HISTORY & THE ENTERPRISE OF KNOWLEDGE

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In an often-quoted remark, Henry Ford, the great captain of industry, said, "History is more or less bunk." As a general statement about history, this is perhaps not an assessment of compelling delicacy. And yet Henry Ford would have been right to think, if that is what he meant, that history could easily become "bunk" through motivated manipulation.

This is especially so if the writing of history is manoeuvred to suit a slanted agenda in contemporary politics. There are organized attempts in our country, at this time, to do just that, with arbitrary augmentation of a narrowly sectarian view of India's past, along with undermining its magnificently multireligious and heterodox history. Among other distortions, there is also a systematic confounding here of mythology with history. An extraordinary example of this has been the interpretation of the *Ramayana*, not as a great epic, but as documentary history, which can be invoked to establish property rights over places and sites possessed and owned by others.

The *Ramayana*, which Rabindranath Tagore had seen as a wonderful legend ("the story of the Ramayana" is to be interpreted, as Tagore put it, not as "a matter of historical fact" but "in the plane of ideas") and in fact as a marvellous parable of "reconciliation," is now made into a legally authentic account that gives some members of one community an alleged entitlement to particular sites and land, amounting to a license to tear down the religious places of other communities.

I note the contemporary confounding of historical studies in India as the starting point of this lecture, even though I shall not be directly concerned with addressing these distortions. Instead, I shall be concerned with outlining some methodological issues that relate to the subject of truth and falsehood in general history. I will also try to develop and defend a view of history as "an enterprise of knowledge."

There will be occasions to take a fresh look at India's persistent heterodoxy, which includes not only its tendency towards multireligious and multicultural coexistence (a point emphasized in Rabindranath Tagore's "vision of India's history"), but also its relevance for the development of science and mathematics in India. For history is not only an enterprise of knowledge in itself, it cannot but have a special involvement with the history of other enterprises of knowledge.

The view of history as an enterprise of knowledge is, of course, very old-fashioned: I am not trying to innovate anything whatsoever. However, this and related epistemic approaches to history have taken some hard knocks over the last few decades. These have come not so much from sectarian bigots (who have barely addressed issues of method), but in the hands of sophisticated methodologists who are not only sceptical of the alleged virtues of modernity and objectivity (often for understandable reasons), but have ended up being deeply suspicious also of the idea of "truth" or "falsehood" in history. They have been keen, in particular, to emphasize the relativity of perspectives and the ubiquity of different points of view.

Indeed, describing the past is like all other reflective judgments, which have to take note of the demands of veracity and the discipline of knowledge. The discipline includes the study of knowledge formation, including the history of science (and the constructive influences that are important in the cultivation of science) and also the history of histories (where differences in perspective call for disciplined scrutiny and are of importance themselves as objects of study).

A good point of departure is to ask: why is history so often invoked in popular discussions? Also, what can the general public get from history? Why, we must also ask, is history such a battleground?

Historical connections are often invoked in the context of contemporary politics and policies. Indeed, present-day attitudes in politics and society are often strongly influenced by the reading—or misreading—of the history of past events. For example, sectarian tensions build frequently on grievances (spontaneous or cultivated) linked to past deeds (real or imagined) of one group against another. Since these uses of history are aimed primarily at contemporary acts and strategies, the counteracting arguments which too invoke history, though in the opposite direction, also end up being inescapably linked to current affairs. Given the dialectical context, we may be forced to take an interest in historical disputations on battlegrounds that have been chosen by others not ourselves.

For example, in defending the role of secularism in contemporary India, it is not in any way essential to make any claim whatsoever about how India's Mughal rulers behaved—whether they were sectarian or assimilative, whether they were oppressive or tolerant. Yet in the political discussions that have accompanied the activist incursions of communal politics in contemporary India (well illustrated, for example, by the rhetoric that accompanied the demolition of the Babri Masjid), a heavily carpentered characterization of the Mughal rule as anti-Hindu was repeatedly invoked.

Since this characterization was to a great extent spurious and based on arbitrary selection, to leave that point unaddressed would have, in the context of the ongoing debate, amounted to a negligence in practical reason, and not just an epistemic abstinence.

Underlying the political debates, there is often enough a deeper issue related to the way we construct and characterize our own identities, in which too historical knowledge—or alleged knowledge—can play an important part. Our sense of identity is strongly influenced by our understanding of our past. We do not, of course, have a personal past prior to our birth, but our self-perceptions are associated with the shared history of the members of a particular group to which we think we "belong" and with which we "identify." Our allegiances draw on the evocation of histories of our identity groups.

