[*Intellectual History Newsletter* 22 (2000): 1-16 (a modified version of "The New Intellectuals in Seventeenth-Century India." *Indian Economic and Social History Review* 38,1 (2001): 3-31)]

# Indian Knowledge Systems on the Eve of Colonialism

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The two centuries before European colonialism established itself decisively in the Indian subcontinent (ca. 1550-1750) represent one of the most creative eras in Indian intellectual history. Across a broad range of disciplines thinkers began to produce new formulations of traditional problems, expressed in new discursive styles, organized according to new standards of evaluation, and presented in what were often new genres of scholarly writing. Concurrently with the consolidation and spread of British rule in the mid-eighteenth century, however, this intellectual dynamism began to dissipate. By 1800, indigenous intellectual formations across a broad spectrum of disciplines were on the point of vanishing altogether as a creative force in Indian life, to be supplanted by other knowledge systems based on unfamiliar, sometimes radically different principles of epistemology, sociality, and polity. In these two phases of vitality and exhaustion lie the central unanswered questions of Indian intellectual history on the eve of colonialism: What exactly was the nature of these Indian knowledge systems, what accounts for their seventeenth-century efflorescence, and what explains their astonishing decline as legitimate options for making sense of the world when confronted with the very different truth regime of European modernity?

In actuality, these questions are not only unanswered but unasked, even unacknowledged. Students of European thought of the same period will be surprised to learn that a moment of intellectual renewal in many ways comparable to what happened in their own area should have occurred half a world away—and yet more surprised to find how little about it is known even to scholars in the field. There are many reasons why

Indian intellectual history on the colonial threshold should be so underdeveloped—why seventeenth-century Benares and London should occupy such polar locations in the scale of our knowledge—and these are worth reviewing as a prologue to the reconstruction I offer here. We need first, however, to understand what is comprised under the umbrella term "Indian knowledge systems." There were, broadly speaking, three relatively distinct scholarly communities in early modern South Asia, which can perhaps best be distinguished by their languages of discourse. Although not necessarily a sign of religious affiliation, the choice of language did carry other, significant implications for social and political belonging and scholarly circulation, and I will return to comment on them later in this essay. The cosmopolitan intellectuals who continued to write in Sanskrit, a language of scholarship whose history and social character closely parallels that of Latin both in contemporaneous Europe and for centuries before, occupied almost the entire domain of the major disciplines in the human sciences (including language philosophy, hermeneutics, epistemology, cosmology, moral and political philosophy, aesthetics and rhetoric) as well as in the natural sciences (astronomy, for example, or mathematics). Vernacular intellectuals, who wrote in some two dozen regional languages that, again in striking parallel to Europe, had been constituted as literary idioms across the subcontinent during the first half of the second millennium, for the most part restricted their attention to theology and hagiography, the more practical arts such as medicine, and *belles lettres* and religious poetry. (These include Gujarati and Marathi in the west of the subcontinent, various forms of what we now call Hindi in the north-central regions, Bengali, Oriya, and Assamese in the east, Kannada, Malayalam, Telugu, and Tamil in the south.) Intellectuals who used Persian (or, for Islamic theology, Arabic) inhabited a knowledge sphere by and large separate from the first two groups. Although interactions between Sanskrit and Persianate thinkers undoubtedly occurred more frequently than has yet been demonstrated (and precious few have been demonstrated outside such fields as mathematics and astronomy, though see further on this in part 3 below), it was highly unusual for a scholar to have a foot securely in both worlds. Translation from Sanskrit into Persian, for example, was common but cumbersome because of the paucity of accomplished bilinguals, whereas

Persian to Sanskrit translation occurred far more rarely.<sup>1</sup> In fact, the same tendency toward specialization (if that is the correct description for what we confront here) largely holds true for vernacular writers, who for complex reasons typically chose not to contribute to the world of Sanskrit learning, however much they may have been shaped by it.

At all events, the precise nature of the division of intellectual labor and associated forms of sociality among Sanskrit, vernacular, and Persianate intellectuals is almost entirely unclear to us at present. In fact, our ignorance of the Sanskrit knowledge systems themselves is hardly less complete, and this despite the dominance they exercised over scholarly life in seventeenth-century South Asia, and the intensification of intellectual production that, as just noted, marked the epoch. And it should go without saying that, absent a sound understanding of how Sanskrit knowledge functioned—its presuppositions, methods, objects of analysis, networks of exchange, and the rest—any account of the victory of colonialism as a form of knowledge will be seriously flawed.

Many factors account for this state of our ignorance, and they range across the entire politico-intellectual spectrum.<sup>2</sup> At one end is an old and still dominant axiology foundational to Europe's interest in Indian knowledge that assigned ultimate value to the ultimately archaic (India after all represented for many the cradle of Western civilization). In such a value system, periods as late as the seventeenth and eighteenth centuries can offer nothing but fall and decline. At the other end of the spectrum lies the epistemological consequences of the victory of colonialism itself, which not only marked the actual end of the Indian knowledge systems and the slow but steady erosion of scholarly competence in them, but produced a counter-critique in postcolonial (more exactly, postorientalist) thought. This latter moment has entailed extravagant, even absurd claims about the epistemic break purportedly marked by colonialism and orientalism (colonialism's specific

form of knowledge of Indian history and society), and the impossibility of attaining any secure precolonial knowledge whatever—claims that derive their strength from our very ignorance and serve only to reinforce it.<sup>3</sup>

There are more local obstacles to an intellectual history of India in the early modern period, however, and first among these is the complexity of the discourses themselves. In idiom and subject matter these represent some of the most sophisticated and refined known to human history. This is not made easier by the fact that the seventeenth-century intellectuals were the legatees of two millennia of brilliant thought, whose most important representatives, from the very earliest onward, remained partners in dialogue. Understanding anything later, therefore, always presupposes understanding everything earlier. An impediment of an altogether different order concerns our access to the larger social world within which these discourses were produced. We have only the vaguest notions about the material conditions of life of seventeenth-century Sanskrit intellectuals, about their sources of patronage and relations with courtly power, about their networks of intellectual exchange and circulation (more particularly, as already mentioned, the relationship between them and other forms of intellectual production, whether Persianate or vernacular), about their modes of association or the institutional structures in which they worked. For most of the key thinkers in question, we are confronted by an absence of contextuality that is almost absolute. In many cases not a shred of documentary evidence is available to help us give life to their writings; there seems not to exist, for example, a single personal (and only the rarest official) document for any of the dozens of major intellectuals working in Benares during the seventeenth century.

