as opposed to secrecy and enclosures. We also demand the recognition and emphasis of the importance of context and of culture specific notions of locality, space and time in planning and development. Lastly, but critically, we seek the recognition of the irreversibility of matter and energy and a sustainable and peaceful model of development.

Visvanathan's approach is first of all a call for a new relationship between science and democracy, opening up Science to include the knowledge of the people "triaged

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<sup>6</sup>The notion common man/woman refers to the people made obsolete by social triage, such as the poor, children, the sick or homeless, etc.

<sup>7</sup>Visvanathan may suggest here a reference to Imre Lakatos' concept of positive heuristic: "The positive heuristic consists of a partially articulated set of suggestions or hints on how to change, develop the 'refutable variants' of the research programme, how to modify, sophisticate, the 'refutable' protective belt." (Lakatos, Imre (1970), *Falsification and the methodology of research programmes*. pp. 91-196 in I. Lakatos and A. Musgrave, Eds. *Criticism and the Growth of Knowledge*. Cambridge Univ. Press.).

out of citizenship”, because their knowledge and ways of life or livelihood are from the past, or their knowledge and skills have become valueless because of displacement by the science of agriculture and forestry. In this new relationship, framed by the principle of cognitive justice, it becomes possible to validate other forms of knowledge and to validate laypersons as experts. This validation is not an automatic justification for local practices but a “positive heuristic for dialogue” and will expand the democratic notion of citizenship, from voter and consumer to the citizen as knower.

Meera Nanda (2003) strongly objects to such a position on several grounds:

1. Visvanathan and his colleagues refuse to acknowledge that Science has developed distinctive methods and social practices that “promote a higher level of self-correction of evidence, and ensure that methodological assumptions that scientists make themselves have independent scientific support”.
2. Science studies scholars take a relativist position: “that what constitutes relevant evidence for a community of scientists will vary with their material/social and professional interests, their social values including gender ideologies, religious faith, and with their culturally grounded standards of rationality and success”.
3. They understand modern science claims of universality as the imposition of Western culture through imperialism.

The result is, argues Nanda, that these scientists, and other “prophets facing backwards” (Nanda mentions David Bloor, David Hess, Bruno Latour, Donna Haraway, and Sandra Harding) do not allow any distinctions between science and superstition. They promote “a ‘anything goes’ kind of relativism which helps no one” except, as Nanda (2003) argues, fascist movements in Germany and Japan in the 20<sup>th</sup> century and religious fundamentalism in the 21<sup>st</sup> century. In particular Hindu nationalists in India have adopted a “postmodern style”, deploying “the logic of postmodern deconstruction of natural science in order to defend their use of God, Spirit and other supernatural forces as legitimate sources of scientific explanation” (ibid.).

Two conclusions can be drawn from Nanda's argumentation. First of all, Nanda implies that Visvanathan and his colleagues are guilty by association. Their theoretical positions reinforces Hindu science's attempt to discredit modern science and validates superstition. Second, their criticism of the content and logic of science, in particular Science's universalism and objectivity, does not leave any ground on which to fight the abuses of science. Nanda does not refer specifically to cognitive justice but her understanding of science (2005b:173) leaves no room for such a principle. From this perspective, cognitive justice can be understood as a misplaced, even self-destructive, attempt to transplant the abuses and problems of the institutions and abuses and uses of science and technology into science as worldview and methods.

### **3. Relativism, Tolerance, and Objectivity**

Visvanathan argues that the violence inherent in the methods of science negate the possibility of the objectivity and universality of Science. He calls for a dialogue of knowledges in order to create a new or alternative conception of Science. Meera

Nanda (2006) argues that Visvanathan and his colleagues “enshrine relativism as a source of empowerment of the weak”, denying the true value of Science, namely its objectivity and universality. The result is a relativism that denies the possibility of cross-cultural universalisms because the preservation of cultural meanings takes priority over validity (ibid.).