A scrutiny of this use of history cannot be independent of the philosophical question as to whether our identities are primarily matters of "discovery" (as many "communitarian" thinkers claim), or whether they are to a significant extent matters of selection and choice (of course, within given constraints—as indeed all choices inescapably are).

Arguments that rely on the assumption of the unique centrality of one's community-based identity survive by privileging—typically implicitly—that identity over other identities (which may be connected with, say, class, or gender, or language, or political commitments, or cultural influences). In consequence, they restrict the domain of one's alleged "historical roots" in a truly dramatic way. Thus, the increasing search for a Hindu view of Indian history not only has problems with epistemic veracity, but also involves the philosophical problem of categorical oversimplification.

It would, for example, have problems in coming to terms with, say, Rabindranath Tagore's description of his own background as "a confluence of three cultures, Hindu, Mohammedan and British." No less importantly, it cannot but be in some tension with the sense of pride that an Indian may choose to have, irrespective of his or her own religious background, at the historical achievements of, say, Ashoka or Akbar, or Kalidasa or Kabir, or Aryabhata or Bhaskara. To deny the role of reasoned choice, which can draw on the knowledge of the past, can be a very serious loss indeed. Even those who want to identify with India's historical achievements and perhaps take some pride in them (a legitimate enough concern) must also examine critically what to take pride in, since it is easy to be misled into a narrow alley through incitements to ignore India's capacious heterodoxy in favour of a constricted sectarian identity.

While discovery and choice compete as the basis of identity, knowledge and choice are essentially complementary to each other. Engagement with issues of identity enriches the enterprise of knowledge and extends its reach.

History is not only an enterprise of knowledge, its subject matter includes other enterprises of knowledge. The issue of heterodoxy, to which reference was made earlier, is particularly important here. Indeed, I would argue that there is a general connection between intellectual heterodoxy and the pursuit of science, and that this connection deserves more attention than it tends to get.

Heterodoxy is important for scientific advance because new ideas and discoveries have to emerge initially as heterodox views, at variance with established understanding. One need reflect only on the history of the scientific contributions of, say, Galileo or Newton or Darwin, to see the role of heterodoxy. The history of science is integrally linked with heterodoxy.

If this interpretation is correct, then the roots of the flowering of Indian science and mathematics that occurred in and around the Gupta period (beginning particularly with Aryabhata and Varahamihira) can be intellectually associated with persistent expressions of heterodoxies which pre-existed these contributions. In fact, Sanskrit and Pali have a larger literature in defence of atheism, agnosticism and theological scepticism than any other classical language.

The origins of mathematical and scientific developments in the Gupta period are often traced to earlier works in mathematics and science in India, and this is indeed worth investigating, despite the historical mess that has been created recently by the ill- founded championing of the so-called "Vedic mathematics" and "Vedic sciences," based on very little evidence. What has, I would argue, more claim to attention as a precursor of scientific advances in the Gupta period is the tradition of scepticism that can be found in pre-Gupta India—going back to at least the sixth century BC — particularly in matters of religion and epistemic orthodoxy. Indeed, the openness of approach that allowed Indian mathematicians and scientists to learn about the state of these professions in Babylon, Greece and Rome, which are cited in early Indian astronomy (particularly in the Siddhantas), can also be seen as a part of this inclination towards heterodoxy.

The expression of hereticism and heterodoxy patiently—if somewhat grudgingly—recorded even in the *Ramayana* (for example, in the form of Javali's advice to Rama to defy his father's odd promise) presents methodological reasons to be sceptical of the orthodox position in this field. In fact, Javali's disputation goes deeply into scientific methodology and the process of acquiring of knowledge: There is no after-world, nor any religious practice for attaining that. Follow what is within your experience and do not trouble yourself with what lies beyond the province of human experience. As it happens, the insistence that we rely only on observation and experience is indeed a central issue in the departures in astronomy—initiated by Aryabhata and others—from established theological cosmology.

