

Prologue on colonialism and mathematics

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Macaulay in 1835¹ tricked Indians into accepting colonial education purportedly for the sake of science, in which, he said, the West was immeasurably superior. It is little understood that the assertion of Western superiority during colonialism was but a **mutation**² of the earlier **superstitious**³ assertion of White superiority during centuries of slavery, segregation and apartheid. That earlier claim of White superiority was itself a mutation of an even earlier claim of Christian superiority,⁴ which was used to morally justify the genocide of 100 million natives of Americas and Australia.

The post-Nicene church, after it married the state, quickly realized that its new claims of religious superiority were rejected by non-Christians. Therefore, as early as the 5th c. it advanced a secular argument for superiority, through false history, as in Orosius' *History Against the Pagans*. This technique of using a false history went viral during the Christian Crusades against Muslims, when all scientific texts looted from Muslims were somehow attributed to early Greeks, regarded as the sole friends of Christians, though Muslims had openly acquired knowledge of mathematics and astronomy from Indians, from the 7th c. This Greediotic fantasy enabled those looted books to be declared a Christian inheritance, hence theologically correct,⁵ and those books⁶ (such as "Euclid") were used as texts in the first European universities (such as Oxford, Cambridge, and Paris) set up by the church during the Crusades,⁷ to catch up with Muslims in knowledge.

This very same false history of science was later used to support the subsequent claims of White and Western superiority, with a mere change of labels: the early Greeks were now re-labeled as Whites or Western respectively as suited immediate political convenience. All scientific knowledge

1 T. B. Macaulay, 'Minute on Education', 1835, <http://www.languageinindia.com/april2003/macaulay.html#minute>.

2 C. K. Raju, "Euclid" Must Fall: The "Pythagorean" "Theorem" and The Rant Of Racist and Civilizational Superiority — Part 1', *Arumaruka: Journal of Conversational Thinking* 1, no. 1 (2021): 127–55, <https://doi.org/10.4314/ajct.v1i1.6>; 'Euclid' Must Fall, 2021, <https://www.youtube.com/watch?v=kAP1BcK8mLE>. Keynote at universities of Tübingen and Pretoria.

3 Josiah Priest, *Bible Defence of Slavery: To Which Is Added a Faithful Exposition of That System of Pseudo Philanthropy, Or Fanaticism, Modern Abolitionism ... and Proposing a Plan of National Colonization* (W.S. Brown, 1851).

4 C. K. Raju, 'The Meaning of Christian "Discovery"', *Frontier Weekly* 47, no. 29 (2015): 25–31, <http://www.frontierweekly.com/archive/vol-number/vol/vol-47-2014-15/47-29/47-29-The%20Meaning%20of%20Christian%20Discovery.html>. Also, update <https://www.youtube.com/watch?v=34aF4-rOamQ>.

5 C. K. Raju, *Is Science Western in Origin?*, Dissenting Knowledges Pamphlet Series (Multiversity, Penang, 2009).

6 C. K. Raju, 'How to break the hegemony perpetuated by the university: decolonised courses in mathematics and the history and philosophy of science (Arabic)', in *Culturalisation of Humanities: Vision and Experiments. (Proceedings of the International Conference on Culturalization of the Humanities, held in Beirut on 20-21 November 2018.)* (Beirut: Al Maaref University, 2019), 77–114, <http://ckraju.net/papers/Beirut-paper%20for%20iiias%20journal.pdf>; Raju, C. K., 'How to Break the Hegemony Perpetuated by the University: Decolonised Courses in Mathematics and the History and Philosophy of Science', *Studies in Humanities and Social Sciences* 26, no. 2 (2019): 86–109.

7 trans Dana C. Munro, *Translations and Reprints from the Original Sources of European History, No. 3, The Medieval Student*, vol. II: No. 3 (Philadelphia: University of Pennsylvania Press, 1897).

was now attributed not to “Christians and their only friends, the early Greeks”, but to Whites and West, to suit the major source of income from slavery or colonialism respectively.

Considering that our entire education system was changed, we should have carefully cross-checked that (false) history of science, and actively debated the related claim of superiority. But we never did so, because colonial education made it impossible for us to do so.

