Number Zero

Invented and written in K-127

by Cambodia on the year 682

Presented on

October 25th 2014

By Path Suykry

Searching for the World's First Zero

Amir Aczel

Researcher, Boston University

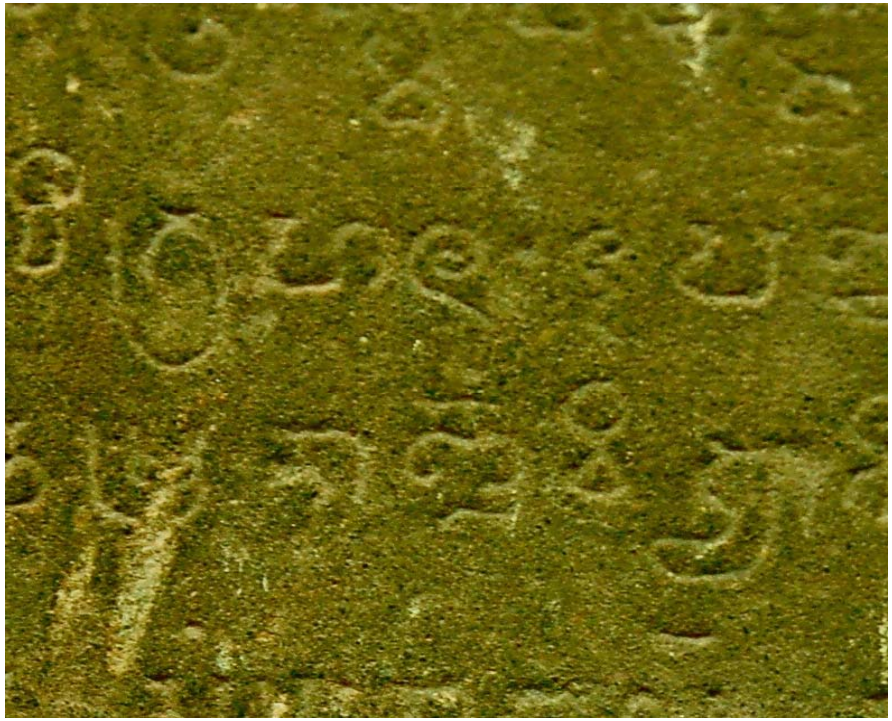
http://www.huffingtonpost.com/amir-aczel/worlds-first-zero_b_3276709.html

World's First Zero

650,000 BC	• Stone Weaponry: Kratie, Stung Treng, Kampuchea Krom
682 AC	• K-127 from the Ruins of Sambor Mekong Monument, Kratie where zero was invented and written at year 682 (year 605 in stone (chaka) = 605 + 78 = 683 AC) (Ref 1)
756 AC	• Emirate & Caliphate 756 to 1031 (Ref 2)
876 AC	• Gvalior Zero at Chatur-Bujha, Gvalior City, India (Ref 3)
1031 AC	• End of Emirate & Caliphate Travelling (Ref 4)
1202 AC	• Fibonacci – Famous Sequence of Number (Ref 5)
1930 AC	• Georges Coedes Identified K-127 as in year 682, Discovery 605 (4?) (Ref 6) • 10 August 1886 – 2 October 1969 (Ref 7)
1931 AC	• "New Zero and Old Khmer" in "The Mon-Khmer Studies Journal, vol 25, 1996 .. Apropos de l'irigine des chiffres arabes", Bulletins of the • School of Oriental Studies, University of London, vol 6, no 2, 1931, pp 323-328 (Ref 8)
2012 AC	• December 2012, Amir Aczel, Debra Gross Aczel, & Bill Casselman with Grant from Alfred P. Sloan Foundation, N.Y. (Ref 9)
2013 AC	• K-127 rediscovery January 2nd 2013 afternoon (Ref 9)
2014 AC	• 1331st Zero Anniversary by K.V.R.T. July 2nd July 14th, July 15th, July 16th , July 17th, July 20th - CHA, S, K1, K2, K3, KNC (Ref 10)

KVRT (Khmer Volunteer Researcher Team) Ref 1

- Discovered in 1930 by George Coedes and wroted in 1931(an expert philologist and translated the inscription from Old Khmer. It begins: Chaka parigraha 605 pankami roc...)



Georges Coedes (Ref 6)

K-127 (Ref 6 a)

- Thus Kaye's claim that zero was invented in the West and came to India through Arab traders could not be defeated using the Gwalior zero.
- But then in 1931, the French archaeologist Georges Cœdès published an article (see reference below) that demolished Kaye's theory. In it, he proved definitively that the zero was an Eastern (and perhaps Cambodian, although he viewed Cambodia an "Indianized" civilization) invention. Cœdès based his argument on an amazing discovery. Early in the twentieth century, an inscription was discovered on a stone slab in the ruins of a seventh-century temple in a place called Sambor on Mekong, in Cambodia. Cœdès gave this inscription the identifier K-127. He was an expert philologist and translated the inscription from Old Khmer. It begins:
  Chaka parigraha 605 pankami roc…

  Translated: The Chaka era has reached 605 on the fifth day of the waning moon…
- The zero in the number 605 is the earliest zero we have ever found. We know that the Chaka era began in AD 78, so the year of this inscription in our calendar is 605 + 78 = AD 683. Since this time predates the Arab empire, as well as the Gwalior zero, by two centuries, Cœdès was able to prove that the zero is, in fact, an Eastern invention.
- (http://www.ysamphy.com/cambodia-was-the-first-to-invent-zero/)

