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INVESTIGATING THE APPARATUS

The Social Science Citation Index: A Black Box—with an Ideological Bias?

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[ABSTRACT, KEYWORDS, JEL CODES](#)

THE SOCIAL SCIENCE CITATION INDEX (SSCI) IS A DATABASE of scholarly literature. SSCI is used in many important ways. The most conspicuous use of SSCI is showing whose work gets cited in other research. Which other research? The articles published in journals on the SSCI journal list. As of June 2003, SSCI included 1,768 journals. Your citation count is the number of times your work has been cited by articles in SSCI journals (actually, in those journals during the years that the journal was included in the SSCI).¹

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** *Note on authorship:* Although two authors are shown above, this paper is written in the first-person singular. Daniel Klein led the investigation and wrote up the paper. He is the “I” here. Eric Chiang is a student at Santa Clara University. He did most of the data collection and some of the institutional investigation.

We thank the following ISI employees for their help with understanding SSCI and checking facts: Chris Pasquini (Technical Support Representative), James Testa (Director of Editorial Development), and Rodney Yancey (Manager of Corporate Communications). For comments on an earlier draft, we thank Niclas Berggren, Dan Johansson, Per Hortlund, and Richard Johnsson.

¹ James Testa, Director of Editorial Development at Thomson ISI, writes in an e-mail correspondence to Eric Chiang: “When a journal is dropped it is from that moment forward. No future issues are indexed. What has been indexed remains in [ISI’s Web of Science].”

The SSCI is a product of Thomson ISI, which is a business of the Thomson Corporation, an information services provider that had revenues of \$7.8 billion in 2002. It is customary to refer to Thomson ISI as simply ISI.

The name ISI continues the legacy of the company that Eugene Garfield started in 1958—the Institute for Scientific Information. In 1961 Garfield, the “undisputed patriarch of citation indexing” (Cronin and Atkins 2000, 1), launched what remains the central citation index of the “hard” sciences, the Science Citation Index (SCI). SCI is ISI’s flagship product. Building on the SCI model, Garfield launched several other index products, including the Social Science Citation Index (SSCI) in 1973 and the Arts and Humanities Citation Index (AHCI) in 1978. In 1992 Garfield sold ISI to Thomson, but continues as Chairman Emeritus. In 2003, ISI offered a wide array of citation indexing services and employed about 850 people worldwide, with offices in the United States, United Kingdom, Ireland, Tokyo, and Singapore (Garfield Undated-a, and Undated-b; Thomson ISI Undated, 2003a, and 2003b).

IN ACADEMICS, CITATION COUNTS COUNT FOR QUITE A LOT

Academic success depends chiefly on getting published in “the good journals.” But another standard indicator of professional standing is getting cited. ISI is the only serious producer of citation data, so the term “citations” is synonymous with citations as recorded by ISI in its various products (such as SSCI). Peers, administrators, and grant-makers regard citation counts as a key measure of recognition and importance. Professor Doe might be much better published than Professor Johnson, but if Johnson is much better cited he might enjoy far greater eminence.

Citation counts influence more than professional esteem and respect. Institutional decisions about appointments, promotions, salaries, resources, awards, and prizes often hinge on citation counts. When a tenure committee or department wants to avoid internal conflict—potentially deep and bitter—over the purpose, character, and central teachings of their science, when

When a journal is added the coverage is from that moment forward and not retrospective” (Testa 6 May 2003).

they need to reach a decision in an “objective” way, to tacitly agree to disagree, they turn not only to the professional conventions of publication, but often also to citation counts.² In conjunction with this paper, Eric Chiang and I conducted a survey of 30 Economics Department chairs about the importance of citation counts and the SSCI in their departments. Half of the respondents reported that citations counts are usually or always considered in promotion cases. Fourteen respondents reported that the trend over the past 10 years has been toward putting greater weight on citation counts, while only one said the trend was toward less weight. Also, fourteen indicated that he or she expects the trend over the next 10 years to be toward greater weight on citation counts, while only one indicated that he or she expected the trend to be toward less weight (see Klein and Chiang 2004).