In this section I will begin with an exploration of the concept of relativism with a focus on Nanda's implied critique of cognitive justice as a relativist position, in particular her charge that relativism denies science's claims to universality. Secondly, I will discuss pluralist positions towards science that are not necessarily strong relativist positions and discuss how feminist conceptions of objectivity may allow for a pluralist position without abandoning our moral or critical inquiry.

### 3.1 Relativism

Chris Swoyer (2003) writes in his entry on relativism for the Stanford Encyclopedia of Philosophy that discussions of relativism are often characterised by all-or-none thinking. This is also noticeable in Nanda's critique on relativism. Swoyer's “taxonomy of positions in relativism” helps to distinguish between different relativist positions, beginning with the distinction between descriptive and normative relativism. Descriptive relativism consists of empirical claims that different peoples and cultures can have different modes of logic, morals, thinking, etc. Descriptive relativism does not evaluate the different principles and practices and can thus include claims that different descriptions are equally valid, that none is valid, or that only one is valid. Normative relativism consists of non-empirical claims or evaluative claims and will argue that the different principles and practices are only right or wrong relative to a certain framework.

The second distinction Swoyer makes is between the dependent variables of relativism, the answer to the question 'what is relevant', and independent variables of relativism, the answer to the question 'what it is relative to'. In this taxonomy, Nanda's critique can be understood as a critique of epistemic relativism, specifically the claim that the standards and norms for knowledge, rationality, and justification are relevant to culture. An example of strong descriptive epistemological relativism is found in anthropology and refers to the researcher's suspension of her own cultural biases when describing principles and practices in a local context. Normative epistemic relativism is a position which argues that all facts, modes of rationality, and norms of justification are relative to particular frameworks” (ibid). Steven Luper (2004) argues that the normative epistemic position can be divided between a subjective position which argues that there is not one correct (authoritative) epistemic standard and the pluralist position which argues that there is more than one correct (authoritative) epistemic standard.

Nanda (2003:5) argues that the 'Delhi school of science studies' found the theoretical justification for their theories in social constructivism, which views “all knowledge, regardless of whether it is true or false, rational or irrational, whether it is modern science or traditional knowledge of non-modern cultures, is equally conventional or perspectival”. Thus Nanda accuses Visvanathan and his colleagues of a particular form of relativism, namely a pluralist normative epistemic position. They accept that there is more than one correct epistemic standard and that there is no hierarchy between these standards, they are equally authoritative. Nanda argues that this position does not allow them to criticise Hindu science, even if this science is false

according to their own standard. Secondly, such a position denies the possibility of universal truth.<sup>8</sup>

### 3.2 Cultural relativism

The discussion of relativism has until now concentrated on the question 'what is relative'. Meera Nanda's critique of relativism focuses on the epistemic claim that there is not one universal standpoint for assessing knowledge claims. She argues that epistemology is made relative to culture. This refers to the second question identified in the beginning of this section: 'what is it relative to'. Nanda's specific case is Hindu nationalism and its abuse of science (2005). She argues that when epistemology is made relative to culture (such as religion, rituals, technologies, common knowledge, language, customs, power hierarchies, etc.), we have no basis to differentiate between true and false.

Alison Renteln (1988) describes cultural relativism as both the recognition of cultural differences in thought, value, and action and a theory of the perceptions of cultural phenomena and argues that its most valuable feature is its ability to challenge the presumed universality of standards (p.58). Renteln summarises the different critiques on cultural relativism in ways that are similar to Nanda's critique on science studies: It undermines our ability to condemn repressive practices such as fascism because of relativism's stand on absolute tolerance. Renteln's concern is a defense of a cultural relativism that keeps open the possibility for cross-cultural universals, in particularly human rights. Renteln begins her argument with the discussion of the perception that tolerance as a basic aspect of the theory of cultural relativism is wrong. She traces the original version of the theory of cultural relativism to Franz Boas, Ruth Benedict, and Melville Herskovits. Herskovits is most know for his formulation: "Evaluations are relative to the cultural background out of which they arise" (Herskovits quoted in Renteln, 1988:59), which, as Renteln argues, is self-refuting. But Herskovits further maintains: "cultural relativism is a philosophy which, in recognizing the values set up by every society to guide its own life, lays stress on the dignity inherent in every body of custom, and on the need for tolerance of conventions though they may differ from one's own (Herskovits quoted in Renteln, 1988:57). Renteln argues that this normative cultural relativism results in a notion of tolerance that doesn't allow criticism from outside the culture or society itself. Because all standards are culturally constituted, there are no universal truths or values.