In some ways the most troublesome problem is the higher-order question of history itself. Whether culture or polity or society in South Asia can be said to have a history before European colonialism and modernity blasted life in the subcontinent out of its putative continuum has been a central if sometimes tacit concern of both orientalist and postorientalist scholarship. Almost as contentious as the question of what we mean by the term history itself are the ideological commitments that press upon our analyses. The revelation of *change as such* in India's past, deriving from the impulse to provide a counterpoint to the imperialist and vulgar Marxist belief that colonialism offered emancipation from archaic quiescence, has come to be regarded in postorientalist historiography as something of an absolute good—and stasis as something akin to mortal sin. A third complication has to do with our modernized notion of time and our inability to conceive of what we might call multiple temporalities: the possibility that in some worlds,

culture (or polity or society) might be unevenly historical.<sup>4</sup> As I argue in what follows, whatever other innovations may have been occurring in the domain of early modern polity and economy broadly construed—in terms, for example, of the expansion of Mughal rule or India's incorporation into the nascent capitalist world-system—in the self-understanding of polity a steady state of perfected governmentality, of very old stamp, was everywhere sought by Sanskrit intellectuals, and that accordingly in this domain "stasis" represented not failure but an achieved goal.

It is hardly surprising, therefore, that the intellectual history of this period remains unwritten. We have no systematic accounts of the principal thematics of late-precolonial Sanskrit intellectual disciplines—the main contributions of the major thinkers, the dominant modes of argument, the principal criteria of judgment—or of the conversations and controversies across disciplines. Far from having any good hypotheses to account for the explosion of scholarly production in the seventeenth century, scholarship seems hardly aware that it occurred. And this despite the fact that the intensity and innovation we witness then are paralleled perhaps only by late-first-millennium Kashmir, or the moment when the major knowledge systems themselves were consolidated in the wake of the epistemological and ontological critique of the Buddhists in the late first millennium before the common era.

Given such complexities, and the limits of this essay, I want to offer only a provisional and schematic outline of what might constitute a future history of South Asian intellectuals and their discursive practices on the threshold of the colonial transformation. I

organize my reflections here around three linked thematics, two rather narrow, one broader: (1) the structure of what I take to be a new historicality by which intellectuals in the seventeenth century began to organize their discourses; (2) the substance that was structured by this historicality, in other words, what is novel in the new intellectuality; (3) a comparison with seventeenth-century European knowledge systems. The comparative project, which cannot be developed here in any detail, is at once both fundamental and problematic. It is problematic in part because European knowledge claims for itself the infrangible aegis of science—social science, political science, and the like—and such a claim entails that all other modes of thought are mere forerunners (myth, magic, religion, *pensée sauvage*). At the same time comparison is essential because we cannot adequately grasp the fate of Sanskrit knowledge systems without understanding the character of the European counterparts and the conditions enabling their growth. Having run more or less in parallel to those of India for a millennium or more, the European forms began to diverge dramatically in the seventeenth century. Hereby a very different, uncompromising modernity was produced that, disseminated by colonialism, would eventually contest and undo the Sanskrit intellectual formation. Obviously the very possibility of framing the end of Indian knowledge systems as a historical problem derives from the fact that European modernity in some way ended them.

The account offered here is neither a lament for the absence of an Indian Enlightenment—granting for the moment, much evidence to the contrary notwithstanding, that there was in fact a European Enlightenment—nor the revelation of one that has hitherto remained hidden. It is rather an attempt to understand at once the remarkable strength of seventeenth-century Sanskrit knowledges as forms of systematic thought, and their remarkable impotence in the face of their European counterpart.

#### 1. The New Historicality of the Seventeenth Century

Among the transformations that can serve as a point of entry into the wider intellectual history of South Asia in the early modern period (and one that, as we shall see, has striking parallels with contemporaneous Europe), the most notable is the growing presence in scholarly writing of what I think we are right to call historicist thinking. While not wholly unexampled in earlier Sanskrit thought, the new historicality was unprecedented in respect to its prevalence, which increased throughout the seventeenth century, and its larger discursive effects and implications. In all the core disciplines, foremost among them the traditional trivium of knowledges of "words, sentences, and reasons" (grammar, hermeneutics, and epistemology), along with literary theory and rhetoric, Sanskrit intellectuals began to identify themselves or their opponents as *navya* scholars. The term (it is cognate with English "new") appears to signify not just a different relationship with the past but a different way of thinking *tout court*.

Sometimes *navya* referred specifically to the innovations, both in the substance and style of philosophical analysis, associated with the school of "New Logic" (*navya nyaya*) that originated in the early fourteenth century in northeast India (Mithila) and spread across the subcontinent with extraordinary rapidity and appeal. But very often in the seventeenth century the term had no reference at all to the New Logic in this narrow sense. When, for example, the Benares polymath Kamalakara in perhaps the 1630s identified as *navya* an argument against the long-dominant view that vernacular language expresses meaning only through the mediation of "correct" language, what he characterized as new, as we will see, was an idea that was new as such, and one that in fact stood in opposition to what had long been accepted by *navya nyaya*. Moreover, many seventeenth-century thinkers, regardless of the label they may have adopted, began to produce what, historically viewed, were objectively innovative kinds of scholarship, and in such a way to suggest that a new conception of the development of knowledge itself had come into being. In fact, I believe we are able to perceive a sharp line being drawn whereby present knowledge was

systematically (and not, as earlier, episodically) separated from its past forms for the first time in Indian history.

To appreciate the innovations in conceptions and discursive protocols, as these pertain to historicality, that we find in the writings of seventeenth-century intellectuals, we need some basic sense of the mentalité they inherited. The first thing to remember is that for much of its existence and across most of its communities of practitioners, systematic thought in South Asia completely and utterly erased all evidence of its temporal being: it presented itself as something that took place entirely outside of time. In this Sanskrit thought differed little from the theory and practice of European philosophy (modern no less than scholastic), which in its very core projects itself as discourse that transcends historicity as a relevant condition of its possibility.<sup>5</sup> In India this kind of transcendence was achieved most notably by the elimination of all historical referentiality. The names and times and places of participants in intellectual discourse across fields were largely excluded even where such exclusion made it appreciably more difficult to follow the dialogue between disputants that forms the basic structure of most Sanskrit philosophical exposition. This may seem like a simple case of the common "forms of censorship specific to the field of philosophical production" that we can find elsewhere.<sup>6</sup> In India, however, this mode of discourse also implied that all intellectual generations, disembedded from any spatio-

temporal framework, were thought of as coexistent: The past was a very present conversation partner. It was also viewed as a superior partner, the master who made the primary statements in a discussion upon which later participants could only comment. In the face of the grandeur of the past, intellectuals typically assumed an attitude of inferiority. Moreover, given that the universe was viewed as systemically entropic, intellectual effort could be nothing but a quest to recover what had once been known more perfectly, but now

was lost.