SSCI citations include citations to books, manuscripts, and journals not included in SSCI. However, some of the packaged citation tabulations, including those produced by ISI and utilized by the National Research Council (see Holcombe 2004), count only citations to articles that appear in SSCI journals.

The ISI indices, therefore, are important to the institutional gears of science and academia. Although SSCI pertains to all of the social sciences, I will focus on economics. However, I suspect that most of the concerns generalize to the other social science disciplines.

Researchers create formulas to generate rankings of economics departments, of individual economists, and of journals.³ Usually, citation count is an explicit and major variable in the formula, but even when a ranking is based solely on journal publication, the journals themselves are ranked by citation count. More weight is given to the more-cited journals. Thus, all rankings, either directly or indirectly, build on the SSCI. We see that the two major systems of gauging academic achievement—publication and citations—are highly circular.

Citation counts are a way of tracking one’s own professional recognition and keeping score. Even for academicians who would otherwise have little regard for citation counts, the institutional functionality comes to be internalized

² Hamermesh (1989) estimated that a citation correlates to an extra 0.2% in salary, and Moore et al. (2001) find that salary premiums are more strongly associated with a small number of highly-cited articles than a large number of scarcely-cited articles.

³ Tom Coupé (2003a) provides an extensive review of the various ranking formula and his own blends to generate rankings of departments and economists worldwide.

as a value. Whose is bigger, mine or his? Citation anxiety is sometimes palpable and enlargement strategies are sometimes pursued.⁴

Thus, the SSCI is an important component in the academic apparatus of rank and prestige. Those who decide which journals are to be included in the SSCI exercise an enormous influence over the social sciences. But surprisingly little scrutiny has been given to SSCI and its journal selection process—I have searched on “SSCI” in ISI’s own Web of Science and found little pertinent to this investigation.⁵ In fact, in reading the scientometricians, including the economists who work with citation data, one perceives an attitude that Citation is of a divine and immaculate nature. The researchers who work with citation data almost never so much as raise a question about who is making the all-important decisions about journal inclusion, how they make those decisions, and whether they are fair or reasonable. This paper seems to be the first critical examination of SSCI.

OTHER CONCERNS WITH USING CITATION COUNTS

Inconsistencies and biases in SSCI journal selection would represent problems in using citation counts as an indicator of a scholar’s social value. The matter taken up here, however, is merely one set of concerns. Other concerns range from practical matters to very broad problems involving the circularities and fads of academic culture and, indeed, the intellectual culture at its broadest and deepest levels. Here I note some of the practical problems and merely indicate the existence of broader problems.

Practical Problems with SSCI Citation Counts

These can be overcome, but it requires meticulous attention to the individual’s curriculum vita and intensive utilization of the SSCI records.

1. SSCI identifies items by initials, so items by David B. Klein will be mixed together with items by Daniel B. Klein. If the citing author does not

⁴ Enlargement strategies include self-citing, coauthoring, citation swapping, being academically-correct, and self-promotion in general.

⁵ The closest thing I could find to a critical examination of SSCI was an article by E.T. Funkhouser (1996) on the omission of many Communications journals from both SSCI and AHCI.

include the middle initial B, which is not uncommon, the item (and citation to it) is listed for D KLEIN. For common names like Klein, Lee, and so on, making a tally is tedious.

2. The citation records include self-citations.⁶

3. The SSCI gives a citation to each author of a coauthored work. Incidentally, since the late 1960s, the percentage of coauthored articles has soared from about 20 % of economics articles to 46 % in 1998 (Coupé 2003b).

4. ISI records citations from the citing article's Reference list. But for articles that do not have a Reference list, notably articles in the numerous law reviews included in SSCI, ISI records citations from the footnotes or endnotes. In such cases, if the article has a citation to Coase 1960 p. 17 and another citation to Coase 1960 p. 18, then Coase picks up two citations. In contrast, when an article has a Reference list (the norm in economics journals) and refers to Coase (1960, 17) in one spot and Coase (1960, 18) in another spot, the citing article nonetheless generates only one citation to Coase. Thus, economists who get cited in law review articles can rack up dozens of citations from a single citing article (and all to a single cited article).