### 3.3 Ethical relativism

Renteln argues her case on the basis of 'ethics relative to culture'. I will first describe her argument and then propose why this argument is also relevant in the case of 'epistemology relative to culture'. Renteln rejects Herskovits' normative cultural relativism because of its implication that all evaluations are made relative to cultural standards. She takes the example of ethical relativism, a sub-set of cultural relativism, in order to argue that only some evaluations are relative to cultural standards, opening up the way for cross-cultural universals. Renteln (1988:61) identifies three theories of ethical relativism:

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<sup>8</sup>Nanda argues that the position of Hindu nationalism on relativism is that of hierarchical relativism. It does not deny that there are different epistemic standards but considers it own standard the only right standard: "They do not reject modern science (who can?) but 'merely' treat it as one among the many different paths to the ultimate truth, which is known only to the Vedic Hinduism" (Nanda, 2003:8).

1. The thesis of apparent ethical relativism. This version of relativism argues that there are different moral systems but it does not make a moral judgment about which system(s) is (are) right or wrong. Renteln argues that one may subscribe to this theory and still argue, on absolute principles, that one's own system is the only right one.

Renteln (p.60) states that this is usually called descriptive ethical relativism. She takes Brandt's point that the separation of facts and values is mostly artificial. Most ethical conflicts are nothing more than apparent as they are factual rather than ethical conflicts.

2. The thesis of ethical relativism as descriptive (factual) hypothesis, which holds that "there are or there can be no value judgements that are true, that is, objectively justifiable, independent of specific cultures" (Schmidt quoted in Renteln, 1988:61).

Renteln subscribes to this formulation of descriptive relativism because it allows for cross-cultural universals, "values shared by all cultures in the world", without resorting to a universal standard.

3. The thesis of ethical relativism as prescriptive (value) hypothesis in which the rightness of an act or goodness of a thing is justified by what is considered right or good in a culture and that what is right and good in one culture can not be right and good in another culture. In other words, one cannot condemn something as wrong in another society on the basis that is wrong in one's own society.

This position is also called normative ethical relativism. The crucial distinction between a descriptive and normative ethical relativism is that the normative thesis is a value theory and the descriptive thesis is a theory about value judgements. It is on this basis that I will argue that descriptive relativism, be it epistemological or ethical relativism, does not in any way imply tolerance nor does it depend on tolerance. As Renteln (1988:64) shows, descriptive relativism does not deny its adherents the right to moral criticism or critical inquiry. It denies criticism based on a culture-independent universal standard but it does not exclude the possibility for cross-cultural universals: An act can be morally challenged when it contradicts the norms of the society in which it occurs; an act can be challenged when it contradict an internal and an external standard; and an act can be challenged when it doesn't contradict an internal norm but it contradicts an external (the critic's) norm.

Meera Nanda's main critique on relativism is that it doesn't allow for making distinctions between true and false and right and wrong. Based on Renteln (1988), I argue that the position of descriptive relativism would allow Nanda to state that the knowledge claims of Hindu science are true within nationalist Hindu culture, but that she, remaining true to her own culture (for example the community of modern scientist or the Indian community of modern scientist) considers them invalid from the perspective of modern science. Secondly, Nanda contends that relativism does not allow for universalisms. Renteln argued that cross-cultural universals are possible. These universals are, however, not objectively justifiable, based on a culturally independent universal standard, the way Nanda understand universalism, but on shared values and truths based on different cultural standards.