Thus, Macaulay lied to us, when he dangled the bait of science through colonial education. As he explained at length in a candied speech in British parliament in 1847,⁸ he regarded education (for the British poor) as **a means of suppressing revolts**, which were greatly feared in Europe at that time. (A spectre was then haunting Europe!) And colonial education came to India in a big way only after the Indian revolt of 1857.⁹

How did education suppress revolts? Because colonial education then was 100% church “education”.¹⁰ Church power rests on faith, hence it **taught** faith to those it “educated”, by indoctrinating them into **mental subordination**. Because of the close church-state nexus in Europe, it taught subordination to authority, not only of the church but also of the (Western) ruler, in this case, the colonizer (whether the colonizer was British, French, Spanish, Dutch or Portuguese). The colonizer, in turn, needed this support because the colonizer was militarily weak, especially in India.¹¹

The colonised failed to understand this **secret weapon of colonialism**: church indoctrination through colonial education. The central teachings of colonial education were (1) “West is superior, ape it to become superior”, and (2) “trust the West mistrust the rest”. The teaching (1) is manifest, for example, in idiots wearing suits in the Delhi summer and feeling superior. More seriously, because of (2), we blindly trusted the coloniser and in two centuries we never cross-checked the veracity of that false history of science, used to change our entire education system. Indeed, we **refuse** to do so today. For every question the one and only answer is “have faith, trust the West, distrust the skeptic”.

For example, today colonial education (e.g. NCERT class IX, math text¹²) teaches the church myth of “Euclid” to propagate church superstitions through the unexpected route of mathematics. The pretext (told to the student) is that this teaches a “superior” axiomatic (formal) mathematics, unique to the West. (Recall Macaulay.) As regards the historical aspect of the claim, this is a classic example of knowledge obtained from Muslims during the Crusades being attributed to an unknown

8 T. B. Macaulay, *Speech to the House of Commons, 18 April 1847*, vol. IV, Speeches of Lord Macaulay, 1847, http://www.gutenberg.org/files/2170/2170-h/2170-h.htm#2H_4_0031.

9 It was not about clerks, and contrary to the BJP 2009 manifesto, Macaulay said nothing good about India. C. K. Raju, *Ending Academic Imperialism: A Beginning* (Penang: Citizens International, 2011).

10 The first attempt to introduce secular education in Britain was the elementary education act T. Preston, *Elementary Education Act 1870* (London: William Amer, 1870), <https://archive.org/details/elementaryeduca01britgoog>. Needless to say, higher education, throughout Europe, was set up by the church during the Crusades. See, for example, the papal bull related to the University of Paris which put it entirely under the control of the Bishop of Paris. trans Dana C. Munro, *Translations and Reprints from the Original Sources of European History, No. 3, The Medieval Student*, vol. II: No. 3 (Philadelphia: University of Pennsylvania Press, 1897).

11 This is clear from the facts that (1) it took the colonizer 250 years after the arrival of Vasco to achieve a first military victory, (2) during which time [the British governor general was literally rubbing his nose on the ground in front of Aurangzeb, begging pardon](#), (3) the rapidity with which the British were overthrown in 1857.

12 <https://ncert.nic.in/textbook.php?iemh1=5-12>.

early Greek,¹³ to claim it as a Christian/White/Western inheritance. There is no evidence for even the existence of Euclid and plenty of **counter evidence** that he (or anyone near his purported time) was **not** the author of the book attributed to him.¹⁴ Further, the undeniable fact is that there is not a single axiomatic proof in the “Euclid” book,¹⁵ and the first axiomatic proofs of the propositions in it was given by David Hilbert¹⁶ in 1899.

Finally, the undeniable fact also is that the method of axiomatic proof, or proofs which **prohibit reliance on empirical facts**,¹⁷ were used in the Christian theology of reason. Why? Because church dogma is incompatible with facts therefore the church invented a unique way of reasoning without facts, which enabled it to claim that any desired dogma was proved by reason. This “god-knowledge” (theology) developed during the fanaticism of Crusades, or the religious war against Muslims, to meet church political requirements of being one up on superior Muslims: who had a (different) Islamic theology of reason (aql-i-kalam).

While this technique of reasoning by prohibiting facts (“beware of being deceived by what you see”, as NCERT class I/X text says) was critically useful to the church, this way of reasoning by prohibiting facts is inferior for applications of mathematics to science and technology.

But the total mental subjugation of the colonized to Western authority through colonial education makes it impossible today to cross-check false church myths such as “Euclid”. Thus, NCERT when asked for **primary** evidence of “Euclid”, gave a list of Western **tertiary** math school texts which mention Euclid.¹⁸ When it was pointed out that the demand was for primary evidence, the NCERT gave a longer list of tertiary Western texts.¹⁹ Its stated policy is that “trust the West” equals evidence, hence all Indian students must accept without question whatever is stated on Western authority. This is the unnoticed “science” that colonial education brought: blind faith in the West!

The colonially educated students are worse than babu-s. A student of IIT K asked “**who** are you to challenge Euclid?”, as if students have no right to be skeptical of the myths in their school texts, and one can only question when acknowledged as someone great by the West. He went on to abuse me in a vile way (from his official email ID²⁰), abusing the non-West is the common counterpart of Western boot licking. Apparently his brain was so damaged that he thought abusing me provides primary historical evidence for Euclid!

