Noah's Ark and Sir William Jones

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Sir William Jones (1746-1794) is considered one of the founders of the modern study of Indian culture and religion. His translations from Sanskrit and his founding of the Asiatic Society of Calcutta were instrumental in making India better known in Britain and Europe. Nowadays particular attention is paid to a passage in which he posits the existence of an ancient language that modern linguists call Indo-European. The present article questions to what extent this hypothesis is indebted to Jones and notes the work of earlier linguistic scholars. It also argues that his historical speculations about both linguistic history and the history of the ancient world were vitiated by his faith in the literal truth of Biblical history, most notably the idea that Noah and his sons and their wives were the only survivors of a great flood that occurred in 2348 BCE. The article also reviews the gradual decline of Biblical literalism both before and after Jones and how this affected European studies of India and its ancient history.

The sons of Noah who went forth from the ark were Shem, Ham, and Japheth...

These three were the sons of Noah and from these the whole earth was peopled.

Genesis 9.18

1. Introduction

In the year 1650, James Ussher, a Protestant Archbishop of the Church of Ireland, published a work in which he fixed the date of the creation of the world as 23 October, 4004 BCE.[1] He dated the great flood from which only eight humans survived — Noah, his sons Shem, Ham, and Japhet, and their wives — in 2348 BCE. Ussher was neither the first nor the last to attempt to use the Bible to determine the dates of prehistory, but his calculations became those most often accepted in both Protestant and Catholic circles. Other authors who made calculations similar to those of Ussher include Jose ben Halafta (2nd century CE), Venerable Bede (672-735), Joseph Justus Scaliger (1540-1609), and Johannes Kepler (1571-1630). Nonetheless, even in Ussher's own time, a number of European intellectuals had begun to question these short world chronologies and the belief in the historical truth of the Biblical

[1] I thank my colleagues Sergio Armando Rentería y Rubén Chauqui for their comments on this essay and for their help with Jäger's Latin text. I also benefited from discussions with Thomas Trautman over some of the arguments presented here. David White corrected my translations from French. Ussher's 1650 work, *Annales veteris testamenti,* is available on the internet in its original edition. The first few pages give a summary of all the important dates.

narratives on which they are based. During the second half of the nineteenth century, such short chronologies and Biblical literalism became decidedly minority positions in most academic circles. Even today, however, over a third of United States citizens accept world chronologies similar to that of Ussher, a belief now known as Young Earth Creationism.

Sir William Jones lived in India for ten and a half years, from 1783 until his death in 1794 at age 47. In India, Jones played key roles in founding of the Asiatic Society of Bengal and in fostering studies of Indian history and literature in its annual publication of *Asiatick Researches*. His translations from Sanskrit of the *Manava-dharma-sastra* and Kalidasa's *Sakuntala* represented important pioneering efforts to make Sanskrit literature known to an English-speaking public. Where his scholarly contributions seem to be more problematic is in the areas of political and linguistic history.

This essay argues, first, that Jones's often-cited hypothesis about the existence of an ancestral Indo-European language was much less original than is often claimed; second, that most of his attempts to reconstruct the early history and prehistory of early India were worthless; and third, that both his linguistic hypothesis and his historical reconstructions were strongly influenced — partly positively in the first case and decidedly negatively in the second — by his reliance on the Biblical narratives of *Genesis* and on Ussher's short world chronology.[2] The essay both relies on, and takes issue with, some of Thomas Trautmann's ideas about these topics. In particular, it questions his claim that a European scholarly consensus in favor of Biblical literalism and the short world chronology remained dominant and only partly changed until the second half of the nineteenth century and that then, in about 1860, was suddenly abandoned in what Trautmann (2009 [1991]) has called "the revolution in ethnological time."

Since even before the death of Sir William Jones in 1794, his scholarly reputation has had a charmed life. Even after the powerful critique of Orientalism by Edward Said (1979) and after the related post-colonial perspectives developed by subaltern-studies scholars, Jones's scholarly reputation has survived largely intact. Jones's biographers — from his friend John Shore (Lord Teignmouth) (1805) to the more recent Garland Cannon (1990) and Michael J. Franklin (2011) — supply ample details about Jones's life and works but do so in a largely hagiographic mode. The biography by S. N. Mukherjee (1968) is considerably more critical but still offers a mostly positive view of Jones's accomplishments. Modern studies of particular aspects of Jones's work include those of O. P. Kejariwal (1988), Javed Majeed (1992), Alun David (1996), Thomas Trautmann (1997, 1998,

[2] The best recent discussion of Jones's reliance on the Ussher's biblical chronology is Lincoln (2002). Lincoln pays particular attention to Jones's engagement with the chronological arguments of Isaac Newton. Newton argued for a chronology roughly compatible with that of Ussher although he did not explicitly attempt to date the creation or Noah's flood.

2009), Alexander Murray (1998), Bruce Lincoln (2002), Sharada Sugirtharajah (2003), Kapil Raj (2007), Michael S. Dodson (2007), Nandini Bhattacharyya-Panda (2008). Urs App (2009), and Sanjay Subrahmanyam (2017). All these studies have a mostly positive take on Jones (with the partial exceptions of Raj, Dobson, and App). Even Edward Said tends to pull his punches when writing about Jones.

One important early exception to the chorus of scholarly praise for Jones is found in James Mill's (1975) now infamous 1818 tirade against Indian culture. Mill argues, perhaps with some justification, that Jones's praise of Hindu civilization was ingenuous and relied too much on the dubious claims of the native Indian scholars who collaborated with him. A more recent critic of Jones is the linguist Lyle Campbell who argues, in a 2006 article, that Jones not only was very much a late-comer to scholarly theorizing about the possible ancestor of Indo-European languages but also that, in various ways, his comparative linguistics "got it all wrong."[3]

2. Jones and Historical Linguistics

Today, Jones's most often highlighted achievement is his suggestion that there may once have existed a now lost language from which Sanskrit, ancient Greek, and Latin and several other languages were descended, the language linguistic historians now call Indo-European or proto-Indo-European. This suggestion was most clearly made in a single paragraph found in Jones's third annual presidential discourse to the Asiatic Society, a discourse delivered in 1786 and first published in 1789. This paragraph is still regularly quoted in books and articles on historical linguistics. Several scholars have used it to claim or imply, wrongly, that Jones was the first scholar to clearly propose the hypothesis of a lost Indo-European language.[4] Here is Jones's famous paragraph, sometimes called the "philologer passage":

> The *Sanscrit* language, whatever be its antiquity, is of a wonderful structure; more perfect than the *Greek,* more copious than the *Latin,* and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have sprung from

[3] A modified version of this article is published as chapter 3 of Campbell and Poser (2008).

[4] Most egregious in this regard is the statement by Jones's chief biographer, Garland Cannon (1990: 224) that "Apparently no one helped Jones construct his hypothesis". As noted in what follows, Jones himself acknowledges his debt to earlier scholars in a letter dated in 1779. As the editor of Jones's letters, Cannon had to know that his statement is false.