These elementary tendencies of South Asian thought appear to have been dramatically and fundamentally reversed in the early modern period, beginning in the fourteenth century but gaining far greater currency by the seventeenth. Now it was the very history of the development of thought-systems itself, the periodization of viewpoints, that not only became a principal method of organizing the presentation of a knowledge system but at times seemed to constitute its very purpose. Concomitantly, "new" ceased to connote "worse," and instead effectively served to identify the furthest point of advancement in a science.

This can be briefly illustrated by reference to a work exemplary of the procedure, the *Nyaya Kaustubha*. This is a vast treatise on logic written by Mahadeva Punatambekar (fl. 1675), who came from the southwestern region of Maharashtra but like many of his intellectual compatriots was resident in the eastern center, Benares. Mahadeva dealt in his work with matters that had long been standard in textbooks on epistemology and metaphysics, but the new intellectual method pervaded his work, and in fact was coded already in the title, since the kaustubha had become something of a new scholarly genre in

our period.<sup>8</sup> The word signified the gem made manifest at the primeval churning of the milk ocean and worn on the breast of the god Vishnu, and figuratively pointed to the precious knowledge that was now believed to be discovered as much as recovered. In it the attempt was made to organize the totality of knowledge in a given discipline by determining the most significant positions that had been taken in the past, and by sorting these chronologically and indicating where advancements had been made, to produce a new synthesis.

The mode of exposition in Mahadeva's treatise was thus dominantly historicist. He set forth problems by differentiating the views of scholars, making very fine distinctions between schools, whom he often named and always positioned in time. They were categorized—and such categories appeared consistently throughout his work—as "ancients" (*pracina*), "followers of the ancients" (*pracinanuyayin*), "moderns" (*navina*),

"most up-to-date scholars" (*atinavina*), and "contemporaries" (*adhunika*). Nothing of this sort, or at least to this degree, had ever been seen before. Mahadeva further linked these categories to particular disciplines, such as "followers of the hermeneutical science" and to specific individuals: "Raghunatha" (the great mid-sixteenth-century new logician), for example, "the followers of Raghunatha," "the recent followers of Raghunatha," and so on. Such designations were applied to hermeneutists, grammarians, and literary theorists as well as to logicians and cosmologists (Vaishesika), demonstrating how vast, indeed culture-wide, was the temporal revaluation of forms of knowledge that was underway in the eyes of Mahadeva.

Other scholars of the period reproduced many of these and added still more categories, including further grades of contemporaneity such as "very new" and "brand new" (navyatara, abhinava), as in the grammarian Kaunda Bhatta (fl. 1650, working mostly in Maharasthra, his birthplace, but also Benares, it appears), and the hermeneutist Gaga Bhatta (ca. 1600-85, Benares), or further grades of antiquity such as "the oldest" (*ciratana*), and *jirna*, a term sometimes positively valorized ("the elders"), as in Kamalakara Bhatta, sometimes negatively ("antiquated") as, it seems, in Kamalakara's nephew, Gaga. A significant binary without obvious antecedent also came into use, which counterposed to "traditionalists" (sampradayika) or the "ancients" (prancah) either "independents" (svatantra), as in Kaunda Bhatta, or "moderns" (navina), as in the logician, hermeneutist, and grammarian Annam Bhatta (fl. 1560, Andhra/Benares). It is clear, too, that while for some scholars (as shown by Kamalakara's remarks cited below) the title "new" intellectual could be a term of reproach, for others it was a proud self-description, as in the case of the literary theorist Siddhicandra (1587-1666, Delhi), who used this term to describe his own position in his Critique of the "Treatise on Literature," a systematic attack on an eleventhcentury classic.

One should not infer from this evidence and my arguments based on it that prior to this period chronological thinking as such was never attested, that earlier knowledge was never described as earlier in scholarly discourse. Such is certainly not the case. I am also not suggesting that the categories discussed above are always and everywhere to be understood as exact conceptual equivalents of the English translations I provide (no more than *moderni* in Carolingian Europe has the same meaning it has eight centuries later). The "independent," for example, who breaks with the "traditionalists" in Kaunda Bhatta's work on language philosophy, corroborates his position by citing "the blessed Patanjali," that is, an authority from fifteen centuries earlier. Clearly in this case independence can signify not so much overthrowing tradition as renewing it by returning to foundational texts.

What I do wish to suggest is that in the seventeenth century, for the first time, knowledge was believed to be better not just because it might objectively be better—endowed with greater coherence, economy, explanatory power—but also in part because it was new. Moreover, historicist periodization for the first time became the very modality of understanding how knowledge is to be organized, and more important, how new knowledge can actually be produced. This found expression also in what I believe to be an increase in the production of independent treatises and of works that directly comment on ancient foundational (*sutra*) texts while summarizing the entire earlier history of interpretation, and in the concomitant decrease in ever more deeply nested commentaries on commentaries on canonical works that had been a hallmark of the earlier schoolmen.

Why it was exactly at this point that the new periodicity entered Sanskrit discourse remains unclear. One might be inclined to look for inspiration first to forms of cultural production newly made available in the immediate surroundings of the Sanskrit intellectuals, such as Islamicate or Persianate historiographical practices with their unfamiliar temporal sensibilities. But there is no evidence that this was so, and, in the specific case of such an intellectual historiography, nothing quite comparable was offered in these adjacent traditions, so far I can tell. What we may be observing here instead are innovations in Sanskrit discourse generated from within the intellectual tradition itself but under dramatically changing conditions of society and polity, which I briefly address below, that rendered change itself a new object of consciousness.

## 2. A Newness of the Intellect, an Oldness of the Will

To determine what is objectively new in the substance of the work of the new intellectuals presents a very serious challenge. For as mentioned at the start, it requires understanding some of the most exacting scholarly writing the world has ever seen, as well as mastery of its development over centuries. Even judging what the intellectuals themselves thought to be new is far from simple.

What most immediately strikes contemporary readers of this scholarship—and in this reaction we probably differ little from original audiences—is the extraordinary innovation in style. This consists above all in a new philosophical metalanguage developed for specifying types of relationships that normal language and thought occlude. There was a prehistory to this style in the New Logic (from the early fourteenth century onward), which had reached an extreme form in the 1550s with the work of Raghunatha Shiromani, the new scholar par excellence in the eyes of many writers of the next century. His metalinguistic innovations in the search for ever greater precision and sophistication of definition and analysis were enormously influential. In addition to this transformation in discursive style, new or reinvigorated criteria of argument were employed. One example is the appeal to parsimony, in particular ontological as opposed to epistemological parsimony. Although by no means unknown earlier, a Sanskritic version of Occam's razor was now so frequently invoked as to signal a unmistakable change in standards of philosophical judgment.