A Few Broader Issues

Whether the following points represent “problems” is highly debatable, but surely some would feel that they do.

5. Relative to books, journal articles disproportionately cite other journal articles rather than books. Excluding books and other media from SSCI slights book authors.

6. An economist who publishes economic history, history of thought, or methodology might get cited in academic philosophy and history journals, which are generally covered by ISI's Arts and Humanities Citation Index rather than the SSCI, though SSCI does include some history and philosophy journals.

7. In economics, some subfields cite more than others. Touchstone theory or model-building papers might receive more than 50 or a 100 cites,

⁶ Incidentally, the all-time record for self-citations in a single article probably goes to Joseph E. Stiglitz. In his Nobel speech published in the *American Economic Review*, June 2002, Stiglitz cited 191 of his own works (including coauthored works). A fitting foil is Adam Smith: Never did *WN* (last edition 1789) nor *TMS* (last edition 1790) cite the other, except that in the preface to the last edition of *TMS* Smith mentions *WN* in remarking on how his advanced age will keep him from completing investigations originally proposed.

while the most cited empirical papers are cited less frequently (Diamond 1989).

8. People cite papers to mark an idea. The citation is a monogram of the idea. It is my impression that, for this reason, articles that make a single, sealed point, rather than make and join multiple points in an open-ended discussion or essay, tend to pick up more citations.

9. An article might be highly cited because of its badness. The citing author might feel that the cited paper was a misstep that needs to be answered or corrected.

Broad Concerns

This is not the place for broad criticism, but many thoughtful critics feel that economics and academic social sciences in general are inherently prone to self-legitimation, politics, and irrelevance. Critics often suggest that problems in particular disciplines cannot be separated from very broad cultural considerations.⁷ The reader is urged not to take from this paper a view that citations counts would become a reliable indicator of a scholar's social value if the practical problems with the SSCI were overcome. I think there are much more fundamental problems; but this investigation and its findings do not depend on the broader issues.

SSCI: A BLACK BOX GENERATING PATENTLY INCONSISTENT DECISIONS

In a 1990 essay, "How ISI Selects Journals for Coverage," Garfield wrote:

We receive a steady stream of calls and letters asking how
ISI decides what journals are covered in various [ISI index

⁷ For example, see books by Martin Anderson, W.W. Bartley, Jacques Barzun, David Clarke, David Colander, David Damrosch, George C. Douglas, Julius Getman, Paul R. Gross, Victor Hanson, John Heath, Russell Jacoby, Alan C. Kors, Norman Levitt, Lionel S. Lewis, David Lodge, Thomas Mayer, Alfred L. Malabre, Deirdre McCloskey, Camille Paglia, Edward Shils, Page Smith, John W. Sommer, Charles J. Sykes, Richard Whitley, and Bruce Wilshire.

products.] Editors in particular are the most inquisitive . . .
(Garfield 1990, 185).

Over the years ISI has issued various statements about how journals are selected for inclusion, usually mentioning many factors. But these statements are scanty and noncommittal. No single factor is sufficient, but many are presented as important or even necessary. However, examination of the journal lists and other forms of probing reveal that many of the criteria that seemed to be necessary are not, in fact, necessary. ISI has not even seen fit to issue statements specific to the diverse indices, such as Science Citation Index, Social Science Citation Index, and the Arts and Humanities Citation Index, where numerous basic differences would seem to call for criteria tailored to the rubric covered. Thus it is no wonder that ISI receives so many inquiries asking for clarification of the process. It is also noteworthy that the people chiefly interested in discerning the criteria, namely journal editors and publishers, are people disinclined to question or criticize ISI. Like pharmaceutical companies seeking approval from the Food and Drug Administration, the parties most likely to have first-hand knowledge of the process, including its disappointments, are those least likely to make noise about it. So far as I know, there has been no scholarly inquiry, examination, or criticism of ISI's journal selection practices. Here I examine the five main ISI statements that range over 30 years about the journal selection process (Garfield 1973, Garfield 1979, Garfield 1985, Garfield 1990, and Testa 2002). My examination will be supplemented by investigations done by Eric Chiang and myself.