> some common source, which, perhaps, no longer exists: there is a similar reason, though not quite so forcible, for supposing that both the *Gothick* and the *Celtick,* though blended with a very different idiom, had the same origin with the *Sanscrit;* and the old *Persian* might be added to the same family, if this were the place for discussing any question concerning the antiquities of *Persia* (Jones 1807e: 34-35).

Thomas Trautmann calls this paragraph "the premier text for the Indo-European concept" and strongly argues that this well-known and frequently quoted suggestion by Jones depended directly on Jones's parallel acceptance of the genealogical or cladistic form of the Biblical myth of Noah, his three sons, and their descendants, what Trautmann calls the "Mosaic ethnology." In other words, Jones largely derived his correct insight into the historical existence of a now lost Indo-European language – the ancestor of Sanskrit, Greek and Latin – from his prior acceptance of the genealogical-tree structure of a Biblical story that all recent scholars including Trautmann regard as myth, not history. In this view, it was largely the influence of the genealogical model of the Mosaic ethnology that made Jones's Indo-European linguistic insight possible.[5]

Lyle Campbell stresses the link between this passage and the paragraph immediately preceding it in Jones's text. In this paragraph, Jones notes that "the *Mohammedans,* we know, heard the people of proper *Hindustan* … speaking *Bháshá,* or a living tongue, the purest dialect of which … is commonly called the idiom of *Vraja.*" Jones adds that "Five words in six, perhaps, of this language were derived from the *Sanscrit,* … which appears to have been formed by an exquisite grammatical *arrangement,* as the name itself implies, from some unpolished idiom." Jones then adds the dubious claim that "the basis of Hindustani, particularly the inflexions and regimen of verbs, differed as widely from both those tongues, as Arabick differs from Persian, or German from Greek."[6] Finally, Jones makes the clearly mistaken suggestion that the large number of Sanskrit-derived words in Hindustani were loan words introduced by Sanskrit-speaking conquerors and "that the pure *Hindì*, whether of *Tartarian* or *Chaldean* origin, was primeval in Upper India, into which the *Sanskrit* was introduced into it by conquerors from other kingdoms in some very remote age" (Jones 1807e: 33).[7]

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[5] See Trautmann (1997: 37-61, n.b. 37-38) for a fuller treatment of this argument.

[6] See Jones (1807e: 33) and Campbell (2006: 248, 254-55). It is not completely clear what Jones meant by "*both* these tongues." One tongue is clearly Sanskrit. The other cannot be Hindi-Urdu, Campbell's suggestion, since its grammatical structure is quite similar to that of Hindustani. More likely, the second language is the mentioned pre-Sanskritic "unpolished idiom," perhaps another reference to the unknown "*common source*" of the following philologer passage.

[7] It is, of course, true that modern linguists argue that the early pre-Vedic languages of North India influenced the development of Sanskrit, but this has almost nothing to do with Hindi in any of its forms.

Here Campbell contrasts Jones's mistake about the relation of Hindustani and Sanskrit with the correct claim that his friend, Nathaniel Brassey Halhed, made in his Bengali grammar of 1778, that "the Hindostanic, or Indian language, … is indubitably derived from the Shanscrit, with which it has exactly the same connexion, as the modern dialects of France and Italy, with the pure Latin" (Halhed (1778: ix).[8] Since Jones was obviously aware of these roughly analogous verbal differences between Latin and the Romance languages derived from it, Jones's mistake is not easily explained. Nonetheless, all this has little to do with my main interest here, the influence of Biblical history on Jones's ideas about the linguistic and political history of early India.

The idea of a historical connection between the Biblical myth of the three sons of Noah and linguistic history as well as the idea of the existence of a parent language for most European languages were in fact common hypotheses for many seventeenth-century and eighteenth-century linguists who preceded Jones. This fact has for some time been a sort of open secret among historical linguists. Three important essays that set out many of the details are those of George Metcalf (1974), Jean-Claude Muller (1986), and the already mentioned essay by Lyle Campbell (2006, Campbell and Poser 2008). These three essays and others on this topic unfortunately have not made much of an impact on historians of British India, or even on more general reviews of linguistic history.

Nonetheless, S. N. Mukherjee, in his 1968 biography of Jones, already noted the existence of the earlier scholarship by the Dutch scholar Marcus Zuerius Boxhorn (1612-1653) and by the German philosopher G. W. Leibniz (1646-1716) that proposed the hypothesis of an ancestral Indo-European language long before Jones.[9] A recent scholar, Josef Eskhult, claims that Boxhorn "was the first to propose the theory that German, Latin, Greek, and Persian derive from a common source, which he designates as Scythian" (Eskhult 2012: 291-9). Mukherjee adds the important claim that Jones was "well aware of these developments" and, as proof, cites a 1779 letter in which Jones wrote that "Many learned investigators of antiquity are fully persuaded that a very old and almost primaeval language was in use among these northern nations [of Europe and Asia] from which not only the Celtic dialects but even the Greek and Latin are derived" (Jones 1970: vol. 1: 285).[10]

An important early version of the Indo-European theory was proposed by a Swede named Andreas Jäger, a scholar not mentioned by Mukherjee. In 1686 Jäger gave a public lecture in Latin in

[8] Robins (1990: 93) was apparently the first modern scholar to note this contrast between Jones and Halhed.

[9] On these scholars and their contributions to historical linguistics, see Eskhult (2012); Pajares (2008); Diderichsen (1974); Metcalf (1974); Hoenigswald (1963); and Waterman (1963). Two other early Indo-European theorists discussed in these essays are the Swedish poet-philologist Georg Stiernhielm (1598-1672) and the French linguist P. Besnier (1674).

[10] This letter is cited in Mukherjee (1968: 92-93).

Wittenberg, Germany, in which he proposed the existence of an ancient language that once was found in the region of the Caucasus mountains and then spread to Persia and Europe, becoming the ancestor of Persian, Greek, Latin and Romance languages, Slavonic, Celtic, Gothic, and other Germanic tongues. Jäger described the relation between this ancestral language and its successors as a relation between mother and daughter languages. He also linked the ancient language to the Noah story through the lineage of Noah's son Japhet and identified the ancient language as "Scythian."[11]

In the year 1767, an English scholar in England named James Parsons published a book titled *Remains of Japhet: Being Historical Enquiries into the Affinity and Origin of the European Languages.* Parsons was a medical doctor and otherwise wrote books on such subjects as women's diseases and hermaphrodites. Parson's grasp of linguistic and ethnological history was hardly solid, but in his book he compared a list of basic words using a large number of languages. From this, he concluded that most of the Indo-European languages of Europe, Iran and India were related and derived from a common ancestor. Parsons did not include Sanskrit in his comparison (undoubtedly because he had limited knowledge of it), but he did include Bengali and Persian. Like Jäger, Parsons associated his ancestral language with the lineage of Noah's son Japhet, but his hypothesis of the existence of this lost language seems to stem more from inferences made directly from his detailed comparisons of the words for numbers in the various languages than from his reliance on Biblical history and the Mosaic ethnology (Parsons 1767: n.b., 310-345).[12] His word comparisons enabled him to clearly distinguish Indo-European languages from non-Indo-European languages including Hebrew. Parsons's book also includes useful quotes about linguistic history and the Japhetic tradition taken from the writings of Stiernhielm and Leibniz.

