Freakonomics: Scholarship in the Service of Storytelling

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Freakonomics: A Rogue Economist Explores the Hidden Side of Everything by Steven D. Levitt and Stephen J. Dubner is certainly popular. Indeed, my search for something comparable took me back more than 120 years. Even with the uncertainty about what constitutes a best seller, it is clear that the book has reached a huge audience, especially for a book about "economics." As I write this, it has been on the New York Times best-seller list for 46 weeks, and having started on the Publisher's Weekly Hardcover Nonfiction best-seller list in the 12th position on April 25, 2005, it has hovered in the top ten thereafter. Moreover, as reported on the Freakonomics web site, the book has garnered a large international audience, and the book is on various "best of" lists. Levitt and Dubner have sought a broad and diverse audience for their collection of stories: Levitt has been on "The 700 Club" (a talk show by conservative businessman and religious broadcaster Pat Robertson) and "The Daily Show with Jon Stewart" (a center-left parody of the news and news reporting) among other places. Both the authors write a column for the New York Times Magazine as well as participate in an active blog (just navigate from the book's web site to the URL http://www.freakonomics.com, where, among

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^{1.} I am referring to André-Michel Guerry's (1883) *Essay on the Moral Statistics of France*. When published, the book was arguably the first popular "data-driven" investigation of certain sorts of criminal behavior.

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616

other things, they respond to a large number of readers' inquiries²). The book comes complete with more than 20(!) pages of references and citations as diverse as a radio talk show caller's unverified claim that her niece was named "Shithead" (pronounced SHUH-teed) as well as Kenneth Arrow's "A Theory of Discrimination" and includes a two-and-a-half page tabulation of average years of mother's education by child's first name. The extensive footnotes should not mislead: *Freakonomics* does not take its subjects very seriously. In *Freakonomics*, Levitt's scholarship and the scholarship of others are put in the service of telling a "good story" rather than the other way around. Indeed, if the many reviews of the book are any guide, many find the book "entertaining" even if they felt that "Levitt's only real message is to encourage confrontational questions" (Berg, 2005). One reviewer found the stories so compelling that he went so far as to suggest that "criticizing *Freakonomics* would be like criticizing a hot fudge sundae" (Landsburg, 2005).

1. What to Expect from a Hot Fudge Sundae

Unlike famous popularizations in mathematics and science by Hogben and Einstein, it is perhaps telling that *Freakonomics* is not exclusively about its motivating subject—"the hidden side of everything." Rather, the book seems intended as part hagiography of Steven Levitt (with an occasional guest appearance by Levitt collaborator Roland Fryer) and a celebration of Levitt's work and his approach to economics (although it includes discussion of the work of others as well).

Each chapter begins with a vignette about "Levitt the person" written in the voice of Dubner. When the text also makes use of this type of material, I felt a bit vertiginous, as if I was in an "echo chamber." In "An Explanatory Note," which opens the book, for example, a narrator's voice (Dubner?) discussing Levitt's "singular attitude" quotes at great length (in the third person voice) biographical material from an article written by Dubner himself about Levitt for the *New York Times Magazine*.

^{2.} As reported on the web site, an Instructor's Manual (available by request from Harper Collins Academic www.harperacademic.com) and a Student Guide written by S. Clayton Palmer and J. Lon Carlson are now available. The latter is available at http://www.freakonomics.com/pdf/StudentFREAKONOMICS.pdf.

Like the rest of the book, even this biographical material is not to be taken too seriously.³ Although this hagiography struck me as at odds with the book's stated aims of promoting skepticism about the "conventional wisdom," most of this material is harmless at worst, and on occasion it may disquiet some.⁴

Likewise, given the authors' encouragement to independent thinking, the text's various declarations that economics is a "science" suggest that they "doth protest too much." Indeed, "regression analysis," much of the evidence behind the "science" discussed in the book, appeared to be alone among the economics toolkit that is explicitly downgraded to the status of "art" (p. 163).