Radically at odds, however, with the genuine innovations signaled by historicist exposition, discursive style, and mode of argument was the traditionalism of the scholarly problematics themselves. The universe of thought, it seems, did not expand in a way at all commensurate with the expansion of the instruments and styles of thought. Of course it is possible that the sometimes mind-numbing complexity of the discourses that confront us simply renders the newness of their content elusive. But the general tenor was certainly one of epistemic continuity. Take the following instance from Mahadeva. He employed his new historicist framework to explicate a physio-philosophical dispute on the size of the organ of intellection (*manas*): for the ancients, the manas or mind had an atomic size (*paramanu*), whereas for the moderns (the reference here is to Raghunatha) it was the minimally perceptible entity (*trasarenu*). Mahadeva, apparently seeing himself as a most up-to-date scholar (atinavina), found the revised conception dubious and rejected it for lack of parsimony. The exposition itself, the sophisticated conception of logical relationships, and to some degree the autonomy of judgment, especially temporalized as it is—implying that it was only now, at the end of the development, that one can see and adjudicate the whole matter—were strikingly new; the philosophical question itself, the method of analysis of the problem, and the actual judgment rendered, were archaic.

The mode of analysis of every item on the philosophical menu, from elementary categories such as the manas to ultimate purposes such as emancipation, as well as the very topics selected for analysis—and this holds not just in epistemology and theology but across intellectual disciplines—were largely of a piece with what we find in Mahadeva. The new historicity and the awareness it seems to imply of the possibility of new truths are clearly in evidence, but they remained securely anchored in a very old practice of thought, on an invariant set of questions.

In order to illustrate the remarkable willingness to rethink a range of important philosophical questions that remained nonetheless questions inherited from tradition, and the kind of innovation upon them that was in fact possible at this epoch, as well as to provide at least one extended example of seventeenth-century scholarly style, I want to consider Gaga Bhatta's analysis of the cognitive status of semantic coherence. He noted that according to the jirna or old-fashioned scholars, among the three factors required for intelligible verbal communication—the satisfying of syntactic expectation (*akanksha*),

semantic coherence or compatibility (*yogyata*), and the contiguity of syntactically related items (*asatti*)—the first two enable verbal cognition only when we actively understand them, whereas the third, contiguity, functions simply by its presence; we do not need to be actually aware of it. The new scholars, however, disagreed about the function of the second factor, semantic coherence: "According to the new logicians and hermeneutists, it is not the knowledge of semantic coherence that is a causal factor in verbal cognition. From a sentence like 'One should sprinkle the sacrificial offering with fire,' we derive no verbal cognition, and from this we conclude only that the determination of *semantic incoherence* [since fire cannot act as an instrument in the act of sprinkling] *obstructs* verbal cognition. . . . not that a positive knowledge of semantic coherence is required for verbal cognition." What is most significant about this discussion, which only re-engaged a standard question addressed in the New Logic, is the elaboration that Gaga appended. He went on to discuss the view of the literary theorists—and he was the first to do so in the context of this problematic—who held that both positions are wrong:

Knowledge of semantic coherence does not cause verbal cognition, nor does a determination of semantic incoherence inhibit it. For one thing, even in the absence of the former and the presence of the latter we find such cognition to be produced, as for example in what, prima facie, can be considered the semantically incoherent metaphor "Her face is the moon." For another, we derive an unmistakable aesthetic pleasure in cognizing the meaning of such a semantically incoherent line of verse as "The son of the barren woman passes by / Crowned with a chaplet of flowers from the sky." One cannot argue that in these two cases we are only recalling the meaning of the individual words and not experiencing actual "verbal cognition." If that were so, the very notion of verbal cognition would dissolve, since one could make the same claim about any sentence at all, even "Fetch the pot." It is only cognition other than verbal that is negated

when the statement is known to be falsified. And there is no point in raising the argument against the cognizability of a false sentence that action must follow since action is held to be entailed by all real verbal knowledge. The only knowledge that motivates action is knowledge free of doubt as to its own invalidity, that is to say, one that does not produce, at the moment when the knowledge is coming into existence, a doubt about its invalidity through an earlier instance of falsification. And such knowledge is absent in the case of a metaphor and the like; no one thinks they are true-as-stated in the first place. . . [As one earlier authority has it,] "Language can produce cognition even with respect to a thing that is totally non-existent." In actual fact, however, a sentence like "Her face is the moon" does not produce verbal cognition in a country bumpkin, but only in those familiar with Sanskrit rhetoric, and it brings aesthetic pleasure only to such people. For these reasons we must conclude that trace memories (samskara) from an earlier life are a stimulating factor here. And accordingly, we can not regard as reasonable the view that the absence of a determination of semantic incoherence, when it is not qualified by such stimulating factors, is the

cause of verbal cognition.

This is highly sophisticated argumentation, and, for those outside the discourse, no doubt in some respects quite obscure. In its extending a hitherto exclusively philosophical problem to poetry, it was, so far as I can judge, altogether new. Moreover, the question Gaga addressed—the significance for a general philosophy of language of the problem of grammatically acceptable but semantically incoherent sentences—was one that would not enter Western thought explicitly until Croce in 1910 (who, much less interestingly, denies aesthetic value to meaningless or irrational statements), and Chomsky in 1965 (one of whose concerns is to demonstrate that "the notion of 'grammaticalness' cannot be related to 'interpretability'... in any simple way," or in Sanskrit terms, that akanksha is relatively independent of yogyata).<sup>10</sup> All that said, this remained—and I offer this as a purely neutral judgment—a discourse that cleaved intimately to very old Sanskrit epistemic principles, rules of evidence, modes of argumentation, and objects of analysis. The newness of historicity or periodicity by no means meant convergence with a newness of method (empiricism, for example, or quantification), or of ontology (a realist philosophy of nature), or even of attitudes toward the past (critical rationalism), as trends in contemporaneous developments in European thought might lead us to assume.