Evidence linking Jones and Parsons comes from a passage in which Parsons attempts to show that Irish and Welsh had a now lost ancestor, a language that Parsons claims to be perhaps close to the original language descended from the family of Japhet:

> Having had such strong reasons for suspecting that the *Irish* and *Welsh* languages were originally the same, in the house of *Japhet, ...* wherefore, after having enumerated pretty largely the causes of the deviations of languages from their originals, which produce, in time different dialects, the reader will find a list of about one thousand words, which, with some small allowance for such accidental deviations, will appear to have been

[11] Jäger (1686). See the summary in Metcalf (1974: 233-240). The lecture was first published in 1686. Metcalf includes references to two eighteenth-century discussions of Jäger's theory, both published in 1742, and notes that Jäger's lecture was republished in 1774. See also the discussion in E. Bryant (2001: 16). Bryant wrongly gives the year of the lecture as 1668.

[12] On Parsons' rarely cited work, see also Mallory (1989: 9-11).

> originally the very same, and carrying the same signification ... for it is impossible for any two languages to have so close an affinity by chance, and the roots of both to be the same almost throughout the whole. ... These, and such like methods, were the means by which I have endeavoured to discover the original language of *Europe,* and to trace it to the house of *Japhet* (Parsons 1767: xvii-xix).

The key phrase here is "for it is impossible for any two languages to have so close an affinity by chance," a phrase that comes remarkably close to one in the Jones's famous 1786 paragraph where he notes that Sanskrit bears to Greek and Latin "a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident."[13]

At about the same time that Parsons published his book, the Jesuit Orientalist, Gaston-Laurent Coeurdoux (d. 1779) used this myth of Noah and his sons in his attempt to reconstruct the history of the early human settlement of India. In correspondence beginning in 1767 with the Académie des Inscriptions et Belles Lettres in Paris, a correspondence not published until 1808, Coeurdoux discussed the similarities of Sanskrit, Greek and Latin and offered an explanation of their origin by invoking not only the story of the descendants of Noah but also the analogy of the then already well-known historical relation between Latin and its daughter languages in Europe. Here is a key passage of Coeurdoux's text:

> Because of the confusion that he [God at the Tower of Babel] put in their language, an astonishing miracle was required in order to oblige men to go to populate that various regions of the earth, following the order they had received to do so. But was this confusion so total that no common words remained in all the new languages? This was not necessary in order for the men assembled on the plains of Sennaar to no longer understand each other. Does there not exist a resemblance between French and Italian? Nonetheless, a Frenchman suddenly moved to Rome would be for some time as if deaf and mute. He would neither understand nor be understood.
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> Is it not there that one finds the simple solution to the question posed? Several common terms remain in the new languages. Many of them have been lost in the passage of time. Others have been disfigured to the point that they are no longer recognizable. Some,

[13] Jones's famous 1786 passage also has some close similarities to a 1776 passage by Jones's acquaintance Nathaniel Halhed, although Halhed wrongly includes Arabic in his comparison to Sanskrit together with the corrected identified Persian, Greek and Latin. The similarities are discussed in Trautmann 1997: 39 and in Rocher 1980. The two published catalogues of Jones's personal library in England could, theoretically, give some idea about the names of the authors that Jones claimed (in his letter of 1779) had earlier discussed the existence of an ancestral European language. The relevant texts by Parsons, Boxhorn, Leibnitz, etc., however do not appear in the catalogues. The catalogues were not prepared and published until 1831 and 1837. Many of the printed books listed in the catalogues were published after Jones's death in 1794 and were probably books later collected by Lady Jones.

> however, have escaped this shipwreck, and have become for men an eternal memorial to their common origin and their ancient fraternity (Coeurdoux in Anquetil-Duperron (1808: 664).[14]

What Coeurdoux and Jones added to the earlier hypotheses about the lost ancestor of European languages was, of course, the inclusion of Sanskrit as one of the early Indo-European languages together with Greek and Latin. George Metcalf has called Andreas Jäger's failure to include Sanskrit "the one great flaw in Jäger's proposal," but Jäger, who lived in Sweden and Germany, can hardly be blamed for not knowing Sanskrit in 1686. In his comparison of Jäger and Jones, Metcalf also comments that Jäger's theory "in some respects is even more 'modern'; for the concept of an original parent language no longer spoken is an essential ingredient (in contrast to Sir William's uncertain phrase: '... some common source which, perhaps, no longer exists')."[15]

Even the claim that Coeurdoux and Jones were the first to add Sanskrit to the list of early Indo-European languages is not quite as clear as at first appears. The French scholar Claudius Salmasius (1588-1653) — who claimed the often-mentioned and semi-mythical Scythians as the ancestors of the Persians and many Europeans — proposed a theory that, as Vivian Law notes, "Latin, Greek, Persian, and the Germanic languages were all descended from a lost common ancestor" (Law 1990: 815-16).[16] In this context, Salmasius commented that the Indian words that appear in Ctesias's fifth-century account of India "can, with only minor modification, be found in modern Persian." From this Salmasius concluded that "either modern Persian is the descendant of the language spoken by the Indoscythians, or that the Indians of Ctesias descended from the Scythians who descended into India."[17] As Campbell and Poser note, at least seven European missionary and lay scholars in India,

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[14] As cited in Godfrey (1967: 58-59): "It fallut un miracle étonnant pour obliger les hommes, par la confusion qu'il mit dans leur langage, à aller peupler les diverses régions de la terrer, suivant l'ordre qu'ils en avoient reçu. Mais cette confusion fut-elle si totale, qu'il ne restât point quelques mots communs à tous les nouveaux langages? Cela n'étoit pas nécessaire pour que les hommes réunis dans les plaines de Sennaar ne s'entendissent plus. Quelle ressemblance n'y a-t-il pas entre le françois et l'italien? cependant un François transporté tout d'un coup à Rome, y seroit pendant quelque temps comme sourd et muet; il n'entendroit ni ne seroit entendu. Et ne seroit-ce pas là le dénouement simple de la question proposée? Plusiers termes communs restèrent dans les langues nouvelles; un grand nombre se sont perdus par le laps du temp; d'autres ont été défigurés à un point qu'ils ne sont plus reconnoissables. Quelques-uns ont échappé à ce naufrage, pour être aux hommes un mémorial éternel de leur commune origine et de leur antique fraternité."

[15] Against this, Edgerton (1946: 236-37) earlier suggested that Jones's use of "perhaps" in this phrase meant "of which, perhaps, no records now exist." In the same note, Edgerton claims that Coeurdoux's "letter of 1767 did not, in fact, explain the correspondences between Sanskrit, Greek, and Latin by inheritance from a common language." For me, neither of these comments by Edgerton is convincing.