Combined with Levitt's story, the chapters are sometimes awkwardly stitched-together discussions of Levitt's work, large chunks of which have already appeared in articles in the *New York Times Magazine*, spiced with plenty of anecdotal information. Dubner and Levitt often begin with an "unusual" question such as "What do Sumo Wrestlers and School Teachers have in common?" Frequently, a chapter begins with an invitation to the reader—well-intentioned but occasionally unscrupulous (she/he cheats at golf)—to enter a world where "bad guys" (sumo wrestlers, Chicago public school teachers, real-estate agents, the Ku Klux Klan, and the criminologist James Alan Fox) are caught in the act of cheating by the intervention of a "powerful set of tools," usually, but not always, applied by Levitt.

One gets the feeling that the book was stitched together rapidly. In the introductory material, for example, the Levitt character says that he does not have the time to write a book. Consequently, they make silly errors that one would have thought might be easily detected by a well-paid editor. On page 68, for example, we read that

 \ldots information asymmetries everywhere have in fact been mortally wounded by the Internet

^{3.} To be sure, Levitt does not take the hagiography seriously. In an interview with the *Financial Times*, Levitt explained, "He created a totally fictional account of me, one that was far more likable and interesting and smarter than I was, that people kind of fell in love with. Dubner had set this tone, this fake version of me, that we both could slip into and out of as we wanted" (Harford, 2005).

^{4.} In one vignette, as described in the voice of Dubner, "Levitt" encounters an apparently indigent man. Seemingly bereft of any other recognizable human feeling, the Levitt character's intense but solitary interest in the man is the provenance of the headphones he wears. One supposes that the real Levitt was possessed of other thoughts and feelings.

only to read on page 69 that

The Internet, powerful as it is, has hardly slain the beast that is information asymmetry.

Such a transparent error is of little moment on its own. Clearly the reader can decide for theirself whether the "beast of information asymmetry" is dead, mortally wounded, or alive and well (and taken up residence in the Harper Collins Editor's office). It does make it difficult to understand what the authors intended, however. Consequently, any "fun" I might have experienced was dissipated by the fact that it was hard to know when to expect that an assertion was likely to be well-substantiated or merely a useful story-telling device.

2. Abortion Prohibition in Romania

To take one example, one disappointing aspect of *Freakonomics* was its discussion about research conducted by others. It would appear that the goal of characterizing other research accurately conflicted with other goals.

Consider the long discussion in the chapter entitled "Where have all the criminals gone?" where Levitt and Dubner relate the story of Romanian dictator Nicolae Ceausescu's decision to declare abortion illegal in 1966. The narrative, which frames a broader discussion about "the story of American crime in the 1990s," seems to suggest that this decision led to Ceausescu's eventual execution.

It should not be overlooked that his demise was precipitated in large measure by the youth of Romania – a great number of whom, were it not for his abortion ban, would have never been born at all. (p. 119)

The text goes on to discuss the Romanian abortion ban referring to both popular articles and more scholarly publications. One surprising rendition of another scholar's research includes a pair of papers by Cristian Pop-Eleches (Pop-Eleches, 2002, 2005), which are summarized in *Freakonomics*:

Ceausescu's incentives produced the desired effect. Within one year of the abortion ban, the Romanian birth rate had doubled. These babies were born into a country where, unless you belonged to the Ceausescu clan or the Communist elite, life was miserable. But these children would turn out to have particularly miserable lives. Compared to Romanian children born just a year earlier, the cohort of children born after the abortion ban would do

worse in every measurable way: they would test lower in school, they would have less success in the labor market, and they would also prove much more likely to become criminals. (p. 118)

The curious reader who tracked down the relevant papers by Pop-Eleches would be very surprised to learn that the description in *Freako-nomics* is virtually the *opposite* of what is actually claimed.⁵

On average, children born in 1967 just after abortions became illegal display better educational and labor market achievements than children born just prior to the change. This outcome can be explained by a change in the composition of women having children: urban, educated women were more likely to have abortions prior to the policy change, so a higher proportion of children were born into urban, educated households. (Pop-Eleches, 2002, p. 34)

The reader is given no hint that Levitt and Dubner's summary of Pop-Eleches' work so badly misrepresents its substance. I was at a loss why they chose to do so because Pop-Eleches' findings do not bear decisively on Donohue and Levitt's (2001) far more controversial claims about the impact of abortion legalization in the United States. One can only guess that Levitt and Dubner felt that conveying what Pop-Eleches actually wrote would have made for a less entertaining story.

