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## 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 n 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.
- **The associated online *International Conference-cum-Workshop on Zero* from October of 2021 to April, 2022, co-organized together with Vrije Universiteit, the Netherlands; the Amir D. Aczel Foundation, and the Zero Project, 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.**

## THE ZERO PROJECT

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**Secretariat: Delistraat 43 • 2585 VX The Hague • The Netherlands**

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## Contributors to the Zero Project/Monograph/online event:

1. Prof. Sharda Nandram, Vrije Universiteit, Faculty of Religion and Theology, Amsterdam, the Netherlands; coauthors: Ankur Joshi, Puneet Bindlish;
2. Prof. Marcis Auzinsh, International Institute of Vedic Studies (IIVS), University of Latvia,
3. Co-directors Mrs Debra Aczel and Ms Miriam Aczel, Amir D. Aczel Foundation, USA/France
4. Dr Solang UK (ret.), translator of Find Zero, by the late-professor Amir Aczel
5. Prof. Andreas Nieder, Director, Institute of Neurobiology, University of Tübingen, Germany
6. Prof Brian Rotman, Ohio State University, USA – Semiotics, Cultural studies of mathematics;
7. Professor Djamil Aïssani, University of Bejaïa, History of Arabic mathematics, Algeria
8. Prof Vong Sotheara, Royal University of Phnom Phen, History Faculty (Epigraphy), Cambodia
9. Prof M.N. Vahia, (formerly) Tata Institute of Fundamental Research, Mumbai, India
10. Prof Parthasarathi Mukhopadhyay, Department of Mathematics, RKMRC, Kolkata, India
11. Assoc. Prof. Amartya Kumar Dutta, of Mathematics, Indian Statistical Institute, Kolkata, India
12. Prof Anupam Jain, Dean of Department of Mathematics, Government Degree College, Sanwer (Indore), India
13. Dr George Gheverghese Joseph, School of Mathematics, University of Manchester, UK
14. Dr T.S. Ravishankar, former Director, Archaeological Survey of India, Mysore
15. Dr Sisir Roy, T.V. Raman Chair Visiting Professor, National Institute of Advanced Studies, IISc Campus, Bangalore
16. Co-author/collaborator, Venkat Rayudu Posina, NIAS, Bengaluru, India
17. Dr Avinash Sathaye, Department of Mathematics, University of Kentucky, USA
18. Jonathan J. Crabtree, Historian of Mathematics, Melbourne, Australia
19. Dr Fabio Gironi, Humboldt Fellow, Potsdam University, Germany
20. Dr Joseph Biello, Professor of Mathematics, University of California at Davis, USA
21. Prof Manil Suri, Department of Mathematics and Statistics, UMBC, USA
22. Drs Erik Hoogcarspel, philosopher, the Netherlands
23. Dr Esther Lisa Tischman, University of Oregon, USA
24. Dr John Marmysz, College of Marin, California, USA
25. Assoc. Prof (ret.), Beatrice Lumpkin, Malcolm X College, Chicago City Colleges, USA
26. Assoc. Prof. Alexis Lavis, Philosophy & Cross Cultural Studies, Renmin University of China (RUC), Beijing
27. Dr Marina Ville, Université Paris-Est Créteil, Laboratoire d'Analyse et de Mathématiques Appliquées
28. Dr Bhaswati Bhattacharya, Fellow, University of Göttingen, Germany
29. Prof. Kaspars Klavins, International Institute of Indic Studies, University of Latvia
30. Dr Xiaohan Zhou, Institute for the History of Natural Sciences, Chinese Academy of Sciences, Beijing, China
31. Dr Paul Ernest, Emeritus Professor, Exeter University, UK
32. Jonathan Cender, unaffiliated
33. Dr Esti Eisenmann, The Hebrew University of Jerusalem, Israel.
34. Prof. Jeffrey Oaks, University of Indianapolis, Indiana, USA
35. Emeritus Professor Johannes Bronkhorst, University of Lausanne, Switzerland
36. [Professor Friedhelm Hoffmann](#), [Ludwig-Maximilian University of Munich](#) (LMU), Germany
37. Prof. Jim Ritter, Historian of Science and Theoretical Physicist, Paris University (Saint-Denis)
38. Prof. Ravi Prakash Arya, Maharshi Dayanand State University, Rohtak, Haryana
39. Dr. Sudip Bhattacharyya, Professor (H), Tata Institute of Fundamental Research (TIFR), Mumbai, India
40. Drs Irma den Hertog, visual artist and art historian, The Hague, Netherlands

### Visuals

Anish Kapoor, sculptor, London, UK

Drs Irma den Hertog, visual artist and art historian, The Hague, Netherlands

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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](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](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-spdl/>

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](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:

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<http://gulfnews.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>

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://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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