[16] As cited in Campbell and Poser (2008: 20-21).

[17] Salmasius, as translated by van Driem (2001: 1043), as cited in Campbell and Poser (2008: 21).

beginning with the Jesuit Thomas Stevens in 1583, had already noted the similarities of Sanskrit and European languages, chiefly Latin and Greek, before Jones and Coeurdoux, but without extending this observation to propose a common linguistic ancestor (Campbell and Poser 2008: 26-28).[18]

As has been noted, the various early European linguists who commented on the similarities among European languages shared a belief in the derivation of these languages from those spoken by the groups of people descended from the three sons of Noah — Japheth, Shem, and Ham — and associated the (yet to be so-named) family of Indo-European languages with one of these three families of people. Almost all these scholars, except Jones, associated the ancestral Indo-European with Noah's son Japheth. Jones preferred to associate it with the descendants of Ham.

This change of son seems to have resulted from at least two factors. First, the addition of Sanskrit to the list of Indo-European languages moved the geographical center of gravity of these languages further to the south while Japhet's descendants were traditionally associated with the north. Ham's descendants, on the other hand were traditionally associated with Africa. Second, Jones was influenced by the rather eccentric ideas found in Jacob Bryant's speculative, three-volume study of ancient mythology first published in 1775-76.[19] Bryant connected the descendants of Ham with the Egyptians and through them with the Greeks and Romans and others, including the Indians. The influence of Bryant, the connection of Greek and Latin with Sanskrit, and, of course, the necessity to ultimately derive all human cultures from one or another of the three sons of Noah seems to be what led Jones to propose a mistaken hypothesis about a historical, linguistic, and geographical connection of the Hamite Hindus with Africa and with a vast array of other peoples. As early as his 1786 discourse on the Hindus, Jones's linked together "*Persians, Ethiopians,* and *Egyptians,* the *Phenicians, Greeks,* and *Tuscans,* the *Scythians* or *Goths,* and *Celts,* the *Chinese, Japanese,* and *Peruvians*" (Jones 1807e: 45-46).

In support of this hypothesis of a common descent from Ham of this ample array of peoples (and their languages) Jones resorted to a highly speculative and, as we now know, patently false etymological identification of Ham's son Cush with the Sanskrit word *kuśa.* Jones claims that *Kuśa* was one of the sons of Brahma and also that "we meet his name again in the family of RÁMA" (Jones 1807h: 200-201).[20] Jones also hesitantly accepted the identification made by the Capuchin scholar, Marco della Tomba, between the Arabic/Hebrew word for Egypt (*misr*) and the Indian surname Miśra, and

[18] Their discussion of these scholars relies in large part on Rocher (1980). Mukherjee (1968: 95) already noted the observations made by the Jesuit Thomas Stevens in 1583 and by the Italian merchant Fillipo Sasseti in 1585. See also Rocher (2000).

[19] For the influence on Jones of Jacob Bryant (and also of Isaac Newton), see the excellent discussion in Trautmann (1997: 41-47).

[20] The son of Brahma claim is doubtful, but one of the two sons of the avatar Rama is named Kuśa.

saw this as an indication of an ancient connection between Egypt and India. In the Bible, Egypt (Mizraim) is one of the sons of Ham, and Raamah is one of the sons of Ham's son Cush. Jones did not specifically cite these latter two coincidences in support of his theory of the common Hamite descent of Egyptians, Indians, Europeans and others, but they probably also contributed to it. In this context, Jones also proposed an unlikely etymological connection between the Egyptian river name, Nile, with the Sanskrit word *nīla,* meaning "blue" (Jones 1807d: 387-390). Jones also speculated about the similarities between Indian and Egyptian ancient monuments and about the physical similarities between the "lips and noses" of some Indian mountaineers of Bengal and Bihar and those of Abyssinian Africans as well as about the African-like curly hair of some sculptures of the Buddha (Jones 1807e: 41-42).

3. The flood and Noah's ark

The influence on Jones of the Biblical history found in the Book of *Genesis* affected his ideas about South Asian prehistory (in the sense of history before written records) quite directly and had largely negative consequences. The obvious problem for Jones and other seventeenth- and eighteenth-century scholars who accepted Ushher's chronology is that this chronology left them with much too little time to explain the spread of human populations throughout the world and the development of the great differences in their languages and cultures. This was especially true after the post-1500 European encounters with the languages and cultures of the Americas and the South Pacific. Recent archaeological and DNA studies have argued convincingly that modern humans first migrated to Asia and Europe from Africa between about 50 to 70 thousand years ago, not 4,370 years ago.[21]

Another problem is that most of the stories in *Genesis* are clearly more myths than historical narratives and are filled with miraculous events that cannot be easily squared with common sense, even if one accepts that God sometimes directly intervenes in human affairs. Jones and other Biblical literalists also had to contend with the fact that *Genesis* does not directly discuss events taking place beyond Egypt and the Middle East. Most interesting in this regard is the story of the great flood itself. As is now well known, the great flood story goes back at least as far as the Gilgamesh Epic of ancient Mesopotamia and was subsequently reworked and included in *Genesis* and also, during roughly the same time period (i.e. in about the first half of the first millennium BCE), in the Indian *Satapatha*

[21] On the DNA-led research on early humans, including the exodus from Africa, the much later spread of the presumed Indo-Europeans, and the subsequent intrusion of Indo-Iranian language speakers into South Asia, see Reich (2018).

Brahmana.[22] Before the nineteenth century, however, the connection made by European Orientalists between the Biblical flood and the Indian flood was most often based, directly or indirectly, on the version of the story found in the *Bhagavata Purana*.[23]

The earliest published identification of the Hindu and Biblical stories of a flood seems to be that made by the Jesuit Orientalist, J.-V. Bouchet, in a 1711 volume of the eighteenth-century series, *Lettres édifiantes et curieuses*. For Bouchet, the identification of the Indian flood story with the Biblical story of Noah is obvious: "The thing is clear, and one need not to be particularly shrewd to see in this account, mixed together with fables and bizarre ideas, the things that the sacred books teach us about the Deluge, the Ark and the preservation of Noah and his family."[24] Bouchet does not indicate from where he got his version of the Hindu story. Although the rivalry between Vishnu and Rudra or Shiva mentioned by Bouchet is not found in the *Bhagavata-purana* version of the story, several details of Bouchet's version do coincide with the *Bhagavata* version.

The Jesuit Orientalist, Gaston-Laurent Coeurdoux also identified the Biblical and Puranic floods, albeit with little detail, in a text written sometime not long before 1776:

> The starting point and beginning of this new age [the Kali Yuga] is precisely the end of the flood, as is clearly indicated in all the Indian books. This [flood] caused the death of all men, with the exception of the seven famous ascetics of India with their wives. Some add [to these] MANOUROU [...] who appears to be Noah himself. They escaped the universal flood by means of a ship piloted by VICHNOU. I do not think that one can find the universal flood more clearly described in [the writings of] any of the various ancient authors from nearly every nation who have spoken of this great event, nor in a manner more faithful to the account by Moses (Murr 1987: vol.1: 146).[25]

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[22] *Śatapatha-brāhmaṇa* 1.8.1 (1972: vol. 1, pp. 216-19). For a rather speculative discussion of these and other flood myths, see Witzel (2012).