The five statements consistently mention a number of factors ISI looks for when considering a journal for inclusion. Let's first consider several that are of a non-circular nature:

- Meeting its own publication schedule.
- Maintaining "international editorial conventions." "These conventions include informative journal titles, fully descriptive article titles and abstracts, complete bibliographic information for all cited references, and full address information for every author." "English language articles titles, abstracts, and keywords are essential." (Testa 2002, 2).
- Being peer reviewed (Garfield 1990, 12; Testa 2002, 2).
- Having broad geographic representation among the authors of the articles in the journal and of the articles cited (Garfield 1990, 10-11; Testa 2002, 2).

These criteria are diverse and vaguely worded. Does “essential” mean necessary? A cursory investigation of SSCI finds some clear inconsistencies. If (1) peer review, (2) international participation, (3) scholarly referencing, and the presentation of (4) abstracts and (5) keywords are all required, how is it that *The Nation*, *The New Republic*, and *Commentary* are included in SSCI? Most of the 17 periodicals listed later on in this paper in the top rows of Tables 1 and 2 fail to meet at least one of these criteria. It is very likely that many, many other SSCI journals also fail to meet at least one of the five criteria. If “essential” does not mean necessary, what does it mean? If it does mean necessary, ISI is not following its own rules.

Regarding peer review, we put the matter to James Testa, Director of Editorial Development at Thomson ISI. We asked him how *Commentary* and the *New York Review of Books* (which is in AHCI, not SSCI) get included in ISI indices, and he responded by email (6 May 03):

Peer review is required for all journals in the natural sciences. As one moves away from the natural sciences toward the social sciences and humanities, ‘peer review’ takes on a different meaning and importance in the process. I think this is universally understood.

Hogwash. No one would regard *Commentary* and the *New York Review of Books*—and many of the other periodicals in the “included” rows of Tables 1 and 2—as peer reviewed. And if some of the criteria simply do not apply to the social sciences and humanities, why doesn’t ISI say so?

It is important to know that certain factors are *not said* to be important in the journal selection process. First, nowhere in the five key statements examined is it said that journal age is important. Indeed, several remarks suggest that a journal that is just one or two years old is ready for full consideration (Garfield 1973, 6; Testa 2002, 2). Second, although external nomination is welcomed (Garfield 1990, 12; Testa 2002, 4), it is never said to be necessary or even important. To confirm, we asked Testa, and he replied by email (30 April 03): “Nomination serves only to alert us to a new journal if we have not already discovered it on our own.” Third, and confirmed by the same email message, size of circulation and size of the periodical are said not to be factors.

Two other factors that ISI consistently says are crucial raise serious concerns about circularity and self-legitimation. One is *the emphasis on citations*.

If a journal has existed long enough to accrue citations, its citation record is of prime importance to us in deciding whether or not it should be covered (Garfield 1979, 7).

Several types of citation data are used. For established journals, these include overall citation rate, impact factor, and immediacy index. For brand new journals, the editors examine the publishing record of the journal's authors and editorial board members, noting where their articles have been published and if their work has been cited (Testa 2002, 3).

Thus, we see citations playing a pivotal role at yet another key point in the process of academic legitimization. So far as justifying its inclusion decision goes, ISI can effectively pick itself up by its own bootstraps. If it includes a set of journals that cite each other, those journals and those scholars by definition become "significant." If it excludes a community of journals and scholars, they thereby remain insignificant.

The other factor is the *reliance on journal evaluations* by both ISI staff and ISI's "networks of advisors."

Each journal goes through an extensive evaluation process before being selected or rejected. The ISI editors performing journal evaluations have educational backgrounds relevant to their areas of responsibilities as well as experience and education in information science. Their knowledge of the literature of their field is extended by consultation with established networks of advisors who participate in the evaluation process when needed (Testa 2002, 1; see also Garfield 1979, 6; and 1990, 12).