Nanda's critique of relativism can be understood as based on a scientist position:

universal knowledge can only be produced in the framework of Science and its method of objectivity. Only such a framework can overcome the abuses of science. In the following section I will explore the issue of objectivity in a discussion of feminist epistemology. Does the denial of the objectivity of the scientific method result in a 'everything goes' relativism. Are alternative conceptions of objectivity compatible with weaker forms of relativism such as the descriptive relativism discussed here?

### **3.4 Objectivity as situated knowledge**

Renteln's theory of relativism, descriptive cultural relativism, is based on the premises that:

- value judgements that are true can only be made within a specific culture
- moral and critical inquiry is possible on the basis of ones own ethnocentric or cultural standard
- cross-cultural universals such as shared values or judgements are possible.

This position is important to feminist epistemology because it raises the possibility of questioning the identity of the knower without giving up a critical position. Feminist epistemology generally endorses such a weak form of relativism, one that contends that there are many valid ways of knowing but at the same time creates "accountability requirements" of which the knowers need to be aware (Code, 1991). Lorraine Code argues for a mitigated relativism, a relativism "constrained by objectivism and commitment to realism, but capable of taking subjectivity, accountability, and a range of perspectives seriously into account by refusing the tyranny of ideal objectivity, universality, and gender-neutrality" (p.251).

The situatedness of the knower and her knowledge are central concepts to feminist epistemology. Suspending one's judgement about knowledge claims, in order to make the particular perspectives of the knower(s) visible and to take these perspectives into account, is a central attitude in feminist epistemology. The concept of situated knowers and their situated knowledge foregrounds the way in which "knowers are situated in particular relations to what is known and to other knowers" (Anderson, 2003). This foregrounding helps to understand how this situatedness affects how and what a knower knows.

Code's "mitigated relativism" joins with a mitigated objectivism, a partial perspective similar to that of Donna Haraway (1995). "Feminist objectivity", argues Haraway (p.181), "is about limited location and situated knowledge, not about transcendence and the splitting of subject and object. It allows us to become answerable for what we learn how to see". But this objectivity does not exclude these knowledges from critical inquiry. "The standpoints of the subjugated are not 'innocent' positions" but they are preferred in principle because they are more knowledgeable of the ways in which the view from nowhere has denied them a vision and because they promise more "adequate, sustained, objective, transforming accounts of the world" (p.180). Haraway argues that the preferred position of the subjugated is not to embrace a normative epistemological relativism.

### **3.5 Objectivity as democratic discussion**

Helen Longino explores an alternative conception of objectivity based on democratic discussion. Longino (1995) argues that objectivity "is secured through the participation of all socially relevant perspectives in the community engaged in the

critical construction of knowledge” (p.203). For example, a scientific community should deliberately include those affected by its work. Longino also stresses the equality of the inquirers in this community.

Elizabeth Anderson (1995) has expanded this democratic discussion model with the notion of justice. She argues that the notion of the equality of inquirers needs to be grounded in a politics of cognitive authority that needs to address the following questions: “who gets to participate in inquiry, who listens and who defers to whom, who claims authority to speak on a given subject matter, and on what grounds, how the community of inquirers decide what (who) is a worthy subject of study, and what (whose) questions about it are worth taking seriously” (p.187).

Anderson discusses two types of politics she considers most relevant in the debate on the distribution of cognitive authority among inquirers in the U.S.A: the libertarian politics of the “free market of ideas” and the liberal democratic politics of autonomous and objective inquiry. In the market model of inquiry there are no norms or informal sanctions that regulate speech. The freedom of speech overrules concerns about offensive speech. The only legitimate way to counter false or abusive speech is more speech (notice the similarity with Science: the only way to stop the abuses of science is through more and better Science). Anderson argues that the free market of ideas is a “regime of systemic market failure” (p.202). The notion that abusive speech will silence speech is ignored. Thus inquirers in dominant positions will use spoken and unspoken speech to silence others. The market model fails because it cannot guarantee a forum in which all inquirers can meet as equal. A second failure is inadequate sphere differentiation (p.202). Libertarians argue that maximum freedom can only be obtained in a society that recognises two spheres: the state, with its monopoly on violence, and the private sphere. They ignore the sphere of civil society for the creation of social spaces for free and autonomous inquiry.

