

# MICAH T. ROSS

HISTORIAN OF THE EXACT SCIENCES

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## Profile

### Mailing Address

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Moscow, ID 83843, USA

### Born

Marion, Indiana  
24 October 1974

### Nationality

American

## Research Interests

History of astronomy and computations; Social context of astronomy and cosmology; Notions of mathematical proof; Cultural transmission of technical terms and practices

## Education

Ph.D., [Brown University](#)  
[History of Mathematics](#)

Sept. 2000 - May 2006

Dissertation: [Horoscopic Ostraca of Medinet Madi](#)  
Advisor: †[David Pingree](#)

M.A., [University of Toronto](#)  
[Near Eastern Languages and Civilizations](#)

Sept. 1998 - May 2000

Ancient Studies Program

A.B., [Brown University](#)  
[Classics \(Greek and Latin\)](#); [Mathematics](#)

Sept. 1993 - Dec. 1997

## Dissertation Summary

[Horoscopic Ostraca of Medinet Madi](#) presents thirty-four [Demotic](#) ostraca containing forty complete or partial horoscopes. After the provenance and cultural background of the ostraca are laid out, a survey of previous interpretations of the texts from [Medinet Madi](#) follows. Then, the previous methods of establishing a date for the collection are examined. Next, introductions are made of mathematical, astronomical, astrological and chronological concepts are made for the benefit of the non-specialist. Among these discussions, the use of numbers and fractions is introduced. Necessary astronomical terminology is defined and the causes of error in astronomical calculations is considered. A definition of horoscope is presented and the elements of a horoscope are established. The compositional style of Demotic and Greek horoscopes is contrasted. The calendars of Greco-Roman Egypt are explicated. The varieties of astrological and astronomical ostraca are defined and the results of a search for such texts among the ostraca of Medinet Madi is reported. The documentary aspects of horoscopic ostraca are discussed and the palaeography of Demotic zodiacal signs and planetary symbols is revisited. After these preliminaries are fixed, the horoscopes are divided into four classes. A transcription, transliteration, translation and commentary is presented for each ostrakon. No separation is made between the astronomical and philological commentary. In the conclusion, these ostraca are used to establish a more secure historical dating for Medinet Madi. The range of astrological techniques is outlined and correspondences with the Petosirian tradition are noted. Some tentative conclusions are drawn about the scope of astronomical techniques used at Medinet Madi.

## Research Experience

[Fellow, Japan Society for the Promotion of Science](#)  
[Kyoto Sangyo University](#)

Nov. 2009 - Nov. 2011

Supervisor: [Michio Yano](#)

Through the Japan Society for the Promotion of Science, I collaborated with Professor Michio Yano. Professor Yano has studied the transmission of Greek astronomical terms into Sanskrit astronomical and astrological texts of India and the transmission of Sanskrit texts into Arabic. With Yano, I analyzed several Egyptian and Near Eastern elements carried by Greeks into India. I also studied several of Yano's techniques for establishing linguistic connections between texts and am reapplying these methods to the linguistic exchanges between Greece and Egypt. This project has culminated in [JyotiWiki.com](http://JyotiWiki.com), a site for the collaborative edition and electronic dissemination of Sanskrit texts on astral sciences. In electronic form, the technical terms are easily searchable and statistical information is more easily produced.

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Invité, [Institute d'Etudes Avancées](#)  
[Fondation Maison des Sciences de l'Homme](#)

Mar. 2008 - Jun. 2008

Supervisor: [Yves Duroux](#)

During the spring of 2008, I conducted a series of seminars which evaluated the Greek accounts of Egyptian astronomy from two distinctly different approaches. First, I compared Greek reports of Egyptian astronomical and mathematical development with respect to the available (but unpublished) Egyptian evidence. Also, working with only the Greek accounts, I analyzed the development and rhetorical use of several less credible Greek accounts of Egyptian wisdom.

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Postdoctoral Fellow, [Université Paris 7](#)  
[Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques](#)

Sept. 2006 - Sept. 2007

Supervisor: [Karine Chemla](#)

Within the REHSEIS research group at Université Paris 7, I collaborated with Christine Proust on the types of mathematical texts used in antiquity. We compared the contexts in which these texts were found and the development of larger texts from smaller corpuses. These considerations have resulted in our on-going contributions to Dominique Tournès' project on the history of mathematical tables.

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## *Publications*

Demotic

[Encyclopedia of Ancient History](#), Blackwell, in press.

Nechepso and Petosiris (with D. Greenbaum)

[Encyclopedia of Ancient History](#), Blackwell, in press.

The Categorization of Numeric and Magical Texts as Exemplified by  
OMM 170+796+844

Acts of the 10th International Congress of Demotic Studies, in press.

A Provisional Conclusion to the Horoscopic Ostraca of Medinet Madi

[Egitto e Vicino Oriente](#), 34 (2011), 47–80.

[Survey of Graphical and Numerical Tables in Egypt](#)

[Oberwolfach Reports](#), 12 (2011), 650–652.

The Role of Egypt in the Development of the Horoscope (with D.  
Greenbaum)

[Egypt in Transition: Social and Religious Development of Egypt in the First Millennium BCE](#), [Czech Institute of Egyptology](#) (2010), 146–182.

[Review of \*The Other Mathematics: Language and Logic in Egyptian and in General\* by Leo Depuydt](#)

[Aestimatio](#) 6, (2010), 176–179.