It is in the realm of political thought, crucially, that we find the most compelling illustration of the persistence of the old among the new. In this connection the massive treatise on moral conduct (dharma), the Smrti Kaustubha (ca. 1675), claims our attention. This is the work of Anantadeva of Benares, kinsman (perhaps) of Khandadeva, one of the leading new hermeneutists, and client of Baj Bahadur Chandra, overlord of Almora (in today's Himachal Pradesh). Despite its title, Ananta's work did not follow the familiar kaustubha model but was really a standard law digest (nibandha) and incorporated little of the navya expository mode. It merits notice in the present context for the vision of the state offered in the prodigious central section on "The Moral Order of Kings" (Raja Dharma Kaustubha). Although this work was written for a court that since 1587 had been incorporated into the very new political order of the Mughals, and by a scholar living in the midst of the new intellectuals and their most vigorous opponents, it is hard to identify anything whatever in this text that could not have been written a millennium earlier, which was the epoch, in fact, in which most of the sources it cites were composed. Indeed, nowhere in the writings of the seventeenth-century Benares intellectuals (and in this they were true heirs of the ancient tradition), do we hear the faintest resonance of contemporary actuality, whether the incorporation of the region into the Mughal empire at the beginning of the century or even of the depredations of the Mughal emperor Aurangzeb in Benares itself in 1669. What Ananta's work in general represents is the astonishing resilience of ancient political theory-above all, the character of kingship and the structure of polity—and of the even more important fact that political reality, at some level, often seems to have adapted to this theory, and not vice versa. Nothing shows this quite so vividly as the royal consecration ceremony famously invented in 1674 for the new emperor of western India, Shivaji, by one of the leading intellectuals of the period—Gaga Bhatta himself.<sup>11</sup>

All these phenomena—the remarkable new subtleties of argument and exposition but directed toward the analysis of ancient categories and the establishment of archaic principles—suggests to me a serious tension in a newness that could not achieve innovation: a newness of the intellect constrained by an oldness of the will.

### 3. The Limits of Comparative Modernity

Despite the strong emphasis in recent years on rational, especially languagecentered reconstruction in intellectual history, there is probably no need in this venue to argue for the centrality of an examination of the individual agencies out of which intellectual discourses emerge, the macro-societal institutions in which they are embedded, and the political consequences they entail.<sup>12</sup> As I noted earlier, however, documentation for seventeenth-century Sanskrit intellectuals (whether in Benares, Tanjore, Madurai, Delhi or any other center) is not even remotely comparable to what is available for their contemporaries in London or Paris. The meager evidence I have so far been able to assemble does suggest that important changes were occurring in the social worlds of these intellectuals, with respect to modalities of circulation, subjectivity, and sociality. New cross-cultural interactions, for instance, began to take place from the beginning of the century that were without parallel for the conceptual and social distances being bridged, especially among Sanskrit and Persianate intellectuals at the Mughal court. Consider the Mughal court in the 1650s, who became an intimate of Danishmand Khan, the Mughal courtier, and companion of François Bernier, court physician and reputed translator of Descartes into Persian. We begin to witness expressions of a new and striking subjectivity in Sanskrit literary works (in the mid-century poetry of Jagannatha, or the somewhat earlier autobiography of Siddhicandra). And new or at least intensified modes of social interaction among the intellectuals themselves may also be perceived. Brahmanical councils, for example, assembling scores and sometimes hundreds of scholars from across India to decide points of legal, social, and moral conduct became far more common than in earlier periods, with transregional representation appearing to take on a new value in its own right. For the most part, however, the intellectual history of Sanskrit knowledge systems even as late as the eighteenth century has to depend on the systems themselves.

In turning to consider the fate of these systems I want to re-engage the problem of historicity mentioned at the start. I have three points to make concerning, first, the cultureinternal representations and developments; next, the culture-external standards and the possibility and limits of synchronous comparativism; and last, the irruption of those external standards into internal history, and with it, the end of the creative Sanskrit intellectual tradition.

It should now be clear that precolonial South Asia knew multiple temporalities (as it knew multiple spatialities, both pragmatic and cosmic) as well as multiple modes of representing and using the past, and of denying and arresting the past. Any theory of South Asian historicity (or dehistoricity) that neglects to acknowledge and accommodate this multiplicity will fail. In the seventeenth century, systems of thought that for centuries had been seen as synchronic conversations were historically periodized in such a manner that altogether unprecedented ways of both organizing and evaluating knowledge came into being. If we accept the construction of modernity that takes it to be, among other things, a different mode of structuring temporality, whereby the "continuous present" of tradition gives way to a world in which the past and the future are understood as discrete phenomena, a modernity of a certain sort must be said to confront us in seventeenth-

century India. In other domains of both thought and life, however, such as visions of polity, it is precisely rupture that was denied, with a very ancient continuum being stubbornly maintained. We encounter, accordingly, the coexistence of radically different modes of being in time, resistant to theoretical purification. There is nothing mystical about such existence, I would insist; it is simply the ability to live simultaneously in several conceptual realities, however incompatible they would eventually come to be seen.

At exactly the same period of Indian history I have been describing, western Europe witnessed a series of strikingly comparable developments that necessarily impinge upon our evaluation of the Indian case. We notice, for example, a similar sense of intellectual renewal, one celebrated in the titles of some of the more famous books of the period.<sup>13</sup> This novelty was often seen at the same time to be a purification of older knowledge ("one was to get ahead by going back"), and it has become almost banal to comment on the coexistence of very archaic with very new forms of knowledge, astrology with astronomy, for example, or alchemy with chemistry. The *querelle des anciens et des modernes*, which began in France in the last quarter of the seventeenth century and quickly spread to England, presents a range of additional parallels. Here the problem first posed in terms of transcending ancient science, as Descartes was believed to have done, soon became one of literary evaluation. Could contemporary writers similarly transcend Cicero, whether in the excellence of style or thought? Many thoughtful minds answered no, and demanded continued imitation of the classics. "Style," or ways of being in the world, may be less important than ways of knowing the world, though I take it to be a serious historical fact that among Sanskrit as well as vernacular writers literary sensibilities remained largely continuous with the classical past (or now for the first time became continuous with that past; this was so, for example, among writers of that form of Old Hindi called Brajbhasha). But the Querelle was also symptomatic of powerful changes in the ways of knowing, and if we compare these with India we shall find evidence of a sudden, major bifurcation in intellectual-historical trajectories in the two worlds that for centuries had been remarkably

parallel, from the origins of both in an axial moment some two millennia before, and classicized and shaped thereafter in a long and brilliant tradition of scholasticism.