In a liberal democratic model, the market of ideas is regulated through informal speech norms and liberal sphere differentiations (Anderson, 1995). Informal speech norms restrict speech that doesn't contribute to the cognitive inquiry, such as speech that silences people. The differentiation of spheres enables spaces protected from “invasions by private power”, such as universities, where the equality of access and the equality of inquirers can be guaranteed. Justice, as equality of persons in the academia, argues Anderson (ibid.), is not a threat to academic freedom and the production of objective knowledge but a political prerequisite internal to the aims of the academia.

In this, feminist epistemology is similar to Visvanathan and his colleagues in that it rejects modern Science's claims of objectivity and universality. That this critique is inspired by the sometimes violent effects of Science, would be accepted by all sides. However, for Nanda, this is complaint, not critique, and as such does not justify a reading of the “abuses of science into the very conceptual structures of science” (Nanda, 2005b:187). Thus, there is a dichotomy formed by, on the one hand, a rationalist defense of the universality of Science and its method and, on the other, a critique of Science that identifies the possibility of shared a universalism derived from a dialogue of values and truths based on different cultural standards.

#### **4. Cognitive Justice: Dissolving the Dichotomy**

What are the ways to overcome this dichotomy? Helen Longino (2002) proposes in

“The Fate of Knowledge” to overcome what she calls the “rational-social dichotomy” through a re-shuffling of three sets of binaries that form the basis of the dichotomy: individualism and non-individualism; monism and non-monism; and relativism and non-relativism. In “The Dichotomizers’ Way” (p.90), the rational dichotomisers (represented here by Nanda’s critique) stress individualism, monism, and non-relativism, while the social dichotomisers emphasise non-individualism, pluralism, and relativism. Longino proposes a non-dichotomising way:

- non-individualist in that it stresses the social interdependence among knowers;
- non-monist which is realist as it recognises that there is not one single account, theory, or model that can capture all processes in a single world-system and that each account captures some aspect; and
- non-relativist in that it rejects that a justification of belief is impossible or unnecessary.

Longino argues that this realist non-monism is a pluralism of theories of a single world. Longino shows in a discussion of some unresolved or conflicting knowledge claims from 20<sup>th</sup> century biology (p.176-183) that this plurality can be explained as the product of the specific context (such as methodological rules and procedures) of the local epistemologies of scientific communities. Longino defines a local epistemology as a dynamic complex of assumptions, beliefs, norms, values, goals, methodology, and practices (p.187). Debates between local epistemologies should be understood as critical interaction, not as a struggle between conflicting claims in which only one can be true. “[D]ifferent approaches are producing different bodies of knowledge of the same complex system, each of which conforms to that system differently (...)” (p.201). The different knowledge claims are thus not conflicting claims but incommensurable claims (not measurable by a common standard). Critical interaction and inquiry may result in a change in standards of the community, making a future commensurability possible.

Longino<sup>9</sup> sees the plurality of knowledge claims as the basis for providing the “complete view” that helps a community seek understanding. As such the “non-dichotomiser” position remains positioned in science but opens up ways of thinking about knowledge and critical inquiry that accommodates the diversity of human knowledge. That diversity, and the realities of power (histories of colonialism, etc.), suggest, as Anderson (1995) has argued, that the imperative of justice needs to be grounded in the cognitive authority of epistemic communities.

But how can this notion of justice be grounded in the intellectual authority<sup>10</sup> of people

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<sup>9</sup> In a review of “Scrutinizing Feminist Epistemology”, edited by Pinnick, Koertge, and Almeder, published in 2003, Elizabeth Anderson (2004) describes Longino’s moral epistemology as a fair description of Nanda’s position but expresses her puzzlement over Meera Nanda’s critique of Longino’s epistemology. Anderson describes Nanda’s critique as both misrepresenting feminist epistemology and Longino. Why does Nanda perceive Longino’s position as one to be opposed? Anderson (ibid.) argues this is motivated by Nanda’s critique of feminist postmodernists, even though Longino is not a postmodernist feminist. This might be another case of ‘guilty by association’, this time the association with feminist epistemology.

