



BACKGROUNDER

1. Foundation

ZerOrigIndia Foundation, hereafter ZOI, is a non-profit organization granted ANBI status by the Dutch Tax Office. We aim to elucidate the origin of the numeral "zero" in the history of mankind as to date it remains unresolved.

2. Background

There are longstanding conjectures that the origin of "zero" lies in ancient India, but to date there been no incontrovertible proof nor consensus among scholars. Our working hypothesis is that the invention of the mathematical numeral zero required the prior evolution of a sophisticated concept of 'nothingness' or its derivative 'emptiness'. Other ancient cultures (Egyptian, Babylonian, Greek, Arabic, Mayans, etc.) could certainly have played an important role as either independent co-inventors or disseminators of zero.

3. Goal

ZOI aims to clarify the issue, primarily by examining closely on this point what extant evidence there may still be, including: (copies of) Ancient manuscripts / religious / philosophical treatises; Epigraphy; Stone inscriptions; Archaeological sites; Iconography; Calendrics; Numismatics; (copies of) Architectural (temple) blue-prints; Disparate contemporaneous fourfold logic vs. traditional twofold logic, among others .

4. Realisation

We aim to formulate four Ph.D or postdoc programs for qualified researchers proficient in ancient vernaculars. They will be surrounded by a team of part-time advisers from many different academic disciplines: mathematicians, natural scientists, experts in the history of ancient mathematics and astronomy, archaeologists, etc.

5. Advisers

ZOI is currently in contact with some of the most prestigious universities in the world. In order not to bias outcome, participation of academics from all countries and regions that may have played a role in the invention of zero will be actively solicited.

6. Milestones

- The Foundation organized two Camp Zero workshops in 2016 and 2017 attended by a host of academics to brainstorm on a roadmap for the in-depth research program into zero's origin.
- Formulation of a Position Paper to provide an overview of the present status of what is known about zero's origin and an Executive Summary drafted by the participants outlining the various fields involved (appended below).
- Compilation of a *Monograph on Zero*, a collection of articles on the origin of zero or else its significance in the field of expertise of the academic concerned.
- **A proposed associated *International Conference-cum-Workshop on Zero* in May of 2021, to be co-organized together with Vrije Universiteit, the Netherlands (host); DSVV University, India; University of Latvia and Amir D. Aczel Foundation, and the ZerOrigIndia Foundation, where the contributors to the *Monograph on Zero* will be able to present and discuss their papers. Please find list of speakers to be invited below to be augmented by a few more speakers/participants in the run-up to the event.**
- Video endorsements by Dr Karan Singh, India's Cultural Ambassador, and by the Head of Mission H.E. Mr Venu Rajamony, Ambassador of India in the Netherlands (below).
- Ample media attention in the Netherlands (major national papers), USA, Gulf States, Pakistan and India, including most recently by the BBC and an online platform devoted to Values & Foreign Policy (appended below).

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7. Contributors to the Monograph on Zero / Speakers International Conference-cum-Workshop on Zero at Vrije Universiteit, Amsterdam:

1. Prof. Sharda Nandram, Vrije Universiteit, Faculty of Religion and Theology, Amsterdam, the Netherlands
2. University of Latvia, Professor Dr Marcis Auzinsh
3. DSVV University, India – Dr Chinmay Pandya, Pro-Vice Chancellor
4. Amir D. Aczel Foundation (Cambodian team) – Co-directors Mrs Debra Aczel and Ms Miriam Aczel, Dr Solang UK (ret.)
5. ZerOrigIndia Foundation – [To be determined]
6. Prof. Andreas Nieder, Director, Institute of Neurobiology, University of Tübingen, Germany – animal physiology / Cognitive Neuroscience;
7. Prof Brian Rotman, Ohio State University, USA – Semiotics, Cultural studies of mathematics;
8. Professor Djamil Aïssani, President, University of Bejaïa, Algeria - History of Arabic mathematics
9. Dr Solang Uk (ret. / Switzerland), Mrs Debra Aczel and Ms Miriam Aczel (France) - History of Cambodian mathematics
10. Prof Vong Sotheara, Royal University of Phnom Phen, History Faculty (Epigraphy), Cambodia
11. Prof M.N. Vahia, Tata Institute of Fundamental Research, Mumbai
12. Prof Parthasarathi Mukhopadhyay, Department of Mathematics, RKMRC, Kolkata, India
13. Dr Amartya Kumar Dutta, Associate Professor of Mathematics, Indian Statistical Institute, Kolkata, India
14. Dr Anupam Jain, Professor & Head, Department of Mathematics, Government Degree College, Sanwer (Indore), India
15. Dr George Gheverghese Joseph, School of Mathematics, University of Manchester, UK
16. Dr T.S. Ravishankar, former Director, Archaeological Survey of India, Mysore
17. Dr Sisir Roy, T.V. Raman Chair Visiting Professor, National Institute of Advanced Studies, IISC Campus, Bangalore
18. Co-author/collaborator, Venkat Rayudu Posina, NIAS, Bengaluru, India
19. Dr Avinash Sathaye, Department of Mathematics, University of Kentucky, USA
20. Jonathan J. Crabtree, Historian of Mathematics, Melbourne, Australia
21. Dr Fabio Gironi, Humboldt Fellow, Potsdam University, Germany
22. Dr Joseph Biello, Professor of Mathematics, University of California at Davis, USA
23. 18. Prof Manil Suri, Department of Mathematics and Statistics, UMBC, USA
24. Drs Erik Hoogcarspel, philosopher, the Netherlands
25. Dr Lisa Freinkel, University of Oregon, USA
26. Dr John Marmysz, College of Marin, California, USA
27. Dr Alexis Lavis, University of Rouen, Department of Philosophy, France
28. Dr Marina Ville-Petrack, University of Tours, France - Modern mathematics 24. Dr Bhaswati Bhattacharya, U. Goettingen, Germany
29. Prof. Kaspars Klavins, Dean, International Institute of Vedic Studies (IIVC), Latvia
30. Dr Xiaohan Zhou, Institute for the History of Natural Sciences, Chinese Academy of Sciences, Beijing, China
31. Dr Mariana K. Leal Ferreira, Professor of Medical Anthropology, San Francisco State University, California, USA
32. Dr Paul Ernest, Emeritus Professor, Exeter University, UK