3. Levitt the Scholar and the "Levitt" of Freakonomics

For those familiar with the originals or hoping for more than mere entertainment, Levitt's *own* research is discussed in a way that will surprise. To take but one example, on page 126, Dubner and Levitt review Levitt (1997), which attempts to use political electoral cycles to identify a causal effect of police on crime. After a brief but accurate description of the research design, they describe the results saying "it's possible to tease out the effect of the extra police [induced by electoral cycles] on crime."

^{5.} I am citing the most recent versions of these papers which, of course, could not have been used by Levitt and Dubner. The earlier versions did not vary appreciably except in details extraneous to this discussion (Pop-Eleches, personal communication, September 2005).

^{6.} Pop-Eleches' actual findings do not necessarily contradict any of the claims made elsewhere by Levitt about the U.S. case. Indeed, it is not too difficult to tell a story in which Pop-Eleches' actual findings are either "broadly consistent" with Levitt's own findings on related issues or largely silent about the very different U.S. context.

In a book intended primarily as entertainment, some would argue that such a description is "good enough." In a work with a more serious aim, however, such a description would have been incomplete at best. For those unfamiliar with the cited research, let me explain.

Levitt (1997) estimates the effect of police on specific crime categories using electoral cycles as an instrument. The original work makes at least two claims that relate to that passage from Freakonomics that refers to the relationship between the number of police and crime:

- The estimates of the effect of police on crime using electoral cycles as instrumental variables in Levitt (1997) are "generally not statistically significant for individual crime categories."
- These estimates although generally insignificant for individual crime categories "are significant for violent crime taken as a whole."

If that had been the end of the story, it would have been fair for a serious rendition of the original research to conclude as Levitt and Dubner do, merely that "it's possible to tease out the effect of the extra police [induced by electoral cycles] on crime." Those of us familiar with this work, however, are aware that Levitt (1997) only began a story that Levitt (2002) concluded. Sandwiched in between the two papers, Freakonomics chooses to cite is the published replication study of McCrary (2002), neither mentioned nor cited in Freakonomics. McCrary decisively demonstrates that the second claim is based on a programming error as Levitt (2002) concedes.

Given the first of the two claims in Levitt (1997) and the correct (and undisputed) rendition of the second claim, this summary by McCrary (2002) seems to be much more to the point: "While municipal police force size does appear to vary over state and local electoral cycles . . . elections do not induce enough variation in police hiring to generate informative estimates of the effect of police on crime." This much is tacitly conceded by Levitt (2002) whose response to McCrary includes data and a research design (undiscussed in *Freakonomics*) different from the original.⁷

^{7.} I do not mean to suggest that it is some sort of crime to commit a programming error. Mistakes are to be expected even from the most diligent researchers, and this is one reason scholarly journals make room for replication studies. Indeed, it was Levitt who graciously provided McCrary with the original programs and data that made it possible to demonstrate conclusively that a key claim of Levitt

My point here is not to debate the substantive questions. More police may or may not reduce crime. Electoral cycles may or may not allow a research to "tease out" an effect of police on crime (although my reading of the evidence suggests that they do not). Rather, in what appears to be an effort to keep the narrative entertaining, there is a sizable gap between "Levitt the scholar" and "Levitt" in *Freakonomics*; The latter made no error of consequence to mention and was able to tease out an effect of police on crime. "Levitt the scholar," on the contrary, was conscientious in allowing another scholar to show that it was not possible to tease out an effect of police on crime with that research design.

4. Maybe "Gotcha!" is not the Problem

I do not mean to suggest that Levitt and Dubner intended to mislead; *Freakonomics* does not discuss Levitt's programming errors or McCrary's findings. Given the absence of discussion in the book, it would have arguably been misleading to include any references to the problems with the data and programming in Levitt (1997). Moreover, as Levitt appears to stand by the conclusions of his research (although not the conclusions that flow from his original research design and data), I doubt that the book's entertainment value would have been helped by such a discussion.