The departures presented in his book *Aryabhatiya*, completed in 421 Saka or 499 AD, which came to be discussed extensively by

mathematicians and astronomers who followed Aryabhata (particularly Varahamihira, Brahmagupta and Bhaskara, and were also discussed in their Arabic translations), included, among others: (1) Aryabhata's advocacy of the diurnal motion of the earth (rather than the apparent rotation of the sun around it), (2) a corresponding theory of gravity to explain why objects are not thrown out as the earth churns, (3) recognition of the parametric variability of the concept of "up"and "down" depending on where one is located on the globe, and (4) explanation of lunar and solar eclipses in terms respectively of the earth's shadow on the moon and the moon's obscuring of the sun. Observational arguments, based on what Javali calls "the province of human experience," are central to the departures initiated by Aryabhata in these and related fields (more on this presently). In the enterprise of knowledge involving the natural sciences, the intellectual connections between scepticism, heterodoxy and observational insistence, on the one hand, and manifest scientific advances, on the other, require much further exploration and scrutiny than they seem to have received so far.

The observational issue is important also for the particular subject of history of histories, or metahistories (as we may call them). Given the importance of perspectives in historical writings, history of histories can tell us a great deal not only about the subject of those writings, but also about their authors and the traditions and perspectives they reflect. For example, James Mill's , *The History of British India,* published in 1817, tells us probably as much about imperial Britain as about India. This three-volume history, written by Mill without visiting India (Mill seemed to think that this non-visit made his history more objective), played a major role in introducing the British Governors of India (such as the influential Macaulay) to a particular characterization of the country. There is indeed much to learn from Mill's history—not just about India, but more, in fact, about the perspective from which this history was written. This is an illustration of the general point that the presence of positionality and observational perspective need not weaken the enterprise of knowledge, and may in fact help to extend its reach.

James Mill disputed and rejected practically every claim ever made on behalf of Indian culture and intellectual traditions, but paid particular attention to dismissing Indian scientific works. Mill was particularly dismissive of the alleged scientific and mathematical works in India. It is, in fact, interesting to compare Mill's *History* with another history of India, called *Ta'rikh al-hind* (written in Arabic eight hundred years earlier, in the 11th century) by the Iranian mathematician Alberuni. Alberuni, who was born in Central Asia in 973 AD, and mastered Sanskrit after coming to India, studied Indian texts on mathematics, natural sciences, literature, philosophy, and religion. Alberuni writes clearly on the invention of the decimal system in India (as do other Arab authors) and also about Aryabhata's theories on earth's rotation, gravitation, and related subjects. These writings contrast sharply with Mill's history from a dominant colonial perspective, well established by the beginning of the nineteenth century.

Several Indian works on medicine, science and philosophy had Arabic rendering by the 9th century, and so on. It was through the Arabs that the Indian decimal system and numerals reached Europe, as did Indian writings in mathematics, science and literature, in general.

The connection between heterodoxy and scientific advance is indeed close, and big departures in science require methodological independence as well as analytical and constructive skill. Even though Aryabhata, Varahamihira and Brahmagupta were all dead for many hundred years before Alberuni was writing on their controversies and their implications, nevertheless Alberuni's carefully critical scientific history helps to bring out the main issues involved, and in particular the need for heterodoxy as well as moral courage in pursuit of science.

To conclude, I have tried to illustrate the different ways in which history has relevance for non-historians—indeed the general public.

First, there are diverse grounds for the public's involvement with history, which include (1) the apparently simple attractions of epistemic interest, (2) the contentious correlates of practical reason, and (3) the scrutiny of identity-based thinking. All of them—directly or indirectly—involve and draw on the enterprise of knowledge.

Second, history is not only itself an enterprise of knowledge, its domain of study incorporates all other enterprises of knowledge, including the history of science. In this context, it is easy to see the role of heterodoxy and methodological independence in scientific advance. The intellectual connections between heterodoxy (especially theological scepticism) and scientific pursuits (especially big scientific departures) deserve more attention in the history of sciences in India.

Third, metahistories—or histories of histories—also bring out the relevance of an appropriate climate for the enterprise of knowledge. The pursuit of knowledge not only requires an open mind (the contrast between Alberuni's scientific interest and Mill's colonial predispositions radically differentiate their treatments of the same subject matter), it also requires an inclination to accept heterodoxy and the courage to stand up against orthodoxy. The plurality of perspectives extends the domain of the enterprise of knowledge rather than undermining the possibility of that enterprise.

Since the rewriting of Indian history from the slanted perspective of sectarian orthodoxy not only undermines historical objectivity, but also militates against the spirit of scientific scepticism and intellectual heterodoxy, it is important to emphasize the centrality of scepticism and heterodoxy in the pursuit of scientific knowledge. The incursion of sectarian orthodoxy in Indian history involves two distinct problems, (1) narrow sectarianism, and (2) unreasoned orthodoxy. The enterprise of knowledge is threatened by both.