[23] Jones, presumably with the help of a native Indian scholar, seems to have read this text directly from Sanskrit. A French translation of a Tamil version of the *Bhagavata Purana* (More 2004) was made by Maridas Pillai in 1769, and this may have been used by Coeurdoux for his discussion of the Noah story. This French translation, however, was not published until 2004. On this topic, see Mukherjee (1968: 105). I thank Will Sweetman for noting that Pillai worked from a Tamil version of the text, not the original Sanskrit as Mukherjee claims.

[24] In Vissière and Vissière (2000: 82). "La chose est claire, et il ne faut pas être bien pénétrant pour apercevoir dans ce récit, mêlé de fables et des plus bizarres imaginations, ce que les livres sacrés nous apprennent du Déluge, de l'Arche et de la conservation de Noé avec sa famille."

[25] "L'époque ou le commencement de ce nouvel âge est précisement la fin du Déluge, très distinctement marqué dans tous les livres Indiens. Il fit périr tous les hommes, à l'exception des Sept fameux pénitents de l'Inde avec leurs femmes. Quelques-uns ajoutent MANOUROU dont j'ai déjà parlé et qui paroît être Noë lui-même. Ils échappérent au Déluge universel par le moyen d'un vaisseau dont VICHNOU se fit le conducteur. Je ne crois pas qu'on trouve le déluge universel plus

In his text, Coeurdoux further notes (correctly) that a traditional Hindu date for the beginning of the Kali Yuga is equivalent to 3102 BCE. He wants to connect this date with the flood, but admits that 3102 BCE does not agree very well with Ussher's date of 2349 BCE for the Biblical deluge. As a possible solution, he notes that calculations based on the Greek version of the Old Testament, the Septuagint, place the deluge in the year 3258 BCE, a date that differs from the Hindu Kali-yuga date by only "one-hundred fifty-six years" (Murr 1987: vol.1: 148).

Sir William Jones identified the two floods in two texts published in 1790 in the second volume of *Asiatick Researches*. One of these texts adds a translation of the relevant passage taken from the *Bhagavata Purana.*[26] Here is the relevant passage from Jones's "A Supplement to the Essay on Indian Chronology":

> [W]hatever be the comparative antiquity of the *Hindu* scriptures, we may safely conclude, that the *Mosaick* and *Indian* chronologies are perfectly consistent; that MENU [i.e. Manu], son of BRAHMÁ, was the *Ádima*, or *first,* created mortal, and consequently our ADAM; that MENU, child of the Sun, was preserved with *seven* others, in a *bahitra* or capacious ark, from an universal deluge, and must, therefore, be our NOAH... [T]he dawn of true *Indian* history appears only three or four centuries before the *Christian* era, the preceding ages being clouded by allegory or fable.

In his essay, "On the Chronology of the Hindus," Jones somewhat surprisingly admits that he was somewhat less than fully confident about the historicity of the Biblical story about Noah: "It is not made a question in this tract, whether the first chapters of *Genesis* are to be understood in a literal, or merely in an allegorical sense: the only points before us are, whether [...] the story of the *seventh* MENU, be not one and the same with that of NOAH. I propose the questions, but affirm nothing" (Jones 1807c: vol. 1: 288). This is apparently the only passage in all of Jones's writings in which he entertains the possibility that the events of the Biblical *Genesis* might not be literally true and, hence, might not have taken place within the short world chronology proposed by Bishop Ussher.

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clairement énoncé dans les divers auteurs anciens de presque toutes les nations qui ont parlé de ce grand événement, ni d'une maniere plus approchante du récit de Moyse."

[26] The two texts are "A Supplement to the Essay on Indian Chronology" (Jones 1807c: vol. 4: n.b. pp. 65-66) and "On the Gods of Greece, Italy, and India" (Jones 1807d: vol. 3, n.b. pp. 332-38). The translation appears in the second text. Jones notes that this latter text was originally written in 1784 and subsequently revised The identification of the two flood stories probably was not included in the original 1784 text (when Jones did not yet know Sanskrit) unless Jones had already read Bouchet's 1711 *Lettre édifiante* or some other early identification likely made by a missionary Orientalist.

4. History and Jones's theological project

In this "Chronology" essay, first written in 1788, Jones not only identified the Biblical and Hindu Deluges, he also used this identification of the two floods as part of his effort to determine the true scope of Hindu chronology. He also relied on a small Sanskrit text called the *Puranarthaprakasa* that had been written for Governor General Warren Hastings by the pandit Radhakanta. In this text Radhakanta gave a summary of the lists of ancient kings found in the Sanskrit Puranas.[27] In the end, however, the help of this text was not enough. Jones failed, in an essay of 69 pages, to make even one correct cross-cultural identification or one correct estimation of the dates of any Indian king, author or hero. S. N. Mukherjee summed up the results of Jones's attempts to unravel the chronology of the early human settlement of India with the remark that "his chronology is totally useless" (Mukherjee 1968: 104).

Nonetheless, in his tenth Anniversary Discourse to the Asiatick Society in 1793, delivered only a year before his death, Jones did manage to unlock one of the principal keys to ancient Indian historical chronology: the identification of Sandracottus of classical Greek sources with the Chandragupta Maurya of the king lists in some of the Sanskrit Puranas (Jones 1807a). In classical Greek accounts, Sandracottus appears as a contemporary of Alexander the Great and his eastern successor Seleucus. If Chandragupta and Alexander met, as the Greek sources claim, it would have been in about 326 BCE. It also appears, however, that sixteen years earlier, in 1777, a lay Orientalist who worked in France, Joseph de Guignes (1721-1800), published an article proposing the same synchronism and identification of Chandragupta with Sandracottus (Guignes 1777). S. N. Mukherjee, in his biography of Jones, ably discusses the somewhat different methods and sources from which Jones and de Guignes arrived at this key historical identification and tentatively concludes that "it is possible that Jones came to the same conclusion independently."[28]

Jones's historical, ethnological and linguistic project for explaining the genealogy of peoples and languages in the early history of mankind is largely contained and developed over a span of seven years (1786-1792) in his third to ninth Anniversary Discourses. Up to the end of the eighth Discourse, he mostly avoids direct references to Biblical history and claims to be founding his historical reconstruction on the basis of the evidence on ancient Greek and Roman sources and on linguistics.

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[27] The text has been summarized and edited by Rocher and Rocher (1994-1995). I thank them for sending me an offprint of the article.

[28] Mukherjee (1968: 101-111; quote from 108). Mukherjee claims that de Guignes worked out the identification in 1772, but it is not clear to me how Mukherjee arrived at this date. See also the detailed discussion of the relevant Greek sources in Trautmann (1971).