Among Sanskrit intellectuals we see nothing comparable to the moment in seventeenth-century England when scholars of natural philosophy decided to look at nature itself rather than read Aristotle and Galen-authorities whose works from that moment on became chapters in a history of science and no longer science; and when they aspired, in addition, to turn this knowledge toward the transformation of social or political arrangements. In India old limits on what could be known, or at least on what was worth discussing, and the ends to which this knowledge could be directed, continued securely in place. Characteristically, the ancients remained authoritative and living disputants (with svatantra or independent scholars of the seventeenth century adducing, as we saw, foundational texts from the beginning of the common era). While modes of analysis and the historicization of whole disciplines were new, the actual methods of producing knowledge remained unchanged. Nor did anyone seek, as Descartes did, to "begin anew, from first principles." This explains, or at least helps us register, the crucial fact that neither the new intellectuals nor their opponents ever thematized their new historicity or sought to make second-order sense of what made them new. And unlike some of the poets (such as Jagannatha, who appears to have borrowed motifs from Persian love poetry), they evinced no awareness of, let alone interest in, the new conceptual possibilities around them, whether Persianate or European. These and other differences can lead easily to normative judgments, of the sort early colonial officials made ("revolving in perpetual circles of metaphysical abstractions never ending still beginning," as the education surveyor William Adam described Sanskrit intellectuals in 1835). It is only a self-authenticating ideology of progress, however, that prevents us from seeing how bizarre such normativity actually is.

Yet when these norms entered South Asian history—when colonialism made the norms of Europe the norms of India—the Sanskrit intellectual formation melted like so much snow in the light of a brilliant, pitiless sun. Consider only the case of scholarship in the science of moral conduct (dharmashastra). This was one of the most assiduously cultivated and discursively central forms of knowledge in the seventeenth century. A dozen works of astonishing magnitude were produced, including the Viramitrodaya under the direction of Mitramishra at the court of Orccha (in today's Madhya Pradesh) in the 1630s, a work in twenty-two volumes, twice the size of the world's longest epic, the Mahabharata. But following Nagoji Bhatta, who wrote during the first half of the eighteenth century, the production of new works totally ceased throughout India. It is almost as if the intellectuals somehow sensed that their world was about to be changed fundamentally and forever. This desuetude was of course not preordained, but clearly neither the newness in intellectual practices that was powerful enough to reorganize core knowledges of great antiquity and to mark an age as *navya*, nor the new kinds of fertilizing interactions, forms of subjectivity, and social networks, proved sufficient to prevent it. In the face of European modernity, Indian systems of thought, or rather Sanskrit systems, simply vanished as a significant force in Indian history. They lived on only as withered vestiges of premodernity during the colonial era (some sought in vain to transform them into vehicles of European science), only to make a predictable reappearance in post-Independence India dressed in the farcical costume of reactionary-nostalgic Hindutva (fundamentalist "Hindu-ness").

Here I lay stress on the distinction between Sanskrit and the other South Asian systems of thought noted at the start because, I believe, the fate of the Sanskrit intellectuals cannot be understood except in relationship to other forms of culture in South Asia in the last centuries preceding colonialism. Something in this relationship may help us grasp why the kind of modernity self-generated in India proved helpless against the European variant.

Over the course of what I have called the vernacular millennium—a profound but still poorly understood transformation of culture and polity in South Asia between ca. 1000 and 1500—a new or at least more powerful fissure in the intellectual class itself emerged as a fact of ever greater consequence. In the archaic period (beginning in the fifth century BCE), another fissure, but one expressed exclusively in religious terms, had led Buddhists and Jains to adopt other languages for their scriptural texts in preference to Sanskrit. But this had been largely transcended in the course of the first millennium when both Jain and Indian Buddhist literati were almost wholly re-incorporated into the Sanskrit cultural formation. In the course of the second millennium, however, and most decidedly by the seventeenth century, we find a gaping cultural split that was not to be mended. This split divided those I would call *marga* intellectuals, thinkers of the "Way," and *deshi* intellectuals, thinkers of "Place": those, on the one side, who continued to cleave to a kind of cosmopolitan culture that found expression in Sanskrit (the same argument could, with modifications, apply to Persianate intellectuals), and those, on the other, who chose to

think and write vernacularly.<sup>14</sup>

This divide was initially opened up, and became especially apparent, in the domain of literary culture, where there appeared a new mode of textualizing the world according to a vernacular vision that was as prominent and influential in South Asia as it would become anywhere. But it had entailments across the wider field of intellectual production (grammar, for instance, or theology; as I noted above, however, large areas of thought were closed to vernacular re-inscription). Most important, this cultural development was closely linked—or so I have sought to argue—with transformations in the political order. Here, for example, we begin to find a displacement of long-standing universalist visions of power by

new visions that are far more regionalized.<sup>15</sup>

Now, political-cultural transformations of a comparable order are to be found in western Europe during the same period, running parallel to developments in India—again, until about the seventeenth century. At that moment, the vernacular both intellectualized itself and institutionalized its power, processes indissociably linked to new national and statist projects. Perhaps the most dramatic instance is provided again by Descartes: two years after the founding of the Académie française in 1635 (the first of eight national academies founded in western Europe before 1671), and undoubtedly connected to this

event, Descartes decided to publish his *Discours de la méthode* first in French, an act of some risk (so much so that he felt compelled to publish a Latin version within a couple of years). His decision to write in French was also conditioned by the very philosophy he was promulgating—the universalism of natural reason, despite the fact that this stands in some tension with the particularity of the so-called natural language in which the philosophy was

written—as well by his sense of the market represented by an emergent cultivated public.<sup>16</sup> Similar developments, if not always quite so obvious in their causal sequence, are to be found throughout seventeenth-century Europe. In Italy, for example, the scientific Lincei Academy was founded in 1603 (the literary Accademia della Crusca had been established in 1582), and in 1638, Galileo published his *Discorsi* in Italian, probably the first significant scientific treatise in that language. In England, the first important philosophical text in English, Francis Bacon's *Advancement of Learning*, appeared in 1605; here the fact that the Royal Society was founded only two generations later, in 1662, suggests how multiple were the causes at work in the shift in cultural consciousness.<sup>17</sup>

Neither sort of transformation occurred in India. The political institutionalization of vernacularity in seventeenth-century Europe was the consequence of a kind of instrumentalization wholly unfamiliar to Indian patterns of culture and power, both over the very long term of premodernity and late into the vernacular epoch. Not only did nothing ever find expression in India that was remotely comparable to, say, the Edict of Villers-Cotterêts of 1539 (which made French obligatory for legal and administrative proceedings in sixteenth-century France), but on the contrary, seventeenth-century intellectuals actively reasserted the Sanskrit monopoly on intellectual (and not just literary) production in the teeth of the growing challenge of vernacularity. They argued in support of a very archaic postulate about the inefficacy of non-Sanskrit language—one that held that all dialectal language communicated only through the remembered correct (that is, Sanskrit) form—but now with a new tone of contentiousness. For the controversy over the communicative

power of the vernacular was obviously not simply about language as such but about the status of competing knowledges and the identities of and relationships among communities. And it was one of the more significant disputes in which the new intellectuals played a role that may be thought to have been objectively new and audacious. Strikingly, it was a philosopher of Sanskrit grammar who most powerfully articulated this *navya* position, or rather—since it was against the new logicians, among others, that he argued—a newer than *navya* position.

