

陽明大學 STS 所傅大為教授 9/Feb.,/2017

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(Tuesday, 678 堂課)

西方科技史的研究，大約比 STS 的興起(1970s)要早十幾二十年，但是到七零年代時，科技史本身轉向，從原來的科學思想史，轉為更強調科學社會史，所以與當年 STS 的興起彼此交流很多，是個二者互相扶持與成長的時代。但到了九零年代，有重量級科學史家覺得科技史的發展已經逐漸遠離 STS，科技史與 STS 合作的時代已經式微，但真的是如此嗎？一些 STS 人與科學史家強調，即使到了今天，科技史研究仍然是 STS 研究的核心部分。本門課將討論與研究科技史與 STS 兩學門關係的三個階段：Koyre 與 Kuhn 的科學史時代，科學史與 STS 互相交流與學習，到二者可能的漸行漸遠（？）。除此之外，本門課也將討論與思考在東亞科技史、東亞 STS 二者與歐美不同的當代關係，包括去瞭解中國方面對科學編史學的反省，還有反思台灣當前的狀況，並討論可能的東亞新關係。除了深入瞭解科學史史學史與 STS 的發展關係外，本門課也要訓練同學對科學史史學史、或 STS 相關的歷史發展，就戰後發展的某一階段，收集相關的科學史論文與 STS 的反省與回顧，做一些獨立的再反省與史學史的研究，看科學史與 STS 的關係。

（論文前的*符號均表示參考性質）

一，Hessen, Koyre, and Kuhn 的前-STIS 之科學史與相關論爭

1, 14/Feb. 課程大綱介紹

孔恩在 STS 出現前如何看科學史的發展？還有他與 STS 的關係問題。

Thomas Kuhn 1968 "The History of Science", from Kuhn's *Essential Tension* (1977), pp.105-126.(entry article in *International Encyclopedia of the Social Sciences*, vol.14)

*傅大為 2014, 孔恩 VS. STS 的興起，《科技、醫療與社會》vol.18: 29-98.

2, 21/Feb. Alexandre Koyré 如何轉變了科學史研究

T.Kuhn 1970 "Alexandre Koyré and the History of Science, On an Intellectual Revolution", *Encounter* 34: 67-69.

Alexandre Koyré 1959, "Newton, Galileo, and Plato", from *Newtonian Studies* (1965) pp.201-220

I.B.Cohen 1987, "Alexandre Koyre in America: some personal reminiscence" *History*

¹ 本門課所言的「科技史」是台灣一般通稱，本門課主要的討論對象，精確地說是科學史，對於技術史則較少討論。

and Technology, vol.4: 55-70.

3, 28/Feb. 228 紀念日放假

4, 7/Mar. Koyre 的對立面，被隱沒的馬克思主義科學史家 Boris Hessen B.Hessen 1931, "The Social and Economic Roots of Newton's Principia," the 2nd International Congress of History of Science, pp.1-50. 閱讀 sections I-III (pp.1-21) & section V (pp.34-43).

J.Ravetz & R.Westfall (1981) "Marxism and the History of Science," Isis vol.72, no.3: 393-405.

* 傅大為 2016, Sep. 「談一位早逝而優秀的科學史家」 Taiwan STS email list.

二，70 年代開始科學史與 STS 互相支持與成長，科學史脫離主流內在史而走向軍火科學史、女性主義科學史

5, 14/Mar. SSK 與科學史：在兄弟般的互動中成長

傅大為，手稿一章，「SSK 與科學史：在兄弟般的互動中成長」 pp.1-61（但跳過第四節 pp.30-43）

T. Kuhn, (1986) "The Histories of Science: Diverse Worlds for Diverse Audiences," Organon 22/23: 1986/1987, pp.9-16. (Kuhn's keynote address at the XVII International Congress of History of Science, in August/1985, Berkeley)

6, 21/Mar. SSK 以及內在史 VS.外在史的研究完結或真正開始

S. Shapin (1992) "Discipline and Bounding: The History and Sociology of Science as Seen through the Externalism-Internalism Debate." History of Science 30: 333-369.

P. Dear (2012) "Philosophy of Science and its Historical Reconstruction," in *Integrating History and Philosophy of Science*, BSPS 263, eds., S.Mauskopf and T.Schmaltz, pp.67-82, Springer.

7, 28/Mar. 科技史+STS 的新路之一：軍火科學史

P. Forman (1991) Independence, Not Transcendence, for the Historian of Science, Isis, Vol. 82, No. 1: 71-86.

D. MacKenzie (1996) *Knowing Machine* (MIT), ch.1, "Introduction" (pp.1-22 + endnotes 261-267)

* D. MacKenzie (1990) *Inventing Accuracy* (MIT), ch.1, "A Historical Sociology of Nuclear Missile guidance"(pp.1-14) —不用讀完。

8, 4/Apr. 清明節放假

9, 11/Apr. 科技史+STS 的新路之二：女性主義科學史

E.F. Keller (1992) "Secrets of God, Nature, and Life", ch.3 (pp.56-72) of *Secrets Of Life, Secrets Of Death: Essays On Language, Gender And Science*. New York: Routledge, 1992.