At the end of the eighth Discourse, he remarks that "theological inquiries are no part of my present subject," but he also claims that the "first *Hebrew* historian [Moses] must be entitled … to an equal degree of credit … with any other historian." He concludes: "How far that most ancient writer confirms the result of our inquiries into the genealogy of nations, I propose to show at our next anniversary meeting" (Jones 1807g).

If, however, Jones was in fact simply following the evidence, it becomes impossible to understand why, among other things, he consistently insisted on identifying all human groups and all languages as having stemmed from only three original stocks or families, each descended from one of the three sons of Noah: Ham, Shem and Japhet. In the ninth Anniversary Discourse he sets out his version of theory of these three original "races." He notes that his claim that the first race is that "of *Persians* and *Indians,* to whom we may add the *Romans* and *Greeks,* the *Goths,* and the old *Egyptians* or *Ethiops,* [who all] originally spoke the same language and professed the same popular faith, is capable, in my humble opinion of incontestable proof." He then puts the Jews, Arabs, Assyrians, and Abyssinians together in a second racial and linguistic group and puts the Tartars in a third group. The Chinese and Japanese are tentatively (and against linguistic evidence) given "a common origin with the *Hindus*" (Jones 1807h). Jones then reveals what App calls the theological nature of his project by respectively identifying these three groups with the descendant of Noah's sons Ham, Shem, and Japheth. Trautmann, who prefers to see Jones's project as primarily "ethnological," similarly notes that "it becomes clear in the ninth discourse that the entire project is one of forming a rational defense of the Bible out of the materials collected in Oriental scholarship, more specifically a defense of the Mosaic account of human history in earliest times" (Trautmann 1997: 42).[29] Jones concludes noting that since the Mosaic narrative is connected with historical predictions about Christ this "must induce us to think the *Hebrew* narrative more than human in its origin, and consequently true in every substantial part of it, though possibly expressed in figurative language." He continues:

> If MOSES then was endued [*sic*] with supernatural knowledge, it is no longer probable only, but absolutely certain, that the whole race of man proceeded from *Iràn,* as from a centre, whence they migrated at first in three great colonies; and that those three branches grew from a common stock, which had been miraculously preserved in a general convulsion and inundation of this globe (Jones 1807h).

[29] This sentence is also quoted by App (2009: 3).

5. The gradual decline of Biblical literalism

Trautmann has argued that acceptance of this Biblical chronology and history was an almost unavoidable commonplace among European scholars of Jones's time and that Jones's own acceptance of this chronology and history had the positive consequence not only of fostering Jones's genealogical approach to historical linguistics but also of making his Orientalist essays acceptable to a wide range of readers. In a 1998 essay, Trautmann states that "Jones changed the direction of the new Orientalism, showing that Sanskrit literature demonstrated the truth of Christianity. Jones made Hinduism safe for Anglicans" (Trautmann 1998: 99). In his 1997 book, *Aryans and British India,* Trautmann notes that "the work of the Calcutta Sanskritists had a tremendous vogue in Europe in the closing decade of the eighteenth century and the opening decades of the nineteenth" and adds the following:

> What was occurring was a titanic shift of authority. The Asiatic Society gave institutional form and definition to a group of scholar-administrators who were fashioning a new claim for authority over the older Orientalism, a claim that largely succeeded. The vogue for the new Orientalism virtually eclipsed the earlier writings on India that had been authoritative hitherto, including such works as [the 1670 French version of] the Dutch missionary Abraham Roger's … *La Porte ouverte, …* the *Lettres édifiante et curieurses* of the Jesuits (1702-77); the writings of the travelers …, and those of the savants (Trautmann 1997: 30).

When it comes to defining exactly what distinguished the works of these new Orientalists from their missionary and other predecessors, Trautmann notes that "in its own propaganda, the new Orientalism drew authority from its knowledge of the languages of India and opposed it to that of the travelers and missionaries" (Trautmann 1997: 3). The problem here is that the Indian language skills, mainly in Persian and Sanskrit, of the English Orientalists of the eighteenth century and earliest decades of the nineteenth were not necessarily better than the Indian language skills of earlier missionary scholars, as Trautmann admits.

For instance, the Jesuit missionaries Heinrich Roth (1620-1668), Johann Ernst Hanxleden (1681-1732), and Jean-François Pons (ca. 1730) all wrote Sanskrit grammars, although none of them was published before the twentieth century. The Carmelite missionary Paulinus a Sancto Bartholomaeo (1748-1806) was the first European to publish his own Sanskrit grammar in 1790 (much of it borrowed from Hanxleden's earlier grammar).[30] Some of the Jesuit missionaries who were assigned to the

[30] On these early Sanskrit grammars, see Camps and Muller (1988); Rocher (2000); van Hal and Vielle (2013).

Mughal court, most notably Jerónimo Xavier (at court 1595-1614), wrote a number of works in Persian.[31] The Jesuit Roberto Nobili (1577-1656) and the Protestant Bartholomaeus Ziegenbalg (1683-1719) knew and wrote texts in Tamil and also knew at least some Sanskrit.[32] The Jesuit Thomas Stevens (1549-1619) is well known as the author of a "Kristapurana" written in Konkani/Marathi. He also wrote and published a grammar of Konkani.[33] The Capuchin Giuseppe María da Gargnano (1709-1761), who worked mainly in Bihar, wrote a Dialogue between a Hindu and a Christian (1751) in the Hindustani language. His successor, Marco della Tomba (1726-1803), actually met Jones, an interesting encounter described by Jones in his essay "On the Gods of Greece, Italy and India" (1807d). Marco translated various religious texts from Hindustani to Italian including a part of Tulsidas's famous *Ramacharitmanas*.[34] Several eighteenth-century Jesuit missionaries in India wrote letters about Indian culture to their clerical superiors that were published (first in French, then in other European languages) in thirty odd volumes of the popular series *Lettres édifiantes et curieuses*. All these missionaries had at least to learn how to preach in the local languages where they lived. Some of the longer-term early travelers also learned Indian languages. For instance, François Bernier (620-1688), who was associated with the Mughal court for almost eleven years, claims to have translated several European texts into Persian.[35]

In comparison, the earliest Sanskrit grammars by British Orientalists, all of which used English as the instruction language, were written late in the eighteenth century and early in the nineteenth.[36] The earliest was evidently that of Charles Wilkins (1749-1836) who began work on it as early as 1783. It was not published until 1808. Henry Pitts Forster began a Sanskrit dictionary project for the East India Company government in Bengal that was to include a Sanskrit grammar. He submitted a draft in 1804, but the first part was published only in 1810. In 1802 Henry Thomas Colebrooke (1765-1837) and William Carey (1761-1834) submitted projects for the publication of Sanskrit grammars to the East India Company government in Bengal. Colebrooke, who worked directly for the Company, managed to get his grammar published in 1805. Carey was a Baptist missionary in Bengal who published Bible translations into several Indian languages. Nonetheless, he also worked closely with the British administrator-Orientalists and was employed by Fort William College. His Sanskrit

[31] On Catholic Orientalists in the Mughal court, see Alam and Subrahmanyam (2009).