<sup>10</sup> Longino (1995:133) describes cognitive authority as the amount of knowledge one has and is domain-specific, while intellectual authority is about having cognitive or intellectual skills of observation, synthesis, analysis, etc, which allows one to participate in debates on matters which one knows less than another.

and their communities? Anderson's (ibid.) proposal for a differentiation of spheres in which democratic discussions take place can be understood as a particular engagement between science and civil society. In *Consuming, Engaging and Confronting Science: The Emerging Dimensions of Scientific Citizenship*, Mark Elam and Margareta Bertilsson (2003) investigate such an engagement between science and civil society in an investigation of the politics of cognitive authority. They present the case of the 1985 [British] Royal Society report on the Public Understanding of Science (PUS) (later called PES), which proposed that citizens gain new rights as scientific citizens (p. 238-41). Elam and Bertilsson describe the democratic spaces in which these new rights can be exercised as political laboratories promoting the ideal of the democratic discussion (Anderson, 1995; Longino; 1995) and the equality of inquirers. But Elam and Bertilsson argue that this ideal can't be reached as the deliberative democratic discussion "provides a model of democracy where scientists have good chances of appearing before others as already model scientific citizens. By valuing rationality, reserve, selflessness and powers of argumentation, deliberative democracy is a democratic politics played out on scientists' home turf" (p.242).

Based on Chantal Mouffe's proposal for an agonistic pluralism, which is a critique of deliberative democracy, Elam and Bertilsson argue that by connecting scientific citizenship with a radical model of democracy, "*the political*" (Mouffe, 1993) can be brought back in the democratic discussions. Agonistic pluralism is the acceptance that conflict is part of politics and that democracy should be designed in such a way to support the expression of disagreements. This radical democracy is the acceptance of the "irreducibility of plurality of values" (p.152), not to eliminate conflict in time through a politics of consensus. Elam and Bertilsson (2003:244) perceive the politics of consensus of deliberative democracy as the reduction of power to a competition of interests, which can be harmonised through rational argumentation. They see in Mouffe's ethico-political project the establishment of the hegemony of democratic values and practices. Such a radical democracy, argue Elam and Bertilsson, where conflict is as valued as consent, enables a legitimate sphere for public engagements with science and technology. It is in this hegemony of democratic values that a critical scientific citizenship becomes possible.

Can the democratisation of Science, through democratic discussions and the differentiation of spheres, help to overcome the dichotomy? In the context of the conflict of Science and Hindu science, Nanda (2006) mentions that Indian scientists have not challenged the religious uses of science. Indian scientists "*tend to keep their laboratory lives and their personal lives in separate water-tight compartments*". This, however, is not true for Visvanathan and the other scientists associated with Indian science studies. They have engaged science with the social and political.

It is the outcome of this engagement that is irreconcilable with Nanda's position on Science. Imagine a debate on the science of dams between Meera Nanda and a representative of the Save the Narmada Movement (Narmada Bachao Andolan)<sup>11</sup>, a movement Nanda (2004) perceives as an example of Dharma ecology, "an unabashedly Hindu supremacist, nationalistic (...) environmental movement". How can such a debate help in the decision-making process on dams?