- Georges Coedes (Ref 7)
- 1866 to October 1969 Georges Coedes 10 August 1886 – 2 October 1969
- **Sources**
- *BEFEO* 57 (1970), p. 1-24 ; *BSEI* 46/3 (1971), p. 307-321 ; *Bijdragen tot de Taal-, Land- en Volkenkunde* 127/2 (1971) ; *Hommes et destins*, t. I, Paris, Académie des sciences d'outre-mer, 1975, p. 151-153 ; *Deux siècles d'histoire de l'École des langues orientales*, Paris, Hervas, 1995, p. 267 ; Jean Baffie, « La vie et l'oeuvre de George Cœdès », Colloque « George Cœdès aujourd'hui », Bangkok, 9-10 septembre 1999 ; bibliographie dans *Artibus Asiae* 24/3-4 (1961), numéro spécial pour le 75eanniversaire de M. George Cœdès, p. 155-186.
- **Publications**
- **1910**
- *Textes d'auteurs grecs et latins relatifs à l'Extrême-Orient depuis le IVe s. av. J.-C. jusqu'au XIVe siècle*, Paris, Ernest Leroux, [réimpr. 1977 par Georg Holms, Hildesheim].
- **1911-56**
- « Études cambodgiennes », *BEFEO* 11 à 48, [rééd. dans *Articles sur le pays khmer*, 2 vol., Paris, EFEO, 1989 & 1992].
- **1925**
- « Documents sur l'histoire politique et religieuse du Laos occidental », *BEFEO* 25/1-2, p. 1-201.
- **1918**
- *« Le royaume de Çrivijaya », BEFEO* 18/6, p. 1-36.
- **1937-66**
- *Inscriptions du Cambodge, Hanoi/Paris, EFEO (Textes et documents sur l'Indochine, 3)*, 8 vol. (1937, 1942, 1951, 1952, 1953, 1954, 1964, 1966).
- **1943-46**
- (avec Pierre Dupont), *« Les stèles de Sdok Kok Thom, Phnom Sandak et Prah Vihar », BEFEO* 43, p. 56-134.
- More, http://www.efeo.fr/biographies/notices/codes.htm

New Zero and Old Khmer (Ref 8)

- References:
  Cœdès, Georges, "A propos de l'origine des chiffres arabes," Bulletin of the School of Oriental Studies, University of London, Vol. 6, No. 2, 1931, pp. 323-328.
  Diller, Anthony, "New Zeros and Old Khmer," The Mon-Khmer Studies Journal, Vol. 25, 1996, pp. 125-132.
  Ifrah, Georges. The Universal History of Numbers. New York: Wiley, 2000.
- **Follow Amir Aczel on Twitter: www.twitter.com/amirdaczel**
- http://www.huffingtonpost.com/amir-aczel/worlds-first-zero_b_3276709.html

1202 Fibonacci – famous sequence of numbers (Ref 5)

- The zero in the number 605 is the earliest zero we have ever found. We know that the Chaka era began in AD 78, so the year of this inscription in our calendar is 605 + 78 = AD 683. Since this time predates the Arab empire, as well as the Gwalior zero, by two centuries, Cœdès was able to prove that the zero is, in fact, an Eastern invention. It is believed to have come to the West via Arab traders and was popularized in Europe through the work of Fibonacci (of the famous sequence of numbers), published in 1202.
- http://www.huffingtonpost.com/amir-aczel/worlds-first-zero_b_3276709.html

Fibonacci number (ref 5 2)

- **Fibonacci number**
- From Wikipedia, the free encyclopedia
- A tiling with squares whose side lengths are successive Fibonacci numbers
- In mathematics, the **Fibonacci numbers** or **Fibonacci sequence** are the numbers in the following integer sequence:[1][2]
- or (often, in modern usage):
- (sequence A000045 in OEIS).
- The Fibonacci spiral: an approximation of the golden spiral created by drawing circular arcs connecting the opposite corners of squares in the Fibonacci tiling;[3] this one uses squares of sizes 1, 1, 2, 3, 5, 8, 13, 21, and 34.
- By definition, the first two numbers in the Fibonacci sequence are 1 and 1, or 0 and 1, depending on the chosen starting point of the sequence, and each subsequent number is the sum of the previous two.
- In mathematical terms, the sequence F_n of Fibonacci numbers is defined by the recurrence relation with seed values[1][2]
- or[4] Fn = Fn-1 + Fn-2

West believed that the zero was either a European or an Afrab invention (Ref 3)

- Until 1930, many scholars in the West believed that the zero was either a European or an Arab invention. A highly polemical academic argument was raging at the time, where British scholars, among them G. R. Kaye, who published much about it, mounted strong attacks against the hypothesis that the zero was an Indian invention. The oldest known zero at that time was indeed in India, at the Chatur-bujha temple in the city of Gwalior. But it was dated to the mid-ninth century, an era that coincided with the Arab Caliphate. Thus Kaye's claim that zero was invented in the West and came to India through Arab traders could not be defeated using the Gwalior zero.