[32] On Nobili and Ziegenbalg, see Zupanov (1999), Nobili (2000), and Singh (1999).

[33] See Muller (1986) and the Wikipedia entry on Stevens (Stephens).

[34] On Giuseppe Maria and Marco, see Lorenzen (2003, 2010 and 2015).

[35] See Bernier (1981).

[36] The information in this paragraph comes mostly from Rocher and Rocher (2012: 64-75).

grammar was published by his Baptist Mission Press in Bengal in 1806. The eighteenth-century British Orientalists, Nathaniel Brassey Halhed and Alexander Dow, both knew Persian well and translated Persian texts to English. Most of the eighteenth-century British administrators, traders, and soldiers had to learn some vernacular languages, mostly Bengali and Hindustani, but few seriously studied these languages or their literatures. Halhed, however, is said to have known Bengali literature well and published his already mentioned grammar of Bengali in 1778.[37]

What then distinguished the work of these new Orientalists, who were mostly Englishmen and Scots living in the Calcutta and other British territories in India, from the older Orientalists, who mostly were associated (directly or indirectly) with the French and Portuguese colonies? In my opinion, not much. The main difference may simply be the fact that the early British Orientalists were mostly secular administrators who wrote in English and were Protestants while most of the non-British Orientalists were missionaries who wrote in Portuguese, Italian, French or Latin and were Catholics. Nonetheless, not all the Catholic Orientalists were missionaries. Xavier and Zupanov's recent book on Catholic Orientalism in India does much to show that before the start of the nineteenth century there was also a considerable body of Oriental scholarship produced in the Portuguese and French colonies in India not only by missionaries but also by government servants and non-Church intellectuals.[38] This is a topic that still needs further research. Conversely, a few of the early Orientalists associated with the British imperial project, most notably William Carey (1761-1834) and William Ward (1769-1823), were Protestant missionaries.[39]

In two important essays, Trautmann argues that Ussher's world chronology and Biblical literalism survived intact as a scholarly consensus throughout the eighteenth century and, with some changes, on into the second half of the nineteenth century.[40] One such change was that many scholars — in order to explain such geological anomalies such as sea fossils on the tops of mountains — began to argue that the "days" of the first five days of the Biblical creation were metaphorical, not actual days, but that from the time of the creation of Adam and Eve history could still follow the short world chronology. For example, Oxford University's first reader in geology, Reverend William Buckland, in his Inaugural Lecture of 1819 subtitled "Connexion of Geology with Religion Explained," argued that geology indicated the truth of the Biblical claim of a universal deluge in a not too distant past. At the same time, however, he acknowledged that geological evidence in the form of| fossils, the

[37] See Marshall (1970: 5-13).

[38] See Xavier and Zupanov (2015).

[39] See Potts (1967).

[40] See especially Trautmann (2009: 3-52; n.b. 7-10; essays of 1991 and 1995).

many layers of sedimentary rocks, and coal deposits must come "from the wreck and ruins of disturbances that affected our planet long before the existence of the human race" (Buckland 1820: 12, 24).

What finally broke the consensus in favor of the short chronology for humans, Trautmann claims, was a sudden and dramatic intellectual breakthrough: in 1859 the geologist Sir Charles Lyell gave a speech revealing that archaeological discoveries in the Brixham Cave excavation had found human remains together with the remains of extinct animals that lived long before Ussher's date for the Biblical Adam and Eve. Lyell's 1859 speech — and also the publication of Charles Darwin's *On the Origin of Species* in the same year and Darwin's *The Descent of Man* in 1871 — undoubtedly imparted near fatal blows to the short world chronology and to Biblical literalism. Nonetheless, one should also not ignore the fact that outside of the circle of conservative Christian scholars and church-connected universities such as Oxford the consensus in favor of Biblical literalism had already suffered a gradual but significant weakening beginning from at least as early as the seventeenth century. App, for instance, argues that as a result of the "Europe-wide quest for origins" in the seventeenth and eighteenth centuries, "the *Genesis* narrative, which had been a solid basis for so many centuries, slowly crumbled under the massive weight of accumulating evidence" (App 2009: 4).

The early attacks against the Christian short chronology and Biblical literalism came from two quite different directions: first, from secular, often anti-Church, intellectuals associated with the European Enlightenment and, second, from Biblical scholars — including both secular Enlightenment intellectuals and Christian and Jewish scholars — who initiated textual criticism of the Bible. By the end of the eighteenth century, it seems clear, these two groups of scholars had already considerably weakened the Christian consensus about ancient chronology and Biblical history. Early nineteenth-century scholars tied to European colonial bureaucracies and European universities were still reluctant to directly challenge this Christian consensus, but they could and did simply bypass or ignore most historical and religious topics that were tied to this consensus.

The anti-Christian and anti-religious ideas of many Enlightenment thinkers are well known and do not need to be reviewed in detail. Nonetheless, the reaction of two Enlightenment thinkers to the story of Noah and the universal flood seems worth a brief discussion since this story figures so prominently in texts by Jones and other eighteenth-century Orientalists in India. The European voyages of discovery in the fifteenth and sixteenth centuries undoubtedly did much to indicate the implausibility of the Biblical story of Noah and the flood. Nonetheless, the Christian consensus was still strong enough, even in the eighteenth century, to make it difficult to attack the story directly. As an example, the entry on *"Déluge"* in Diderot's famous *Encyclopédie,* one mostly written by Nicolas

Antoine Boulanger (1722-1759), gives 2293 BCE as the likely date of Noah's flood, and then discusses whether it was general or partial, what were its causes, and what were its likely effects (Boulanger 1751: D28-D35). Despite assuming the existence of the Biblical flood, however, Boulanger omits the story of Noah and the ark from the discussion and disregards various miraculous elements of the Biblical story.

The situation changed, rather dramatically, with the comments of Voltaire (1694-1778). Voltaire applied his trademark satire and eye for the absurd to ridicule many Biblical stories including the flood and Noah's ark. Referring to a writer who defended the incredible holding capacity of the ark, Voltaire commented: "He has forgot to say with what food the prodigious quantity of carnivorous animals could have been fed, and to inform us how eight persons could suffice, during a whole year, to feed and water all these animals and empty their excrement" (Voltaire 1777, 22-23; 2004, 773-775).[41]

Also important in the gradual breaking of the European scholarly consensus in favor of Biblical literalism and the short world chronology was the gradual development of textual criticism of the Bible by such authors as Thomas Hobbes (1588-1679), Isaac La Peyrère (1596-1676), Baruch Spinoza (1632-1677), Richard Simon (1638-1712), Pierre Bayle (1647-1706), John Toland (1670-1722), David Hume (1711-1776), and Dennis Diderot (1713-1784). Spinoza's work on the principles of biblical criticism was particularly important.[42] In his final, Eleventh Anniversary Discourse of 1794, Jones contrasts the faith in God of the Hindus and Muslims with the 'pantheism' of Spinoza and Toland, calling their view an "insane philosophy" (Jones 1807f).[43]

Spinoza's views on the Bible and Biblical criticism are set out in his *Tractatus Theologico-Politicus.* In this text he has nothing to say directly about Noah's flood, but he makes it more than clear that he does not accept any claim of historical accuracy for the Bible without independent confirmation. For Spinoza, rational thought was the only possible basis for truth. As a consequence, he rejected all Biblical prophesies and miracles. For him, it was wrong either to try to find hidden rational explanations for Biblical prophesy and miracles or to attempt to modify or reinterpret the Biblical texts to make them conform to rational thought. Reason and theology were, in his view, totally separate domains:

[41] In both these texts Voltaire also mocks the Biblical claim that the flood could have risen above the highest mountains. For a more general discussion of Voltaire's criticisms of the Bible, see Schwartzbach (1971).