Visuals: Anish Kapoor, sculptor, London, UK

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Endorsement:

Dr Karan Singh, India's Cultural Ambassador: <https://www.youtube.com/watch?v=RrcWij4P8II&t=5s>

Ambassador of India to the Netherlands, H.E. Venu Rajamony:

https://www.youtube.com/watch?v=dYp8QMQE98Y&feature=em-share_video_user

UK

BBC Travelogue:

<http://www.bbc.com/travel/story/20180807-how-india-gave-us-the-zero>

USA:

Washington Post :

https://www.washingtonpost.com/world/asia_pacific/indians-are-convinced-they-discovered-the-zero-can-they-prove-it/2017/03/10/de0821f4-19d2-4600-9403-2975c6a8b057_story.html?utm_term=.43500bb843c5

National Geographic: <http://news.nationalgeographic.com/2017/09/origin-zero-bakhshali-manuscript-video-spd/>

First Post (India): <http://www.firstpost.com/long-reads/india-and-the-origins-of-zero-4162795.html>

Online USA magazine: <https://www.livescience.com/27853-who-invented-zero.html>

USA / Portland / Press Herald: <http://www.pressherald.com/2017/03/11/indians-claim-they-discovered-zero-but-can-they-prove-it/>

American Bazaar: <https://www.americanbazaaronline.com/2016/12/13/re-discovering-zero-where-on-earth-did-zero-come-from420390/>

India:

Foreign Policy platform: <http://www.foreignpolicy.org.in/home/index.php/2018/08/22/of-india-and-europe-parallel-paths-and-merging-fates/>

India / NDTV: <http://www.ndtv.com/india-news/indians-are-convinced-they-discovered-the-zero-can-they-prove-it-1668808>

<http://www.sbs.com.au/yourlanguage/hindi/en/article/2017/03/13/did-indians-invent-zero-scholars-meeting-prove>

http://creative.sulekha.com/who-invented-the-zero_631626_blog

Pakistan:

Dawn news: <https://www.dawn.com/news/1320317/can-the-indians-prove-they-discovered-the-zero>

Middle East:

<http://gulfnnews.com/culture/people/did-indians-discover-the-zero-1.1994378;>

<http://alsiasi.com/en/al-siasi-pictures/8390-meet-next-month-to-settle-whether-indians-invented-the-zero-2.html>

<http://english.alarabiya.net/en/variety/2017/03/14/Can-the-Indians-prove-they-invented-the-zero-.html>

<http://alsiasi.com/en/al-siasi-pictures/8390-meet-next-month-to-settle-whether-indians-invented-the-zero-2.html>

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Netherlands:

BNR: <https://www.bnr.nl/nieuws/wetenschap/10303930/het-cijfer-nul-komt-uit-india-toch>

NPO:

http://content1b.omroep.nl/urishieldv2/127m68dfbdee18b043270058e3caa4000000.52563cee93eaa590ec6cfaf9c7e1e067/portal/radiomanager/rm3-radio1/audiofragments/57/56661-Oorsprong_van_het_getal_0.mp3

<http://www.nporadio1.nl/nieuws-en-co/onderwerpen/402888-oorsprong-van-het-getal-0?share=40288&t=0>

[Offline coverage in the main Dutch dailies Algemeen Dagblad, Volkskrant, Trouw (available as PDFs on request).]

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