- (http://www.huffingtonpost.com/amir-aczel/worlds-first-zero_b_3276709.html)

Emirate & Caliphate 756 to 1031 (Ref 2 & 4)

- **Emirate (756–929) & Caliphate (929–1031) of Córdoba**[edit]
- *Main articles: Emirate of Córdoba, Caliphate of Córdoba and Al-Andalus*
- During the Umayyad dynasty, the Iberian peninsula was an integral province of the Umayyad Caliphate ruling from Damascus. The Umayyads lost the position of Caliph in Damascus in 750, and Abd-ar-Rahman I became Emir of Córdoba in 756 after six years in exile. Intent on regaining power, he defeated the existing Islamic rulers of the area who defied Umayyad rule and united various local fiefdoms into an emirate.
- Rulers of the emirate used the title "emir" or "sultan" until the 10th century, when Abd-ar-Rahman III was faced with the threat of invasion by the Fatimids (a rival Islamic empire based in Cairo). To aid his fight against the invading Fatimids, who claimed the caliphate in opposition to the generally recognized Abbasid Caliph of Baghdad, Abd-ar-Rahman III claimed the title of caliph himself. This helped Abd-ar-Rahman III gain prestige with his subjects, and the title was retained after the Fatimids were repulsed. The rule of the Caliphate is considered as the heyday of Muslim presence in the Iberian peninsula, before it fragmented into various taifas in the 11th century. This period was characterized by a remarkable flourishing in technology, trade and culture; many of the masterpieces of Spain were constructed in this period.

- http://en.wikipedia.org/wiki/Caliphate#Emirate_.28756.E2.80.93929.29_.26_Caliphate_.28929.E2.80.931031.29_of_C.C3.B3rdoba

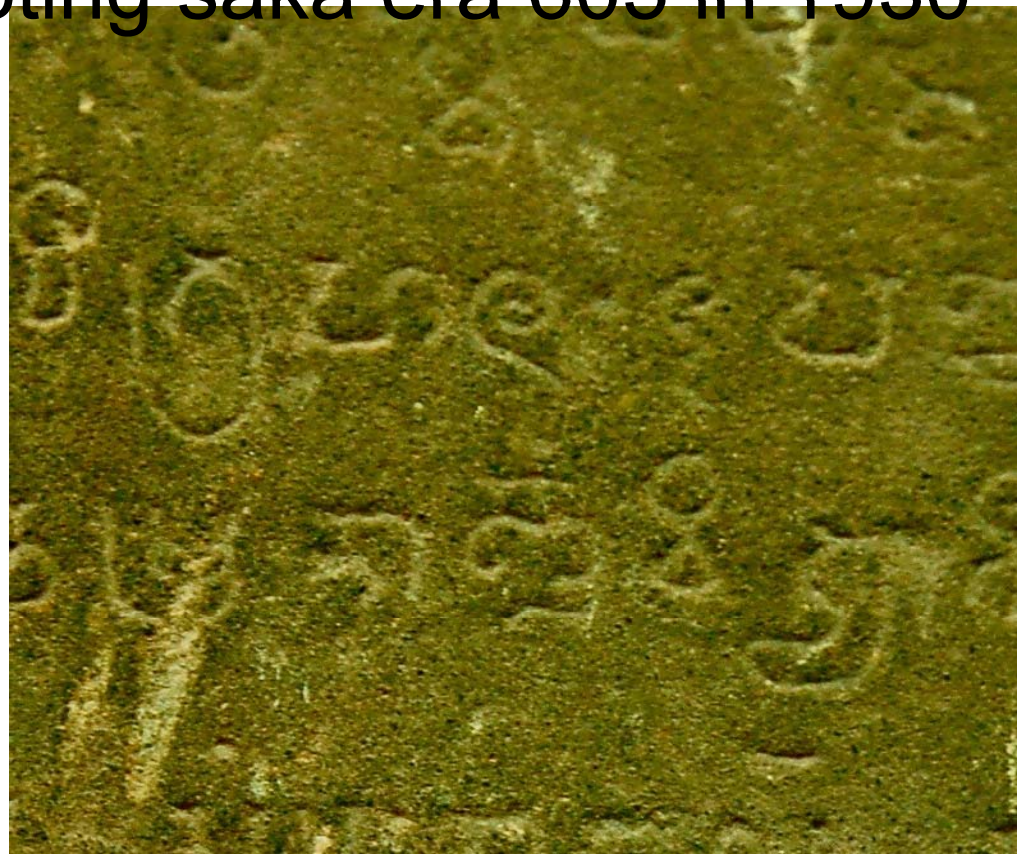
Amir Aczel and Bill Casselman December 2012 in Cambodia (Ref 9)