* ch.4 (pp.73-92) of Keller (1992) "Critical Silences in the Scientific Discourse: Problems of Form and Re-Form." (with quotes from Forman(1987))

D. Haraway (1997) On Modest Witness and S&S's LAP in ch.1

"Modest_Witness@Second_Millennium" (pp.23-39 + endnotes 276-279) of her book *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse* (Routledge)

三，科技史與 STS 的變化，是否在九零年代二者開始漸行漸遠？

10, 18/Apr. Jasanoff 的疑慮與 Daston 的分手說

Jasanoff, Sheila (2000) Reconstructing the past, constructing the present: Can science studies and the history of science live happily ever after? *Social Studies of Science*, 30(4): 621-31.

Daston, Lorraine (2009), "Science Studies and the History of Science", *Critical Inquiry* Vol.35, no.4: 798-813

11, 25/Apr. STS 與科學史家的聯手反駁 & Daston's 新科學史視角

Dear, Peter & Jasanoff, Sheila (2011), "Dismantling Boundaries in S&TS", *Isis* vol.101, no.4: 759-774.

L. Daston(2001) "History of Science," in N.J. Smelser and P.B. Baltes, eds., *International Encyclopedia of the Social and Behavioral Sciences*, 26 Vols.(Oxford: Pergamon, 2001), Vol. 10: 6842-6848.

12, 2/May LAP 作者謝平與夏佛的隱約看法

S.Shapin & S. Schaffer (2011). "Up for Air: *Leviathan and the Air Pump* (LAP) a generation on" (Introduction to the 2011 Edition of LAP), pp. xi-l. 只讀下面幾節：'Modernity Making' (xxviii-xxx), 'Reasons to Be Cheerful' and 'Crossing the Bar' (xxxvii-l)(18 pages in total)

S.Shapin (2010) "Preface"(vii-ix) and ch.1 "Lowering the Tone in the History of Science: A Noble Calling" (1-14 plus endnotes 393-98), in Steven Shapin, *Never Pure* (Johns Hopkins).

四，科學史與 STS 在東亞的另一種關係與方向

13, 9/May 戰後以來的東亞科學史發展大略：李約瑟、席文、傅大為、白馥蘭
N. Sivin (1982) "Why the Scientific Revolution Did Not Take Place in China---or Didn't
It?" Chinese Science 5: 45-66.

Or: Nathan Sivin, "Over the Borders: Technical History, Philosophy, and the Social
Sciences", Chinese Science, 10 (1991: 69-80?) 我的期刊少兩頁

F. Bray (2012) "Only Connect: Comparative, National, and Global History as
Frameworks for the History of ST in East Asia" EASTS, vol. 6-2: 233-41.

* D.Fu (1993-4) "A Contextual and Taxonomic Study on the 'Divine Marvels' and
'Strange Occurrences' in *Mengxi Bitan*", Chinese Science, No. 11, pp. 3 - 35.

14, 16/May 北京清華 STS 與科學編史學近年來的研究看法：劉兵等，李正風
劉兵等(2015)，《科學編史學研究》(上海交大)「科學史中內史與外史劃分的取
消：從 SSK 的立場看」(pp.10-20)，「後殖民主義、女性主義與中國科學史研究：
科學編史學意義上的理論可能性」(pp.65-78)，「對《利維坦與空氣泵浦》的編史
學分析」(pp.175-184).

李正風(2016) "Reflecting STS: A Historical Review of STS in Mainland China," EASTSN
conference in Tsing-Hua Univ. Beijing. (ppt file, 19 pages)

* 趙萬里(2002)《科學的社會建構—科學知識社會學的理論與建構》(天津人民
出版社)

* Gao, Lu.(2016). "From Dialectics of Nature to STS: The Historical Evolution of
Science Studies in China," Aronova, E. &Turchetti, S., eds. *Science Studies during the
Cold War and beyond: Paradigm Defected*, New York: Palgrave Macmillan, 267-288.

15, 23/May 期末報告大綱討論

16, 30/May 端午節放假

17, 6/Jun. 孔恩《科學革命的結構》50 年與東亞 STS 的發展反省，three short articles
by Daiwie Fu, Kenji Ito, Mei-Fang Zhang and Marta Hanson (EASTS, 2012, 6-4:
541-67.)

D.Fu, "Kuhn's *Structure of Scientific Revolution* (SSR) and Development of HPS and
STS in Taiwan: A Short Story."

K.Ito, "Thomas Kuhn's SSR and early Social Studies of Science in Japan."

M.Hanson, "Kuhn's SSR in East Asia, Expanded."

* Mei-Fang Zhang, "SSR and STS Studies in Mainland China."

* D.Fu (2016) "Thomas Kuhn's *Structure* and the construction of SSK in UK: a potential East Asian perspective"(ppt. file) presented in 2016, 12th EASTS Network Conference in Beijing, Tsing-Hua University.

18, 13/Jun. (期末考週) Song Sang-Yong, 2017 "From HPS to STS - Looking Back My Past Sixty Years (in Korea)"

期末報告於大綱討論(23/May)之後五星期(27/June)繳交。

課程要求：兩個期中小考(30%)、期末報告(50%)、課堂報告與討論(20%)。
每週上課時要交一至兩題的論文閱讀問題，上課討論。