The history of language-philosophical analysis of the signifying capacity (*shakti*) of vernacular words is a very long one, stretching back to the last centuries before the common era, when grammarians and hermeneutists had begun to raise questions about the practical and ideological status of linguistic correctness, about how words transmit meaning, and related matters. Yet it was only in the seventeenth century that age-old notions about the vernacular capacity to signify only if somehow mediated by grammatically correct (i.e., Sanskrit) language was contested. The position against which these thinkers chiefly argued was that of the first great new logician, Gangesa himself. Here is how the seventeenth-century Sanskrit grammarian, the Maharashtrian Kaunda Bhatta, set out the problem:

How can verbal knowledge be obtained from vernacular language since by definition there can exist in the vernacular neither primary nor secondary [tropological] signifying power [the two mechanisms by which grammatically correct language produces meaning]? Some people respond on the basis of the general consensus that such verbal knowledge is enabled by remembering the Sanskrit word from which the vernacular word is said to be corrupted. The new

logicians respond by saying that, given the fact that those who have no knowledge of Sanskrit whatever nonetheless derive verbal knowledge from vernacular communication, the knowledge must come from some sort of illusion of the presence of primary signifying capacity.

The response that Kaunda gave to the old argument as modified by the new logicians was wholly unprecedented: "Vernacular language signifies in precisely the same way as Sanskrit." The variation across time and space that is supposed to impugn vernacular communicability entails nothing of the sort. Vernaculars such as Marathi (the language of Maharashtra) remain self-identical wherever they are spoken, for true variation would entail the creation of an altogether different language; and in any event, Sanskrit itself shows occasional variation. Moreover, the absence of orthographic stability in the vernaculars can hardly constitute evidence against their signifying capacity, since even in Sanskrit we find words with different spellings meaning exactly the same things—synonyms.

It was the position represented by Kaunda Bhatta, which now in its own right will be characterized as *navya*, that came under attack from the widely influential Benares intellectual Kamalakara Bhatta. Writing around the time the French Academy was founded, Kamalakara reiterated the old position in language philosophy (though tinged in fact with the New Logic) when he asserted that the very capacity of vernacular language to produce meaning is a pure illusion, since authentic meaning presupposes language that does not change—that is, Sanskrit. "The *navyas*," he wrote, "hold that inherently expressive words and sentences must exist in dialect, that is, in vernacular-language texts . . . because these actually do communicate verbal knowledge." But this position, said Kamalakara, flies in the face of the old and accepted axiom of the hermeneutic tradition that "a multiplicity of [equally expressive] speech forms cannot be logically posited." The *navya* argument, moreover, would render grammar itself irrelevant; and since they would be countenancing the linguistic practices of the foreigner and the uncultured (*mleccha*), they would be

destroying belief in the Veda as a system of perfect and directly efficacious language. One might as well attribute signifying power to the sounds of seashells or bells. "The vernacular can be said to possess real words only either by the illusion of their being expressive in themselves, or through the presence of the grammatically correct [Sanskrit] words that they suggest. Words are actually changeless and eternal, because the phonemes of which they are composed are such."

We must not lose sight of what was ultimately at stake in this seemingly narrow discussion. This was nothing less, I think, than the possibility of creating a national-popular intellectual class, of the sort toward which the *philosophes*, for example, gestured in the century following Descartes's choice. Kamalakara might attack the *navyas*, but nothing in seventeenth-century Sanskrit intellectual history suggested that, even for new scholars like Kaunda Bhatta, the rebirth of the marga as the deshi intellectual was not something a priori impossible, given the fundamental ideological precommitments we find everywhere expressed. (As far as we know, even Kaunda himself wrote not a word of scholarly Marathi.) In the eyes of most Sanskrit intellectuals of whatever stripe, if discourse was to be systematic let alone true—discourse on everything from the polity to the expressive capacity of the vernacular (which was never argued out in the vernacular)—it had to be *samskrita* discourse. All the rest was just poetry, if even that.

I noted earlier in thinking about new institutional structures that a crucial development in the intellectual modernity in western Europe was the rise of the royal academies and later secularized universities. What is additionally important about these institutions is the fact that, for the first time in centuries, knowledge could be produced outside the organizational framework of Christian theology, if still under the watchful eye of absolutist power. And here, not unparadoxically, European modernity seems to have been generated by moving closer to Indian premodernity (to adopt the prevailing idiom). A fact insufficiently appreciated in the scholarship on Indian knowledge systems is that intellectual freedom in pre-European India was virtually total. Institutional constraints or

sanctions, like those imposed by the Roman Catholic Church, were as little known as compulsory dogma or censorship. The only form of censorship in India was that entailed by a failure of imagination, and the only dogma was uncritiqued tradition. The modernizing of Europe through greater approximation to premodern India is true, too, in the more particular case of philosophy, if we accept the account of the rise of Western philosophy as an academic discipline whereby its practitioners became "institutionally-protected specialist[s] in esoteric disciplinary abstractions," both "technically rigorous, and remote from the clear political and religious appeals of the lay-based philosophers whom they now 18

displace."<sup>18</sup> This is, I think, largely how the logicians, grammarians, and other intellectuals of seventeenth-century India should be viewed.

Yet it is also beyond dispute that the social character of the modernity that would ultimately win in Europe, and perforce in colonial India, was of a very different sort from that of the new intellectuals. However else we may wish to characterize this, it was undoubtedly a national and a vernacular modernity (ideals of an international "republic of letters" notwithstanding). In the realm of knowledge production, it brought the intellectual into a new public sphere with its far broader market and with demands eventually posed against the absolutist state, but also into a new pedagogical sphere, where vernacular cultivation was a central concern.<sup>19</sup> And against this form of intellectual modernity the Sanskrit scholars of seventeenth-century India and their successors up to the end of the eighteenth century (Benares was ceded to the British by the nawab of Awadh in 1803) would have few weapons to deploy.