- Amir Aczel has been resuming the research of who invented the number Zero since 2007 and with the help of the generous support of a grant from the Alfred P. Sloan Foundation in New York, He headed for Cambodia in December 2012.
- July 16, 2014 **Searching for the World's First Zero Read more ScienceNews http://www.huffingtonpost.com/amir-aczel/worlds-first-zero_b_3276709.html**
- Did ancient Cambodians invent the zero?
- **http://www.phnompenhpost.com/post-weekend/did-ancient-cambodians-invent-zero** Sat, 9 August 2014 Poppy McPherson

the Indian tradition: Sambor (on Mekong) inscription

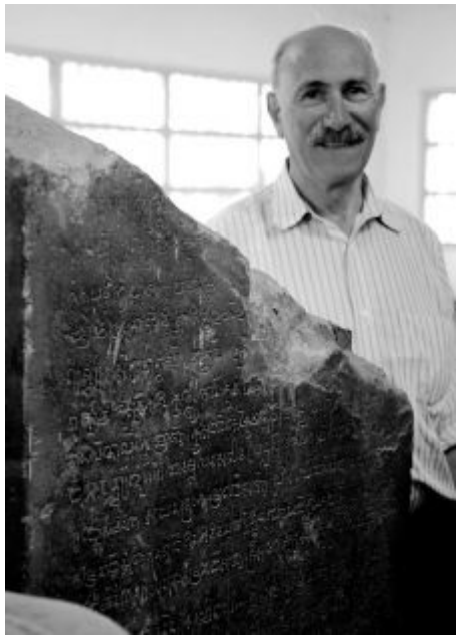
Istampa by Georges Coedes

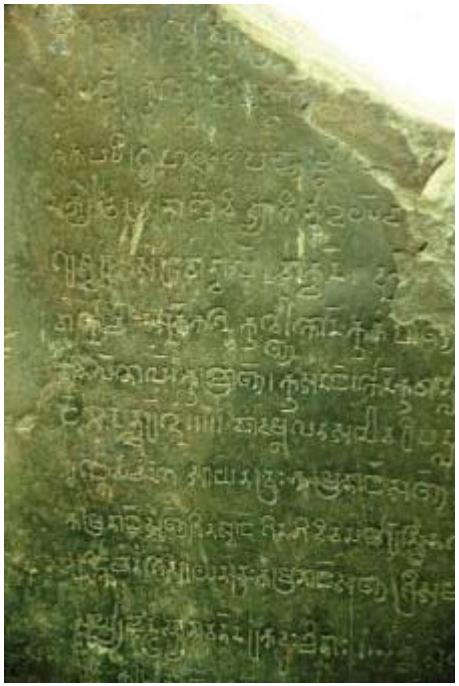
- Denoting śaka era 605 in 1930



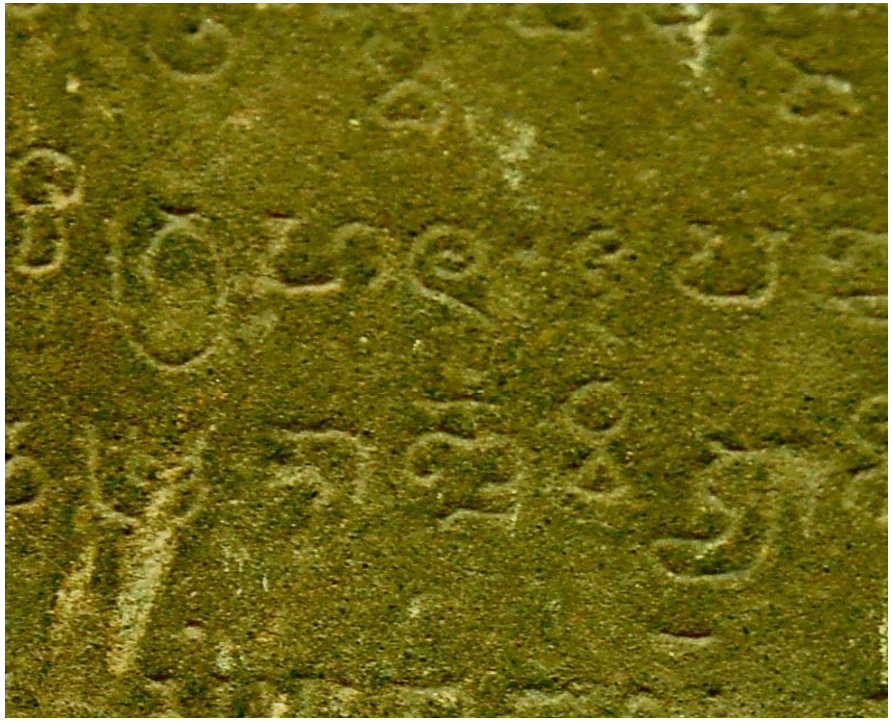
K-127 (Ref 9)
Photo Credit: Debra Gross Aczel
January 2° 2013

K-127 by Amir Aczel
January 2nd 2013





KVRT July 14th 2014
Narith Tith



Amir Aczel, Bill Casselman and Aczel’s wife in Cambodia

- His Excellency Hab Touch, Director General of the Ministry of Culture and Fine Arts, provided the key to my ultimate success. While extremely busy directing the management of Cambodia's 4,000 ancient temples (of which the famous Angkor Wat is one), he still found time to help me. He informed me that on November 22, 1969, K-127 was moved to Angkor Conservation near the town of Siem Reap, home of Angkor Wat. The bad news was that in a resurgence of their violence as late as 1990, the Khmer Rouge had plundered this location. But he offered to have his people at Angkor Conservation help me look there.
- I traveled to the compound called Angkor Conservation, in a field outside Siem Reap, on the way to the Angkor Wat complex. There, I searched among literally thousands of artifacts lying on the ground in large sheds. I don't know how -- **but on January 2, 2013, late in the afternoon, I finally found K-127! I was elated. My wife, Debra, took several photographs of the inscription**. Below is the only picture (with a few others my wife took) that exists of this priceless find. Cœdès had used only a pencil-rubbing, and never had a photograph. The dot in the center, to the right of the inverted-9-looking sign (which is 6 in Old Khmer) is the oldest zero ever discovered. His Excellency Hab Touch has promised me to bring K-127 back to the Cambodian National Museum in Phnom Penh, where it belongs, and where, hopefully, everyone would soon be able to see it.