Likewise, the book attributed to “Euclid” has no axiomatic proofs in it. But we are told to do axiomatic mathematics because Western/church authority tells us a nonexistent “Euclid” **intended**

13 Raju, *Is Science Western in Origin?*

14 C. K. Raju, *Euclid and Jesus: How and Why the Church Changed Mathematics and Christianity across Two Religious Wars* (Penang: Multiversity and Citizens International, 2012).

15 C. K. Raju, “Euclid” Must Fall: The “Pythagorean” “Theorem” and the Rant of Racist and Civilizational Superiority - Part 2’, *Arumaruka: Journal of Conversational Thinking* 1, no. 2 (2021): 57–105, <https://doi.org/10.4314/ajct.v1i2.5>; C. K. Raju, ‘Racism in the Math Classroom: “Pythagorean Theorem” and the Two Myths of “Euclid”’, Medium, 3 February 2022, https://medium.com/@c_k_raju/racism-in-the-math-classroom-pythagorean-theorem-and-the-two-myths-of-euclid-c83da308bda4.

16 David Hilbert, *The Foundations of Geometry* (The Open Court Publishing Co., La Salle, 1950), <http://ckraju.net/geometry/Hilbert-Foundations-of-Geometry.pdf>.

17 C. K. Raju, ‘गणित बनाम मैथमेटिक्स [Ganita vs Mathematics]’, *Himanjali* 20, no. July-December (2020): 34–44.

18 <https://ganita.net/ncert-unable-to-produce-evidence-for-euclid/>

19 <https://ganita.net/second-grievance-against-ncert/>

20 Full email available on request.

to give axiomatic proofs which are nonexistent in the book attributed to him. As is well known, any theory can be defended against any contrary facts by piling on the hypotheses. In fact, the author of the “Euclid” book never intended any axiomatic proofs: it was a book in the tradition explained by Plato²¹ on mathesis or arousal of the soul, using the notion of the soul cursed²² by the church (because it was equitable), hence unacceptable to it.

And why is the axiomatic method of reasoning (which prohibits any reference to the empirical) “superior” for applications of math to science and technology, which accept the empirical at the foundational level? Because there is no solid reasoning to claim its superiority, the NCERT text lies that Greeks were the only people to use reasoning in mathematics. This is an excessively brazen lie: for example they Nyaya sutra 2²³ explains the use of deductive reasoning (अनुमान) in proof, and this was actually used in mathematics.²⁴ However, on the Indian notion of proof the प्रत्यक्ष or empirically manifest is the first means of proof as in science. Admitting this would therefore call into question whether axiomatic mathematics is appropriate for science. Intuitively recognizing axiomatic mathematics as a superstition, like astrology, in the last 10 years, despite numerous invitations,²⁵ not a single university mathematician has shown the courage to debate this issue publicly, and to justify in public debate the purported superiority of the mathematics which is taught in the classroom to students. If not a single math teacher in India can justify what they teach in the classroom, there is something very wrong either with Indian math teachers or with the subject of formal mathematics.

Actually **formal or axiomatic math** is irrelevant for practical applications of math to science and technology, such as sending rockets to the moon, for all which what is used is **normal math** (which accepts empirical proof and inexactitude). A very simple proof of this is that all such practical calculation are today done on computers which cannot use “real numbers” which require infinite memory, hence use [floats \(of 32, 64 etc. bits\)](#). But **formal math has the political advantage** (for the West) that it forces total reliance on “superior” Western authority to decide truth and content in mathematics.²⁶ This is a clear **disadvantage** for the non-West since it enables the West to control mathematical knowledge and through it science.

The irrelevance of axiomatic math for practical applications becomes abundantly clear if we examine the real history of mathematics. The simple fact, which needs to be hammered home 10,000 times, is that Europeans were excessively backward ([at least 3000 years behind Indians and](#)

21 Plato, *Meno*, trans. Benjamin Jowett, accessed 28 February 2021, <http://classics.mit.edu/Plato/meno.html>.

22 C. K. Raju, *The Eleven Pictures of Time: The Physics, Philosophy and Politics of Time Beliefs* (Sage, 2003) Chp. 2 “The curse on “cyclic” time”.

23 Satish Chandra Vidyabhushana, *The Nyaya Sutras of Gotama* (Allahabad: Pāninī Office, 1913).

24 <https://www.youtube.com/watch?v=d85UOuY0DFU>, and <http://ckraju.net/papers/presentations/images/Proof-table.html>.