As for the pedagogical sphere, so far as we can tell from the thin data we possess, vernacular education in South Asia continued in the first instance to address practical needs (accountancy, clerical skills, and the like); the formation of an intelligentsia remained the task of the Sanskrit and Persian-Arabic traditional schools (*tol* and *madrasah* respectively). As for the public sphere, the new intellectuals did not and maybe could not confront Europe

as a political problem. In part this may have been because they believed they had long ago solved the enigma of power, in part because no theory of the vernacular polity had ever been produced and thus no national intellectual formation had ever autonomously generated itself. Whether or not I am right about this, it is a fact that Sanskrit intellectuals never directly confronted colonialism, whether as a political or an epistemological order; virtually without exception they simply ignored it. All they appeared able or willing to do, with the most remarkable resources of thought and expression they had ever developed—of a sort that in some cases would hardly be matched before the symbolic metalanguages and theoretical innovations of late (or post-) modernity—was to reinvigorate and sustain an old ecumenical cultural order in a much-changed world where no other option was available.

### NOTES

I am grateful to my student, Whitney Cox, for his careful reading and critique of this piece.

<sup>1</sup> Most extant translations are of astronomical and mathematical treatises. Greek philosophy, available in Arabic, was strikingly never made available in Sanskrit versions.

<sup>2</sup> What follows reproduces (or in some cases summarizes) portions of my essay, "New Intellectuals in Seventeenth-Century India," *Indian Economic and Social History Review* 38,1 (2001): 3-31. All diacritics and most bibliographical references to the Sanskrit sources have been omitted here.

<sup>3</sup> Two recent attempts to temper some of these claims (on the colonial invention of Hinduism, of caste, of India) are David Lorenzen, "Who Invented Hinduism," *Comparative Studies in Society and History*, 41 (1999): 630-59; and Richard Eaton, "(Re)imag(in)ing Other ness: A Postmortem for the Postmodern in India," *Journal of World History* 11 (2000): 57-78.

<sup>4</sup> On modernity and the work of totalization or "purification" in notions of nature, society, space-and-time, see Bruno Latour, We Have Never Been Modern (Cambridge: Harvard University Press, 1993).

See, for example, Roger Chartier, "On the Relation of Philosophy and History," in Cultural History: Between Practices and Representations (Ithaca: Cornell University Press, 1988), 53-73.

Pierre Bourdieu, The Political Ontology of Martin Heidegger (Stanford: Stanford University Press, 1991), 3-4, cf. 70ff.

<sup>7</sup> See my essay "The Theory of Practice and the Practice of Theory in Indian Intellectual History," Journal of the American Oriental Society 105 (1985): 499-519.

 $^{8}$  Thus we have well-known kaustubha works on hermeneutics by Khandadeva (ca. 1575-1665, Benares), on grammar by Bhattoji Dikshita (d. 1645, Benares/Keladi), and so on.

My translation of Gaga's *Rakagama* commentary on the *Candraloka*, edited by Ananta Ram Sastri Vetal (Benares: Chowkhambha, 1938), 8.

10

Croce's essay "This Round Table is Square" appears in his Problemi di estetica (1905); I know it from Gramsci's brief discussion in Cultural Writings (Cambridge: Harvard University Press, 1991), 179-80. In his Aspects of the Theory of Syntax (Cambridge: MIT Press, 1965), 148ff., Chomsky allows for but has no interest in the possibility of aesthetically ordered semantic coherence (what he calls "metaphorical" or "allusive" interpretation) in such a sentence as "Colorless green ideas sleep furiously," which is precisely the concern of Gaga Bhatta and many of Chomsky's later commentators-and of course of poets (only recall-to keep with the color scheme-Stevens's "the green freedom of the cockatoo").

<sup>11</sup> The new ceremony was required to transform the lower-caste Shivaji into a kshatriya (warrior), the status required for kingship in traditional political theory.

<sup>12</sup> For a well-reasoned recent statement see Björn Wittrock, "Social Theory and Intellectual History: Rethinking the Formation of Modernity," in Social Time and Social Change, ed. F. Engelstad and R. Kalleberg (Oslo and Chicago: University of Chicago Press, forthcoming).

13 Kepler's Astronomia nova (1609); Bacon's Novum Organon (1620): Galileo's Discorsi e dimostrazioni matematiche, intorno à due nuoue scienze (1638); Pascal's Expériences nouvelles touchant le vide (1647); Boyle's New Experiments (1660). On the vernacular shift visible in these titles, see further below. Steven Shapin, The Scientific Revolution (Chicago: University of Chicago Press, 1996), remarks on the titles and also provides the quote in the next sentence (cf. 65-75, 4-5).

<sup>14</sup> I use Indic terminology simply because no other way of categorizing intellectuals seems adequate in the South Asian context. Gramsci's distinction between traditional and organic, for example, does not work, since an important stratum of deshi intellectuals was typically from the same class formation as marga intellectuals.

<sup>15</sup> For the general historical argument I am making here, see my "India in the Vernacular Millennium: Literary Culture and Polity, 1000-1500," Daedalus 127 (1998): 41-74. See also my "Cosmopolitan and Vernacular in History," Public Culture 12 (2000): 12-40.

<sup>16</sup> On the first point see the reflections of Jacques Derrida, "Languages and Institutions of Philosophy," Recherches Sémiotiques/Semiotic Inquiry 4 (1984): 91-154. When, as earlier noted, Descartes announced the need to start anew from first principles, the announcement was made in Latin (a primis fundamentis denuo inchoandum, Meditationes 1 [1641]), the text having been addressed to the Jesuits of the University of Paris. A French translation appeared in 1647.

<sup>17</sup> As Johan Heilborn points out, Galileo's work "bears the traces of the old duality," the mathematical deductions being discussed in Latin, the experiments in Italian (Johan Heilbron, The Rise of Social Theory [Minneapolis: University of Minnesota Press, 1995], 28). Recent work on the vernacularization of natural-science discourse in early modern Europe is found in the collection of essays edited by Roger Chartier and Pietro Corsi, Sciences et langues en Europe (Paris: Ecole des hautes études en sciences sociales, 1996).

<sup>18</sup> Randall Collins, "The Transformation of Philosophy," in *The Rise of Social Sciences* and the Formation of Modernity: Conceptual Change in Contexts, 1750-1850, ed. J. Heilbron, L. Magnusson, and B. Wittrock (Dordrecht, Boston, London: Kluwer Academic Publishers, 1996), 141-62. The quoted passages are found on 152, 158.

<sup>19</sup> A good account of the social transformation of the modern intellectual is offered in Heilbron, The Rise of Social Theory, esp. 26-77. On the vernacular "pedagogical revolution" in seventeenth-century France see, for example, Ann Blair, "La persistence du latin comme language de science," in Chartier and Corsi, eds., Sciences et langues en Europe, esp. 40 ff.

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