How I Rediscovered the Oldest Zero in History

- **How I Rediscovered the Oldest Zero in History**
- By **Amir Aczel** | May 20, 2013 1:31 pm http://blogs.discovermagazine.com/crux/2013/05/20/how-i-rediscovered-the-oldest-zero-in-history/

The sixty-something American, a mathematician and author, had come to search for the evidence he had chased for the previous five years: an ancient stone slab on which was inscribed what he believed to be the first numeric zero ever recorded.

Between his fingers Aczel gripped the pencil rubbings and documents he believes prove that *Cambodians were among the first people on earth – before the Europeans and Arabs – to use 0 to signify nothingness.* Not even the Romans had invented such an advanced system as the one, illustrated by a stone marked "K-127", that was somewhere in that room.

http://www.truth2power-media.blogspot.com/2014/08/did-ancient-cambodians-invent-zero.html

6-Zero The first known zero in the Indian tradition: Sambor (on Mekong) inscription Denoting Shak era 605. (**Sushmajee**
Shishu Sansaar | Do You Know)
Until 1930, many scholars in the West believed that the zero was either a European or an Arab invention. A highly polemical academic argument was raging at the time, where British scholars, among them G. R. Kaye, who published much about it, mounted strong attacks against the hypothesis that the zero was an Indian invention. The oldest known zero at that time was indeed in India, at the Chatur-bhuj Temple in the city of Gwaalior. But it was dated to the mid-9th century, an era that coincided with the Arab Caliphate. Thus Kaye's claim that zero was invented in the West and came to India through Arab traders could not be defeated using the Gwaalior zero.

http://sushmajee.com/shishusansar/doyouknow-2/6-zero.htm

Amir Aczel in different news papers

- Amir D. Aczel, Ph.D., studied mathematics and physics at the University of California at Berkeley, where he met quantum pioneer Werner Heisenberg; he also received a Ph.D. in statistics. Aczel has published 18 popular books on mathematics and physics, including the international bestseller "Fermat's Last Theorem," which was nominated for a Los Angeles Times book award in 1996 and has been translated into 31 languages. His other books include "Entanglement: The Greatest Mystery in Physics," and "Present at the Creation: The Discovery of the Higgs Boson," reissued in paperback in November 2012. Aczel has appeared on the CBS Evening News, CNN, CNBC, Nighline, the History Channel, and on over 100 radio programs. He has lectured at the Royal Society of Arts in London, at the American Museum of Natural History in New York, at the Smithsonian Institution in Washington, D.C., at the Griffith Observatory in Los Angeles, at the Ducal Palace of Genoa, Italy, and at the Doge's Villa near Venice. His 2008 lecture at the Ciudad de las Ideas international conference in Puebla, Mexico, was attended by more that 3,000 people and televised to over 100 million people worldwide. Aczel's articles have appeared in the New York Times, the Wall Street Journal, the Times of London, the Jerusalem Post, Scientific American, as well as in other newspapers and magazines. Aczel was a visiting scholar in the history of science at Harvard University in 2005-7, received a Guggenheim Fellowship in 2005, and **was awarded a Sloan Foundation fellowship in 2012**. His latest book is *Why Science Does Not Disprove God*, published by HarperCollins on April 15, 2014. http://www.amazon.com/Why-Science-Does-Not-Disprove/dp/006223059X/ref=sr_1_7?s=books&ie=UTF8&qid=1394041193&sr=1-7&keywords=aczel
- Show full bio
- **Entries by Amir Aczel**

- http://www.huffingtonpost.com/amir-aczel/

World’s First Zero

- 650,000 BC .. 682 AC .. 756 AC .. 876 AC..1202 AC ..1930 AC .. 1931 AC .. 2007 .. 2012 AC .. 2013 AC .. 2014 AC …. July 2nd, 14th, 15th, 16th, 17th, 20th
- K-127
- Emirate & Caliphate 756 to 1031
- Fibonacci – famous sequence of numbers
- G. R. Kaye
- Gvalior Zero.The oldest known zero at that time was indeed in India, at the Chatur-bujha temple in the city of Gwalior. But it was dated to the mid-ninth century, an era that coincided with the Arab Caliphate.
- Georges Coedes.
- Thus Kaye's claim that zero was invented in the West and came to India through Arab traders could not be defeated using the Gwalior zero.
- Amir Aczel and Bill Casselman (Grant from the Alfred P. Sloan Foundation in New York)
- Khmer Volunteer Researcher Team (K. V. R. T.) and Cambodian Historians Association (CHA).

