

# 數學史與數學教學的融會 — 「知易行難」抑或「知難行易」？

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對一位有意探索如何融會數學史素材於課堂教學，但還未熟悉這方面的資源的教師來說，這是一份初步的書目名單。雖然，這份名單既不詳盡，也不包括最新出版的書本或文章，但可以幫忙同好者開展這方面的備課工作。

## (I)

- H. Eves, *Great Moments In Mathematics (Before 1650)*, Math. Asso. Amer., 1980; *Great Moments In Mathematics (After 1650)*, Math. Asso. Amer., 1981.
- H. Eves, *Introduction to the History of Mathematics*, 6<sup>th</sup> edition, Saunders 1990; orig. publ. 1964.
- I. Grattan-Guinness, *The Fontana History of the Mathematical Sciences*, Fontana Press, 1997.
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## (II)

- W.P. Berlinghoff, F.Q. Gouvêa, *Mathematics Through the Ages: A Gentle History For Teachers and Others*, Math. Asso. Amer., 2004.
- C.B. Boyer, *A History of Mathematics*, Wiley, 1968; 2<sup>nd</sup> edition (with U.C. Merzbach), 1989.
- G.G. Joseph, *The Crest of the Peacock: Non-European Roots of Mathematics*, Tauris, 1991; revised edition, Penguin, 1994.
- V. Katz, *A History of Mathematics: An Introduction*, Harper Collins, 1993; 2<sup>nd</sup> edition, Addison-Wesley, 1998; 3<sup>rd</sup> edition, Addison-Wesley, 2009.
- D.J. Struik, *A Concise History of Mathematics*, Dover, 1948; 4<sup>th</sup> edition, 1987.
- 李迪(主編), *中外數學史教程*, 福建教育出版社, 1993.
- 李儼、杜石然, *中國古代數學簡史*, 中華書局, 1963.

### (III)

- L.N.H. Bunt, P.S. Jones, J.D. Bedient, *The Historical Roots of Elementary Mathematics*, Dover, 1988; orig. publ. 1976.
- W. Dunham, *Journey Through Genius*, Wiley, 1990.
- F. Cajori, *A History of Mathematical Notations*, Vol. 1-2, Dover, 1993 (reprint of the 1928/29 edition).
- NCTM, *NCTM 31<sup>st</sup> Yearbook: Historical Topics For the Mathematics Classroom*, National Council of Teachers of Mathematics 1969; revised edition, 1989.
- F. Swetz (ed.) *From Five Fingers To Infinity: A Journey Through the History of Mathematics*, Open Court, 1994.

### (IV)

- P.J. Davis, R. Hersh, *The Mathematical Experience*, Birkhäuser, 1980; study edition (with E.A. Marchisotto), 1995.

### (V)

- J. Fauvel, J. van Maanen (eds.), *History In Mathematics Education: The ICMI Study*, Kluwer Academic Publishers, 2000. (There is an extensive bibliography in each chapter of the book.)
- J. Fauvel, *Mathematics Through History: A Resource Guide*, QED Books, 1990.
- (CD-ROM) J. Dauben (ed.), *History of Mathematics From Antiquity To the Present: A Selective Annotated Bibliography*, Amer. Math. Soc., 2000.
- (CD-ROM) V. Katz, K.D. Michalowicz (eds.) *Historical Modules for the Teaching and Learning of Mathematics*, Mathematical Association of America, 2005.
- (CD-ROM) 數學史與數學教學工作坊 (主講:蕭文強), July 1999.
- (Online magazine by MAA) <http://convergence.mathdl.org>
- (Website) <http://www.dcs.warwick.ac.uk/bshm/resources.html> (with extensive links)
- (Website) <http://www-history.mcs.st-andrews.ac.uk/history/>
- (Website) <http://www.mathedu-jp.org/hpm/index.htm>
- (Website in Chinese) <http://www.edp.ust.hk/math/>

如果你進入我的網頁 <<http://hkumath.hku.hk/~mks/>>，再點擊“Some Useful References For MATH2001”，便可以找到包括更多文獻的書目名單 (最近整理名單日子為 2008 年 1 月)。

我的一些論述數學史與數學教學的文章：

- [1]\* 數學發展史給我們的啟發，抖擻雙月刊，17(1976), 46-53。
- [2] (with F.K. Siu) History of mathematics and its relation to mathematical education, *Inter. J. Math. Edu. Sci & Tech.*, 10 (1979), 561-567.
- [3] {History of [(mathematics)] teachers}, *Mathematical Tall Timbers*, Mu Alpha Theta, 11 (1985); French translation in *Bull. de l'association des prof math.*, no. 354 (1985), 309-319.
- [4] 誰需要數學史，數學通報，4 (1987), 42-44。
- [5]\* 數學史和數學教育：個人的經驗和看法，數學傳播，16 (3) (1992), 23-29。
- [6] The *ABCD* of using history of mathematics in the (undergraduate) classroom, *Bull. HK Math. Soc.* 1 (1997), 143-154; reprinted in *Using History to Teach Mathematics: An International Perspective*, edited by V. Katz, Math. Asso. Amer., 2000, 3-9.
- [7] (with C. Tzanakis) History of mathematics in classroom teaching: Appetizer? main course? or dessert? *Mediterranean J. Res. Math. Educ.*, 3 (1-2), 2004, v-x.
- [8]\* “No, I don't use history of mathematics in my class. Why?” in *Proceedings of HPM 2004 & ESU4 Conference at Uppsala*, July 2004, edited by F. Furinghetti et al, Uppsala Universitet, 2006, 268-277.
- [9] “*Zhi yì xīng nán* (knowing is easy and doing is difficult)” or vice versa? --- A Chinese mathematician's observation on HPM (History and Pedagogy of Mathematics) activities, to appear in *The First Sourcebook on Asian Mathematics Education : China, Korea, Singapore, Japan, Malaysia and India*, edited by B. Sriraman, J.F. Cai, K. Lee, L. Fan, Y. Shimuzu, C. Lim, and K. Subramaniam, Information Age Publishing, 2013

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\* [1], [5] (部份) 和 [8] (中譯本)收於：蕭文強，《心中有數》，九章出版社，2009年；大連理工大學出版社，2010年。