Moreover, evidence that the book's narrative is a selective one intended to make the hagiographic aspects more entertaining is quite easy to find. Consider the book's long discussion of the putative causal effect of abortion legalization on crime: in the notes on pages 136–44—which enumerate some recent work on the link between abortion and crime—the authors list Donahue and Levitt's "Further Evidence that Legalized Abortion Lowered Crime: A response to Joyce" (2004) without mentioning Joyce (2004a).8

What then to make of these unmentioned and uncited challenges to the credibility of Levitt's findings? Even Levitt and Dubner have joined in this debate suggesting that they were "Hoodwinked" in their *New York Times*

^{(1997)—}that the estimates using this research design "are significant for violent crime taken as a whole"—was not in fact correct.

^{8.} Any suggestion that Dubner and Levitt were intending to deceive about the controversy regarding Levitt's findings is inconsistent with their citation of Donohue and Levitt (2004) to begin with: *Freakonomics* does not even discuss the substance of Donohue and Levitt (2004) or Joyce's criticisms of the identification strategy.

column (Levitt and Dubner, 2006a) and at their blog (Levitt and Dubner, 2006b) regarding much of the substance of Chapter 2 involving Stetson Kennedy and the Ku Klux Klan.⁹

In addition to McCrary (2002) and Joyce (2004a) discussed above, more recent challenges to various findings of Levitt and his co-authors include Joyce (2004b) and Foote and Goetz (2005). The critiques are serious scholarship of the highest integrity, a claim I believe Levitt and Dubner would readily accept.

As regards *Freakonomics* per se, some might argue that the issues I have discussed above are unavoidable if a book is to be "popular." Moreover, one hopes (with reason) that the typical reader of *Freakonomics* approaches the book's claims with a fair bit of skepticism.

As to the scholarship behind *Freakonomics*, the mere fact that scholars sometimes make errors is not necessarily a cause for concern. Levitt is perhaps only unique in the large number of papers he has written. However well intentioned and diligent, such errors are likely to occur. Moreover, the exchanges between Levitt and those who have attempted to replicate his work have been fruitful—there is plenty of evidence for persons to come to their own conclusions, even if they are very different from what Levitt originally intended.

5. Fear of Storytelling?

In *Freakonomics*, the Levitt character is described this way: "unlike most academics, he is unafraid of using personal observations and curiosities: he is also unafraid of anecdote and storytelling" (p. viii). I puzzled over those words for sometime—were academics "afraid" of storytelling? If so, why?

^{9.} I myself am undecided given, among other things, a letter to the editor written by one of those cited in Levitt and Dubner's *mea culpa*, Bulger (2006), stating that Levitt and Dubner "are holding Stetson Kennedy responsible for the inadequacies of their own research" and an investigative report in the *Florida Times-Union* (Patton, 2006) that casts the facts in a different light and argues, for example, that "[Levitt and Dubner's] implication that Kennedy had little interaction with [then Georgia Assistant Attorney General Dan] Duke is contradicted by a number of documents, including newspaper clippings and a letter from Duke to Kennedy addressed 'Dear Stet'." See also Klinkenberg (2006).

Although I can only guess at what was meant, perhaps academics *should* be afraid? Many know of the old retort—"s/he thinks the plural of anecdote is data!" What I suspect many have in mind when they make this retort is the idea is that stories are not a substitute for systematically collected "data." Stories have their role to be sure. Nonetheless, the world is a diverse place and what we understand about "behavior" is scant at best. Perhaps we should be cautious in trusting anecdotes and stories.

Indeed, consider the possibility that economists are not afraid of all "stories." What kinds of stories do economists seem to like? Consider the recent revelations in (as yet unpublished) Webster, Doob, and Zimring (2005) regarding Kessler and Levitt (1999). Kessler and Levitt (1999) is an assessment of the putative "deterrence" effect of Proposition 8 in California, which selectively increased sentence lengths for specific crimes. A superficial glance at the published article suggests that it is a straightforward "difference in difference" research design: annual data on crime rates in California are compared to crime rates in the rest of the country for a few years before and after the passage of Proposition 8 (rates of crime "eligible" for Proposition 8's longer sentences are also compared to crimes that are not eligible for longer sentences). ¹⁰