World's First Zero Impact to Khmer Civilizations at Glance

- Before 682
- 1) Small Monuments and city building
- 2) Social Building but still in division – Lowerland and Highland Chenla.
- After 682
- 1) Better Monuments long lasting .
- 2) Lowerland and Highland Chenla Reunification and Military and Economical Strenght.
- 3) 120 years later Cambodia became Khmer Empire in 802 at the Coronation of Jayavarman II in Phnom Kulen.
- 4) Khmer Empire from 9th century (802) to 15th century (late 15th century): Symmetry, well organized society, Mass Production (Bapuorn 80,000 people to support 12,500 Doctors, Ingeneers, Architects, Scientists …), Sophisticated Irrigation System, World Largest pre-industrialized Cities: (Angkor, Phnom Kulen), Astrology: set of monuments to reflect some parts of Sky Map and Earth movement related to the Sun and Moon Position at the Equinox twice a year (Spring and Fall), Constant Scientific Progresses in the Monument Constructions and Sophisticated Society due to the Natural Studies and Researches at life time of combined leadership and populations…
-

G.R. Kaye (Georges Rusby Kaye)
http://www.jstor.org/discover/10.2307/224410?uid=3738352&uid=2&uid=4&sid=21104028799571

Ask.com | Ask.com | JSTOR: Isis, Vol. 12, No. 1

www.jstor.org/discover/10.2307/224410?uid=3738352&uid=2&uid=4&sid=21104028799571

Notes on Indian Mathematics.

A criticism of George Rusby Kaye's interpretation.

The following lines occur in VINCENT SMITH's *The Early History of India* (3rd edition, 1914, page 305; 4th edition, 1924, revised by S. M. EDWARDES, pp. 322 & 323) :

« Mr. G. R. KAYE, a competent authority, holds that 'the period when mathematics flourished in India commenced about A.D. 400 and ended about A.D. 650, after which deterioration set in.' »

In his *A Short History of Mathematics* Dr. FLORIAN CAJORI writes that he has drawn heavily upon Mr. G. R. KAYE's *Indian Mathematics* (Calcutta, 1915) to write the chapter on Indian mathematics (1).

Dr. DAVID EUGENE SMITH and Sir THOMAS HEATH — two well-known historians of mathematics — have based some of their conclusions regarding Indian mathematics on the writings of Mr. G. R. KAYE.

Besides the late Messrs VINCENT SMITH and S. M. EDWARDES Sir RICHARD TEMPLE describes Mr. G. R. KAYE as an authority on Indian astronomy (2).

The above facts show in what light Mr. KAYE's writings have been accepted by foreign scholars, both European and American. Accordingly many erroneous conclusions, like the one contained in the quotation with which this paper opens, promulgated by

(1) Second edition, 1922, p. 84, foot-note.

This paper, *Indian Mathematics*, had been originally written for *Isis*, and the author had already read the proofs of it in April, 1914. Then publication was postponed by the war. The author became impatient and caused his paper to be reprinted and published independently (Calcutta, 1915) with a few additions

100% 9:09 AM 8/3/2014


Zero Usage in Khmer Stone Inscriptions
1331st Anniversary
2 July 2014

InterEd Institute
July 2nd 2014 (Ref 10 CHA)

InterEd 07/02/2014 (Ref 10 CHA II)

Zero 1331th Anniversary
July 17 2014 Khemarak University (Ref 10 –K3)

Kram Ngoy Center
July 20 2014 (Ref 10 -KNC)

K-127 Visit at Conservation d’ANGKOR Siem Reap 07/14/2014 Ref 10-s

0-s l


REF 10- s II

Ruins of Monument Sambor Mekong Kratie (Ref 10-K1-2)

Some thoughts

- **Notes on Indian Mathematics. A Criticism of George Rusby Kaye's Interpretation**
- Sâradâkânta Gâṅguli
- *Isis*
  Vol. 12, No. 1 (Feb., 1929), pp. 132-145
  Published by: The University of Chicago Press
  Article Stable URL: http://www.jstor.org/stable/224410
- « Previous Item Next Item »

King of Chenla

Isanavarman I	
King	
Reign	616-637
Full name	Īśānavarman
Died	637
Predecessor	Mahendravarman I
Successor	Bhavavarman II
Father	Mahendravarman I

Isanavarman I

- The main temples at Sambor Prei Kuk are said to have been founded by King Isanavarman I. The Suí shū (Annals of the Chinese Suí Dynasty), compiled in 636 AD, states that at the beginning of the 7th century Zhēnlà was ruled by one Yīshēnàxiāndài (Īśānavarman) (伊奢那先代). Inscription at Prasat Toc, Prasat Bayang, Vat Chakret, Kdei Ang Chumnik and Sambor Prei Kuk is attributed to the reign of Isanavarman I. The latest inscription attributed to him has been dated to 627 AD (549 Saka), while the only dated inscription attributed to his successor, Bhavavarman II, is of 639 AD.[2]
- **References**

- "Coedès" Histories of Cambodia".page 11.
- BEFEO 1904.page 693.
- Bulletin de l'Ecole française d'Extrême-Orient 1904 - BEFEO 1904
- Vickery, Michael. (2000) "Colloque George Coedès aujourd"hui". Bangkok, Centre d"Anthropologie Sirindhorn, 9–10 September 1999.
- Published as "Coedès" Histories of Cambodia", in Silpakorn University International Journal (Bangkok,), Volume 1, Number 1, January–June 2000, pp. 61–108.
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No. 25 - THE VAT CHAKRET TEMPLE INSCRIPTION OF ISHANA-VARMAN

- No. 25 - THE VAT CHAKRET TEMPLE INSCRIPTION OF ISHANA-VARMAN
- THE VAT CHAKRET TEMPLE INSCRIPTION OF ISHANA-VARMAN
-
- Vat Chakret is an ancient temple situated at the foot of the mountain Ba Phnom
- which has given its name to the province.
- The inscription is engraved on the two faces of a stelae. On one face there are 11 lines and on the other only four.
- The twelfth line in the first is irretrievably lost.
- The language is Sanskrit. The inscription is in verse, the metre being Anushtubh(1-6) and Sragdhara (7).
- The inscription, which is dated in 549 Saka (627 AD), refers to king Ishana-varman and records the installation of an image of Siva-Vishnu by the vassal chief of Tamrapura who possessed in addition the towns of Chakrankapura. Amoghapura and Bhimapura.
-
- The worship of the united god Siva-Vishnu seems to be very popular at that time.