Democratic discussions that are based on an agonistic pluralism can provide a

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<sup>11</sup> See <http://www.narmada.org/>

possible arena for the meeting of such irreconcilable positions. Following Longino, such a disagreement may be a function of the complexity of our world, or it may be a function of the intellectual equipment of the knowers or the knowers' interests in understanding the world (or both) (p.95). It is here that cognitive justice may provide guidance to the conduct of the democratic discussion. Cognitive justice asserts the equality of knowers, that knowledge and its knowers are interconnected, that they are both situated and that they develop in a dialogic relationship with other knowers/knowledges. Thus, the equality of knowers forms the basis for the critical interaction of knowledges. Cognitive justice does not claim that the equality of knowers results in the equal validity of their knowledges. Cognitive justice assumes the inequality of knowers is a reality of any a democratic discussion and asserts the principle that all knowers meet as equals to present their sciences. Cognitive justice assumes that one measure of the scientific 'good' is that science helps the common man/woman and that, therefore, decision-making processes should make space for, and find ways to promote, the voices those most affected by the workings or conclusions of science, including, for example, the construction of dams.

## 5. Conclusions

In this paper I have suggested cognitive justice as an ethical principle to guide a dialogue of knowledges. I have sought to defend cognitive justice against the charge of an 'everything goes' relativism through a discussion of relativism and feminist epistemology. The exploration of relativism shows that relativism is not a single doctrine. The basic distinction between descriptive and normative relativism and the discussion of cultural and ethical relativism helps illuminate how scholars can take very different relativist positions. It helps us categorize Nanda's critique of relativism as normative epistemological and ethical relativism. This theory of relativism is, however, self-refuting. Haraway shows that the alternative to this strong relativist position is not the single view, as argued by Nanda, but "partial, locatable, critical knowledges" in a dialogical relationship (Haraway 1995). This relationship is guided by epistemic responsibility and critical inquiry, not by an "everything goes" position that is as equally "from nowhere" as the positivist position.

Nanda does not distinguish between descriptive and normative knowledge claims and therefore reads in the position of science studies' a tolerance for what she argues are "pseudo-sciences" such as Hindu science. Nanda's error is that she converts the relativist or pluralist willingness to take stock of the different ways of knowing, the 'is', into an ethical norm of uncritical tolerance to these different ways of knowing, the 'ought'. As Renteln argued, tolerance is not logical consequence of the fact that there are diverse ways of knowing.

Can cognitive justice be accused of the same fallacy? Does cognitive justice claim that because there 'are' different ways of knowing, we 'ought' to be tolerant to these different ways of knowing? What Visvanathan argues for is to perceive people's actual behaviour, an expression of their culture and ethics, as a way of knowing, not as a tradition from the past, a superstition that can be "museumised", excluded from the debates on their futures. Cognitive justice is first of all a call for making other ways of knowing visible, in particular the knowledge of the defeated and marginalised. Only that basis, argues Visvanathan, is it possible to examine the validity of these different ways of knowing. The supposed validity of people's

knowledge lies not, as both Nanda and strong relativism argue, in the fact that there are diverse ways of knowing (the logical fallacy). Their relative validity will be realized through their inclusion in the heuristic dialogue between (conflicting) knowledges. It is in that sense that these different ways of knowing are valid: they should be treated equal in terms of access to and participation in dialogues of knowledges.

Visvanathan uses the concepts of grammar and language to refer to the violence of Science. Visvanathan's thesis of the violence of science locates the abuses of science in the worldview and methods of science. Its language condemns peoples as backward, their knowledge museumised, their voices marginalised, and in practice this can have dire consequences. Cognitive justice can thus be read as a demand for their inclusion in a dialogue. This inclusion should not be understood as an automatic justification for local practices but as step towards a "new global language within which you can locate a local practice, or a multiplicity of local practices" (2000:8).

In this, cognitive justice is part of a call for the democratisation of science in which the citizen is recognised as a knower, "a trustee of local, defeated and marginal forms of knowledge" (Visvanathan, 2001:91). Such a project does not, as Nanda argues, deny epistemic responsibility or relegate Science to a domain of equally valid local knowledges. Instead, it calls for a confrontation of Science on the basis of a new form of citizenship. The confrontation of Science by traditional, indigenous, and local knowledges will result in more comprehensive dialogues on sustainable and peaceful development. Cognitive justice offers us the option for a pluralist and inclusive knowledge base from which we can draw our plans for building a better world.

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