Of possible interest to the readers of this journal, Webster, Doob, and Zimring (2005) discuss some "anomalous" features of the research design employed in Kessler and Levitt (1999) to reach the conclusion that "deterrence" is effective at lowering the rate of crime. Webster, Doob, and Zimring (2005) discuss, among other things, their "perplexity" with Kessler and Levitt's decision to use only *every other year of data* in their published analysis despite presumably having the data on the "even years" as well. Webster, Doob, and Zimring (2005) observe that the before and after comparison of California using *every year* of data is at least superficially inconsistent with the central argument of the paper in a way that is not apparent from Kessler and Levitt's use of odd-year data only.

^{10.} The paper's seemingly straightforward research design and policy relevance notwithstanding, a discussion of the paper either did not survive the cutting room floor of *Freakonomics* or there were other understandable reasons for why it was not included: Levitt has written too much to be comfortably included in a book of this type. One presumes Levitt and Dubner felt that sumo wrestling, for example, was more interesting than "get tough on crime" policies.

I will admit to being "perplexed" as well—it is difficult to believe that the research design was "pre-specified"—one presumes that a pre-specified research design would have called for using *all the data*, not just the odd years.

Of greater concern to me are broader questions about academic scholarship that Webster, Doob, and Zimring (2005) raise. In particular, they express concern about a process in the academy that, previous to their own inquiry, was apparently content with the lack of explanation regarding the "anomalous practice" of using only "odd-year" data (something that can be confirmed with a bit of work from the published tables). One can only speculate why no one involved in the process thought to ask the authors to explain their choices. ¹¹

Again I have no wish to debate the substance of Kessler and Levitt's findings. More interestingly, Webster, Doob, and Zimring (2005) suggest that part of the problem may be the orthodox presumption among economists that "punishment . . . can be regarded as the price of crime [and that] an economist will not debate whether increased punishment will reduce crime; he will merely try to answer the question how much?" [(Coase, 1978) p. 210 as cited in Webster, Doob, and Zimring (2005)]. One line of thought suggested by their argument is that perhaps economists' desire for relatively simple "stories"—ones that conform to a fairly simplistic view of behavior—may sometimes be an obstacle for scholarship. If so, standards for results that confirm economists' expectations may receive far less scrutiny than those that do not. This strikes me as a serious reason for concern: the economist June O'Neill once went so far as

^{11.} An issue that Webster, Doob, and Zimring (2005) do not raise is the fact that the estimates in Kessler and Levitt (1999) do not come with standard errors—the usual way of assessing the "precision" of an estimate. In some contexts, an absence of standard errors might be easily explicable. Given the simplicity of the estimator and the stated goal of "providing an empirical test of [a] model," however, it is not clear why standard errors were not provided nor their absence discussed.

^{12.} A theme of *Freakonomics* is that "the conventional wisdom" can be wrong. (It is also hard to define.) In one discussion, Dubner and Levitt quote the economist John Kenneth Galbraith to the effect that what contributes "to the formation of the conventional wisdom [is] the ease with which an idea may be understood and the degree to which it affects our personal well-being" (p. 127). The relationship (if any) between the "economic orthodoxy" discussed by Webster, Doob, and Zimring (2005) and the "conventional wisdom" discussed by Levitt and Dubner is unclear and not discussed.

to suggest that "theory is evidence too." One can only hope that all involved in what we call scholarship seek a higher standard of evidence than that. 14

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^{13.} See the interesting discussion in Deaton (1996) about this and other similar views by economists.

^{14.} As this review was coming to press, Levitt and Dubner have released a "revised and expanded" edition of Freakonomics which includes the original material plus material from their blog and their column in the New York Times. According to their blog (Levitt and Dubner 2006c), one reason for the revision was the presence of "some mistakes" "most of which . . . are quite minor." "The most aggressively revised section" involves the material about Stetson Kennedy that I discussed in footnote 9. Although I can not speak to the new material (the "expanded" part of the book), the revisions appear to be rather minor. The status of information asymmetries I discussed on page 3, for example, was raised from "mortally wounded" to "gravely wounded." Most surprisingly there has been no substantive change in their discussion of Pop-Eleches' work.

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