Kings of Chenla

Order	King	Personal Name	Reign
21	Bhavavarman I	Bhavavarman	550–600
22	Mohendravarman	Chet Sen	600–616
23	Isanavarman I	Isanavarman	616–635
24	Bhavavarman II	Bhavavarman	639–657
25	Jayavarman I	Jayavarman	657–681
26	Queen: Jayavedi	Jayavedi	681–713

Two Kingdoms of Chenla: Land Chenla and Water Chenla: 706–802

Javanese Invasion: 774–802
http://en.wikipedia.org/wiki/List_of_kings_of_Cambodia

Chenla Kings

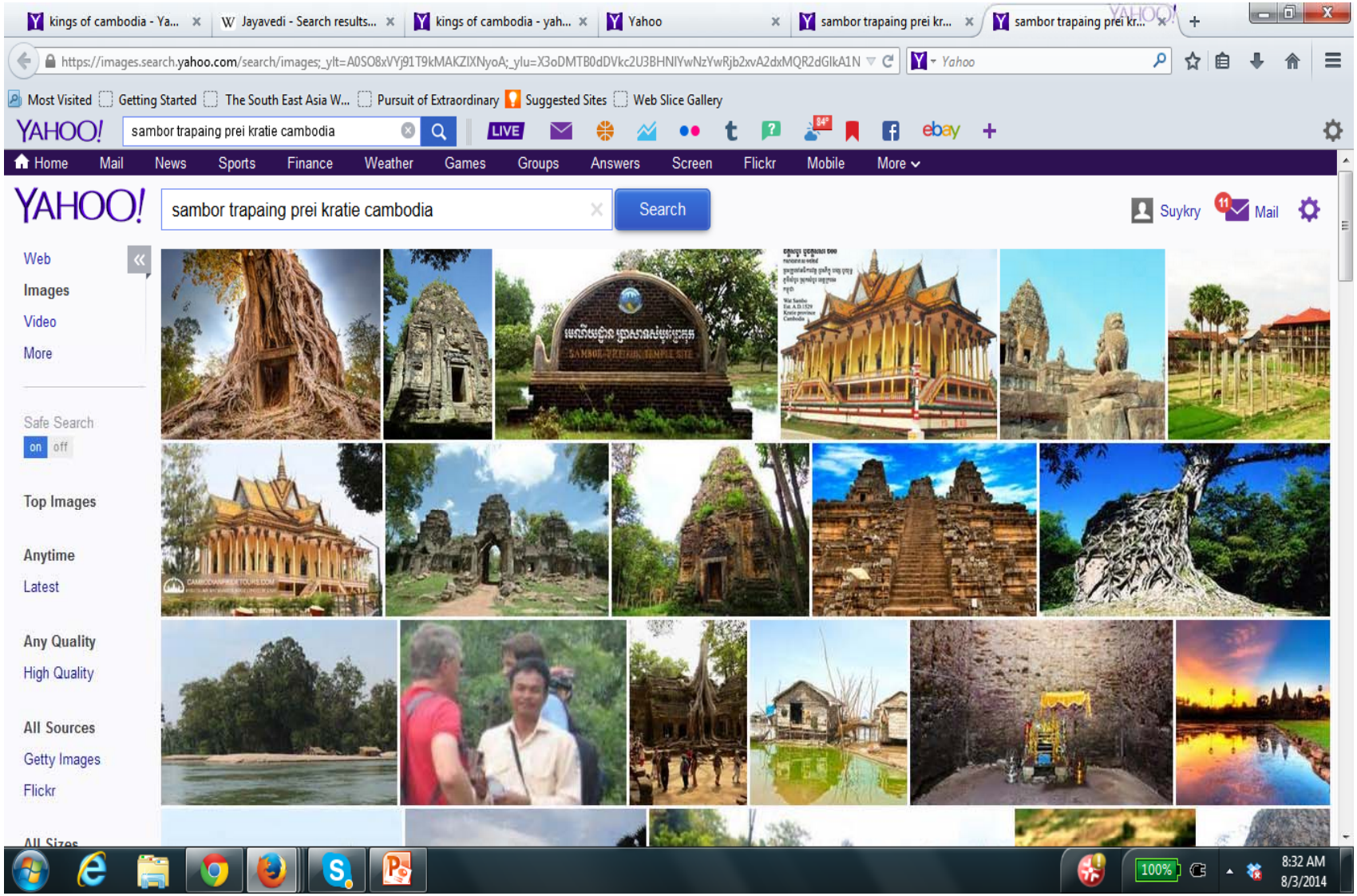
- Chenla Kingdom
- List of rulers: 6 | Queen Jayavedi 681–713 | 7 | Sambhuvarman 713–716 | 8 | Pushkaraksha 716–730 | 9 | Sambhuvarman 730–760 | **...**
- 12 KB (1,903 words) - 23:25, 7 April 2014
- Jayavarman I
- office King of Chenla | years 657–681 | preceded Bhavavarman II | succeeded Queen Jayavedi See also : Jayavarman II - considered by most **...**
- 1 KB (171 words) - 11:54, 21 July 2013
- List of Hindus
- Monarchs / National leaders / Politicians: Queen Jayavedi 681–713 Sambhuvarman 713–716 Pushkaraksha 716–730 Sambhuvarman (730–760AD) **...**
- 35 KB (3,903 words) - 19:58, 30 July 2014
- List of queens regnant
- Jayavedi (ruled 681–713) - during her rule, She was faulted in leadership which led The Chenla kingdom to break into two individual **...**
- 59 KB (7,114 words) - 15:47, 22 July 2014