[42] On these well studied but less widely known topics, see Hahn and Wiker (2013).

[43] Jonathan Israel (2001: 609) notes that "Toland was regularly classified as 'Spinozist' in the early eighteenth century....", a position that Israel largely supports.

> The sphere of reason is, as we have said, truth and wisdom; the sphere of theology is piety and obedience. The power of reason does not extend so far as to determine for us that men may be blessed through simple obedience, without understanding. Theology tells us nothing else, enjoins on us no command save obedience, and has neither the will nor the power to oppose reason: she defines the dogmas of faith (as we pointed out in the last chapter) only in so far as they may be necessary for obedience, and leaves reason to determine their precise truth: for reason is the light of the mind, and without her all things are dreams and phantoms (Spinoza 1891: 194-195).

Such ideas may have been regarded by Jones as part of Spinoza's "insane philosophy," but these sorts of skepticism about Biblical literalism were not just fringe views in Jones own time and certainly not in the nineteenth century. Ronald Hendel, the author of a recent "biography" of the book of *Genesis*, comments: "By the late eighteenth century, many people — and most biblical scholars — came to view the early stories of *Genesis* as ancient fables or myths." As Hendel also notes, however, "there was still room for believers to assume that science and Scripture could be harmonized — with gaps, day-ages, or other devices" (Hendel 2013: 182). Hendel locates the final end of this uneasy truce between Biblical believers and skeptics in about 1860 and attributes the loss of faith in biblical literalism mainly to the influence of Charles Darwin's *On the Origin of Species* of 1859 and to that of a popular book on biblical scholarship titled *Essays and Reviews* published in 1860 (Hendel 2013: 182-86).[44]

In short, the idea that there being a sudden and dramatic "revolution in ethnological time" in about 1860 seems to be somewhat of an exaggeration. What perhaps was sudden and dramatic was the effect on scholarship, particularly in the universities, of the license that the work of Lyell and Darwin gave to scholars to openly abandon lip-service to Christian doctrines that had already been discarded by most intellectuals, even many Churchmen, from around the beginning of the nineteenth century and even before. Jones's own adherence to Biblical history was already out of date with respect to many, if not most, secular, non-priestly intellectuals of his age who either openly rejected, covertly side-stepped, or paid only unenthusiastic lip-service to this history.

[44] Note the contrast here with Trautmann's claim that it was Lyell's 1859 speech about the Brixham cave discoveries rather than Darwin's book that tipped the scales against the short chronology. Trautmann's preference for Lyell's speech has important implications for his discussion about the character of the emerging discipline of social anthropology, but this topic is beyond the scope of the present essay (see Trautmann 2009 [1991]).

6. The paradigm shift

Although many Christian scholars, including those who worked in Europe, did not openly abandon the short Biblical chronology until sometime after 1860, there was a clear, though gradual, paradigm shift or epistemological break in the study of ancient Indian history in the first few decades after 1800. An important element of this gradual paradigm shift was a general sidestepping of Biblical history. From about 1800, the Biblical chronology and *Genesis* stories were increasingly simply ignored rather than either being explicitly utilized or directly challenged. As Rosane and Ludo Rocher have noted, a key role in this paradigm shift was played by the English scholar Henry Thomas Colebrooke (1765-1837). The young Colebrooke arrived in India in April 1783, a few months before the older William Jones (1746-1794). Colebrooke began his forays into oriental scholarship in 1786, but he did not seriously take up the study of Sanskrit until about 1792. After Jones's death in 1794, Colebrooke was recruited by the East India Company to take charge of work on a digest of Hindu Law. Nonetheless, he did not begin to take an active part in the Asiatick Society until about 1804. He returned to England in 1814 and lived there until his death in 1837. The Rochers comment:

> Colebrooke is often referred to as a successor to Sir William Jones. [...] But his work represented a paradigm shift. He shunned speculations regarding the pre-historical origins of and connections between families of nations in which Jones engaged, focusing instead on historical, painstakingly documented survey of Sanskrit literature, which constituted a first database for a new philology. [...] Early German Indologists, who approached Sanskrit as another classical language and wished Sanskrit documents to be treated according to the demanding rules of classical philology, uniformly singled out Colebrooke as the only British scholar who lived up to their expectations (Rocher and Rocher 2012: 202).

Many of the paradigm-shifting changes in Orientalist scholarship occurred in the period from 1815 to 1835 when new information about early Middle Eastern and Indian history based on epigraphy, archaeology and historical linguistics gave scholars a much more solid chronological frame for ancient Indian history.[45] Even before these dates, not only Colebrooke but most European Orientalist

[45] App (2010: 188-91, 479) argues, as I have done here, that there was a strong continuity between missionary scholarship and that of the early administrator and academic Orientalists. He emphasizes the gradual nature of the changes of Orientalist scholarship in a secularizing direction over the course of the eighteenth and early nineteenth centuries.

historians had abandoned the attempt to reconstruct a Bible-based universal early history of the human race and concentrated their efforts on more tractable topics like the reconstruction of Indian history from the late fourth century BCE, the time of Candragupta Maurya.

The new historical sources that became available in roughly this period between 1815 and 1835 rendered the early histories based on Bible legends exceedingly improbable and discouraged speculations such as those about the Egyptian origins of the Brahmins of India. The new sources included the many ancient Egyptian inscriptions made readable after the decipherment of hieroglyphs by Champollion in 1822 (which uprooted the idea of any close ancient linguistic, ethnic or religious affinities between India and Egypt); the transcription and translation of numerous Indian inscriptions; the decipherment of the Brahmi script in 1837 and the subsequent reading of Asoka's inscriptions; the development of the idea of systematic sound shifts in historical linguistics by Franz Bopp and Rasmus Rask between 1816 and 1818; the gradual editing, translation, and study of numerous key Sanskrit texts; the establishment of the first of several European academic chairs of Sanskrit in France in 1814; and the beginnings of Indian archaeology. The new Orientalist scholarship that came out of these new developments is notably different from, and undeniably better than, that of the early modern Orientalism that precedes it. A key element in the paradigm shift was the conscious neglect, if not an open denial, of the stories of *Genesis* and Ussher's short chronology.

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Nonetheless, App (2010: xiii) does allow that "the development of Orientalism and its gradual emancipation from biblical studies" was a process "that around the turn of the eighteenth-century produced a paradigm change."

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