[Further Horoscopic Ostraca from Medinet Madi](#)

[Egitto e Vicino Oriente](#), 32 (2009), 61–91.

OMM 1010: Un document du règne de Septime Sévère  
[Actes du IXe Congrès International des Études Démotiques](#), Bibliothèque d'étude 147,  
[Institut français d'archéologie orientale du Caire](#) (2009), 299–304.

Interlude: A Series Containing a Hemerology with Lengths of Daylight  
(with F. Naether)

[Egitto e Vicino Oriente](#), 31 (2008), 51–90.

[La Circulation des Savoirs Astronomiques dans l'Antiquité](#)

[Pour la science](#), 373 (2008), 140–143.

A Survey of Demotic Astrological Texts

[Culture and Cosmos](#), 11 (2007), 1–31.

A Continuation of the Horoscopic Ostraca of Medinet Madi

[Egitto e Vicino Oriente](#), 30 (2007), 153–171.

All's Dur that Ends Twr

[From the Banks of the Euphrates: Studies in Honor of Alice Louise Slotsky](#), [Eisenbrauns](#) (2007), 245–255.

Review of *Unexpected Links between Egyptian and Babylonian Mathematics* by Jöran Friberg

[Centaurus](#) 51 (2007), 5–6.

[Brève chronologie de l'histoire des mathématiques en Egypte](#)

[CultureMATH](#), (2006).

An Introduction to the Horoscopic Ostraca of Medinet Madi

[Egitto e Vicino Oriente](#), 29 (2006), 147–180.

## Presentations

Alexander in Astrological Sources

[Alexander the Great and Egypt: History, Art, Tradition](#), [University of Wrocław](#), Wrocław, Poland, 18–19 Nov. 2011.

Various renderings of πινάξ in Greek and Demotic in the Medinet Madi ostraca (with D. Greenbaum)

[11th International Congress of Demotic Studies](#), [Merton College, Oxford University](#), 29 Aug.–1 Sept. 2011.

Survey of Graphical and Numerical Tables in Egypt

[History of Graphical and Numerical Tables](#), [Oberwolfach](#) Mini-Workshop, Oberwolfach, Germany, 27 Feb.–5 Mar. 2011.

Sources for Egyptian Seasonal Hours: Problems and Approaches

Source Materials in History of Science and Technology and Their Interpretation: Problems and Approaches, [National Tsing Hua University](#), Hsinchu, Taiwan, 3 Dec. 2010.

Why Are There Twenty-Four Hours in a Day?

[Science Dialogue](#), [Fujishima Senior High School](#), Fujishima, 23 Feb. 2010.

Development and Transmission of Egyptian Decans

[History of Science Society of Japan](#), Kyoto Branch, [Kyoto Sangyo University](#), Kyoto, 24 Jan. 2010.

The Role of Egypt in the Development of the Horoscope (with D. Greenbaum)

[Social and Religious Development of Egypt in the First Millennium BCE](#), [Charles University](#), Prague, 1–4 Sept. 2009.

Fractional Tables and Water Clocks in Egypt

[XXIII International Congress of History of Science and Technology: Ideas and Instruments in Social Context](#), Symposium 35: History of Numerical Tables, [Budapest University of Technology and Economics](#), Budapest, 28 Jul.–2 Aug. 2009.

Evidence for the "Egyptian" Cosmology of Macrobius  
[4th London Ancient Science Conference, University College London](#), 6 Dec. 2008.

A Series Containing a Hemerology with Lengths of Daylight (with F. Naether)

10th International Congress of Demotic Studies, [Katholieke Universiteit Leuven](#), Leuven and Brussels, 26–30 Aug. 2008.

Nombres positifs et négatifs dans des textes grecs

Histoire et Philosophie des Mathématiques, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 2 Jun. 2008.

"The Series itself says as follows :..." K939A rev. 8

Histoire des sciences, Histoire du texte, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 23 May 2008.

Greek Representations of Egyptian Knowledge, Practice, and Education of Astronomy

Histoire des sciences en Asie, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 13 May 2008.

Egyptian Calculation of Inferior Planets

[Institut d'Etudes Avancées, Maison Suger](#), Paris, 25 Mar. 2008.

Historiographie des circulations autour de l'Égypte

Histoire des sciences en Asie, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 11 Dec. 2007.

Enuma Anu Enlil, son développement et ses rédacteurs

Histoire des sciences, Histoire du texte, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 27 Nov. 2007.

The Egyptian Calendar, Censorinus, and Theon

[3rd London Ancient Science Conference, University College London](#), 2 Nov. 2007.

A Survey of Demotic Astrological Texts

Ancient Astrology Workshop, [Warburg Institute](#), London, 16–17 Feb. 2007.

Déchiffrer Medinet Madi: les problèmes historiographiques et l'histoire des mathématiques

Histoire des sciences en Asie, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 6 Feb. 2007.

Les calculs sexagesimaux cachés dans les textes démotiques

Histoire et Philosophie des Mathématiques: Calcul sexagesimal, [Recherches Epistemologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques, Université Paris 7](#), 18 Dec. 2006.

OMM 1010: Un document du règne de Septime Sévère

IXe Congrès International des Études Démotiques, Paris, 31 Aug.–3 Sept. 2005.

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