- http://en.wikipedia.org/wiki/Special:Search/Jayavedi

Queens of Cambodia

- **Cambodia**[edit]
- Ang Mey
- Soma (ruled ?-68) - was the founder of the Kingdom of Funan and the first monarch of Cambodia, which was then known as 'Kambuja'. She was also the first female leader of Cambodia. Consort of Kaundinya I, who succeeded to the throne in 68 AD.
- Jayavedi (ruled 681–713) - during her rule, She was faulted in leadership which led The Chenla kingdom to break into two individual states, but then it record the period to be female-dominated dynasty with the wide range of female successors, totally driving the entire kingdom
- Ang Mey (1835–1841 and 1844–1845) - also known as Queen Ba-cong-chua or Ksat Trey, she was proclaimed on the death of her father by the Vietnamese faction at court with the title of My-lam-quan-chua in January 1835. She was famous as puppet queen to Annam
- More, http://en.wikipedia.org/wiki/List_of_queens_regnant

Pictures at Sambor Trapaing Prei Kratie



Miscellaneous

- **Searching for the World's First Zero**
- Posted: 05/15/2013 1:19 pm EDT Updated: 07/15/2013 5:12 am EDT
- Mathematicians consider the invention (or *discovery*, depending on your point of view) of ***zero as one of the most important intellectual advances humans have ever made. Why?*** Isn't zero just sheer nothingness? Nothing could be further from the truth.
- Zero is not only a concept of nothingness, which allows us to do arithmetic well and to algebraically define negative numbers, but it is also an important place-holding device. In that role, zero enables our base-10 number system to work, so that the same 10 numerals can be used over and over again, at different positions in a number. ***This is exactly what makes our number system so efficient and powerful. Without that little zero we would be stuck in the Middle Ages!***
- ***The Roman system, for example, which preceded our number system and surprisingly remained in use in Europe until as late as the thirteenth century***, employed Latin letters for quantities (I for 1, X for 10, L for 50, C for 100, M for 1,000). These letters had to be repeated, for example writing MMMCCCLXXIII for the number 3,373. We see that in our system the same numeral 3 is used in three different places, allowing for economy and ease of notation. None of the Latin letters could be repeated in different roles. In our number system, it is the zero that enables the system to work: Thus, a 5 in the units location is a 5; but the same symbol in the tens location makes it a 50 -- if we can also use a zero as an empty place-holder for the units.
- ***The millennia-old Babylonian system, for example, which predated the Greco-Roman letter-based number system, used base-60*** with no place-holding zero. Hence, the difference between 62 and 3602 (where 3600 is the next-up power of 60) had to be guessed from the context. Our number system, using a much smaller base, and employing a special symbol for zero, derives its immense power and usefulness through this place-holding zero. When we also consider the fact that everything we do with a computer (or cellular phone, GPS, or anything electronic) is controlled by strings of zeros and ones, it becomes clear just how great an invention this was. ……..

- More, http://www.huffingtonpost.com/amir-aczel/worlds-first-zero_b_3276709.html

- ***In European history, the Middle Ages, or Medieval period, lasted from the 5th to the 15th century. It began with thecollapse of the Western Roman Empire and merged into the Renaissance and the Age of Discovery***. The Middle Ages is the middle period of the three traditional divisions of Western history: Antiquity, Medieval period, and Modern period. The Medieval period is itself subdivided into the Early, the High, and the Late Middle Ages.
- More, http://en.wikipedia.org/wiki/Middle_Ages

http://www.khmer-

network.com/forum/viewthread.php?tid=9760&action=printable

çaka parigraha 605 pañcami roc...
'The Çaka era has reached 605 the fifth day of the waning moon...'

This context renders it improbable that the figures were a later addition, unlike the situation with certain Indic inscribed copper plates, where numeral dates occur marginal to main text, raising the possibility of later additions (Kaye 1914).

Figure 1. The figures 6 0 5 on the Old Khmer Inscription of Sambor (Trapang Prei), K 127, a Çaka date equivalent to 683 AD. (Coedès 1931.)

des modifications trois siècles et demi plus tard, le zéro et le 5

0 - 9 - 5 - 8

Figure 2. Zero-like punctuation sign followed by figures 9 5 8 on the Old Khmer/Sanskrit Inscription of Phimai, No. 59, with Çaka date equivalent to AD 1046 (National Library 1986, vol. 3, p. 177).