25 For a general call for debate and minutes of an informal conversation with M. S. Raghunathan, Padma Bhushan, see <http://ckraju.net/issa/conversation-draft-minutes.html>. Also see <http://ckraju.net/papers/Sinclair-invitation-to-debate-NCERT-math-texts.pdf> (invite to Pervin Sinclair, former Director, NCERT), <https://twitter.com/CKRaju14/status/1495195375459651587> (invitation to Nandita Narain, who teaches real analysis at Stephen’s College), etc.

26 C. K. Raju, ‘Decolonising Mathematics’, *AlterNation* 25, no. 2 (2018): 12–43b; C. K. Raju, ‘The Church Origins of (Axiomatic) Math’, Medium, 21 June 2022, https://medium.com/@c_k_rajua/the-church-origins-of-axiomatic-math-e08036dbe29d.

[black Egyptians](#)) in mathematics, even in elementary arithmetic, but hide the fact by censoring²⁷ any mention of it. Hence, they had no choice but to abandon their inferior native Roman arithmetic and adopt the efficient Indian arithmetic, which they foolishly called Arabic numerals. This was foolish, not because they got it from the Arabs who ruled Spain, but because this terminology was due to the foolish thought that the only difference between Indian and Roman arithmetic was in the **shape** of the numerals.

Actually, the key difference is the **place value system**, used in India since Vedic times (Yajurveda 17.2), but unknown to Romans and Greeks.²⁸ The place value system allows efficient arithmetic needed for commerce; hence Europeans adopted the Indian system. At the same time, they were confused by the place value system, and especially the zero which it uses: the proof is that Florence passed a law against zero in 1299. It should be noted that European confusion about Indian arithmetic, such as negative numbers, persisted until the end of the 19th century.²⁹ This confusion is manifest in the writings of a famous professor of mathematics from University College London, Augustus the Morgan.

Because of their poor arithmetic skills, and ignorance of fractions, Romans and Greeks had very poor science: this is manifest in the extremely unscientific Roman calendar.³⁰ One does not have to consult any texts for this, for we still use this Christian calendar, which is unscientific despite numerous reforms. The calendar is also an example of how we superstitiously³¹ accepted an inferior science as superior, though that damaged our interests. Particularly, the Western calendar has no concept of rainy season, whereas the monsoon is vital to our economic interests, and the rainy season is defined on the Indian calendar.

Contrary to what the Indian calendar reform committee stated, the monsoon does **not** depend on the heat balance alone, but on the moisture balance, which depends on global atmospheric circulation, which is likely to be affected by lunar tidal forces (on the atmosphere), which (like sea tides) depend on the phases of the moon, and even on the 18.6 year periodicity of the lunar nodes. But as is manifest, in 2000 years the West could not manage to get the months in tune with the phases of the moon: the months on the Roman-Christian calendar have 28, 29, 30, 31 days none of which corresponds to a lunar cycle. But they have the stock rhetoric that every stupidity or idiosyncrasy of theirs is “superior” and must be aped.

27 C. K. Raju, ‘Black Thoughts Matter: Decolonized Math, Academic Censorship, and the “Pythagorean” Proposition’, *Journal of Black Studies* 48, no. 3 (2017): 256–78, <https://doi.org/10.1177%2F0021934716688311>; C. K. Raju, ‘To Decolonise Math Stand up to Its False History and Bad Philosophy’, in *Rhodes Must Fall: The Struggle to Decolonise the Racist Heart of Empire* (London: Zed Books, 2018), 265–70; C. K. Raju, *Mathematics, Decolonisation and Censorship*, 2017, <https://kafila.online/2017/06/25/mathematics-and-censorship-c-k-raj/>.

28 C. K. Raju, *Refutation of the Aryan Race Conjecture: The Arithmetic Evidence and Conquest-of-Greeks Theory* (Delhi: Kant Academic Publishers, 2022).

29 C. K. Raju, ‘In Black History Month: A Response to Nature’s Editorials on Decolonising Mathematics’, *Medium* (blog), 26 February 2023, https://medium.com/@c_k_rajua/in-black-history-month-a-response-to-natures-editorials-on-decolonising-mathematics-cadc124fb2c8.

30 C. K. Raju, *Refutation of the Aryan Race Conjecture: The Arithmetic Evidence and Conquest-of-Greeks Theory*.

31 *A Tale of Two Calendars - Dr C K Raju - India Inspires Talks* (New Delh, 2015), <https://www.youtube.com/watch?v=MvpuC7Dg4e0&feature=youtu.be>; C. K. Raju, ‘A Tale of Two Calendars’, in *Multicultural Knowledge and the University*, ed. Claude Alvares (Penang: Multiversity, 2014), 112–19.