We wrote to ISI's Manager of Corporate Communications Rodney Yancey. In our message we reproduced the Testa passage just quoted and asked a series of specific questions about whether journal selection procedures are public information. Yancey's reply, provided in its entirety in the accompanying textbox, is a concise and complete statement that ISI journal selection is a black box. It confirms that (1) the identities of ISI journal selection editors are concealed; (2) the identities of advisors are concealed; (3) the records and reviews are concealed, except that (4) the publishers and editors of the journal reviewed may receive some kind of

decision letter or report; and (5) there are no descriptions of the process other than the vague and cursory documents by Garfield and Testa that we have surveyed here (we find it remarkable that Yancey would describe Testa's piece as offering "complete details").

[Email message]

From: "Yancey, Rodney" [email address redacted]

To: 'Eric Chiang' <echiang@scu.edu>

Date: 9/23/2003 8:54:55 AM

Subject: RE: Several concerns regarding the ISI

Dear Mr. Chiang:

Please find my responses to your questions below.

- 1.) The individual editors are in the fields of the seven editions of Current Contents. Their names are [not*] given out to the general public.
- 2.) We build advisor networks as needed. They come from academia and like the names of the Thomson ISI editors, we do not disclose their names to the general public.
- 3.) Yes there are records of the reviews. However, this information is proprietary.
- 4.) The reviews and decisions are only shared with the journal publishers and editors.
- 5.) Mr. Testa's essay offers complete details on our selection process. If you would like more information on citation analysis, I invite you to visit Dr. Garfield's Web site at <http://www.garfield.library.upenn.edu/>.

Kindest regards,
Rodney Yancey
[Manager of Corporate Communications, Thomson ISI]

* The "not" was inadvertently omitted in the original message. Follow-up correspondence from Mr. Yancey of September 24, 2003 confirmed that he had intended to write "not" here.

Yancey's message makes clear that the only possible window on ISI's decision about a particular journal would have to come from that journal's publisher and editor, once they received a decision letter from ISI. (That may occur, as I understand it, only as a result of the journal specifically requesting a review and decision of ISI.) But this window is not in fact available to the public at large. First, there is no coordinated effort to collect

from the journals such decision letters. Moreover, in each case the journal's publisher would most likely not be willing to make public the decision letter he received. A negative letter might be thought to reflect badly on the journal. Also—and it is from more than mere speculation that I say this—the publisher would not want to antagonize ISI. Instead, he must try to stay on ISI's good side in hopes of eventually getting the journal in question or other journals he publishes included in ISI lists, or keeping them included. Again, the situation is very much like that of a pharmaceutical company receiving a New Drug Application decision from the FDA—by its monopoly in permitting all future products, the FDA has a stranglehold on the company, so the company would be reluctant to protest publicly.

We may conclude that the ISI journal selection process is a black box. Examples like *The Nation* and *The New Republic* prove that ISI's stated criteria are not criteria at all; several SSCI journals fail to meet just about every stated criterion. One might have assumed that there is a consistent method and exalted fairness—a “rule of law”—in the ISI journal selection process. Not only is there absolutely no evidence for that, there is very clear evidence against it.

WHAT IF SSCI WERE IDEOLOGICALLY BIASED?

It may be easy to show, as we have here, that SSCI is a black box, and even that it acts inconsistently. But if SSCI were inconsistent in a patterned way according to political orientation, if it were *ideologically biased*, that would be much harder to show. Here, I clarify what I mean when I say a journal has an ideological orientation, describe what the ramifications of an ideological bias in SSCI would be, and then investigate whether SSCI is ideologically biased.

“Being ideological” has two definitions, one that makes it a bad thing: pigheadedness and foolish prejudice in matters relating to political or policy judgment; and one that makes it a not-inherently-bad thing: being relatively consistent or outspoken in political or policy judgment, and perhaps passionate and motivated to explore or advance what one regards as the more enlightened political ideas. Here I am using the second definition. Being ideological is *not* inherently at odds with being scholarly, scientific, reasonable, scrupulous, fair, and so on. Indeed, since relevance and judgment are key to science, eschewing outspokenness can itself be at odds

with being scientific. Failing to consider pertinent issues and factors and failing to exercise vital judgment can be scientific *errors of omission*.

Now, suppose SSCI were biased against ideology-*i*. The ideology-*i* literature predominately—or at least disproportionately—cites the works of ideology-*i* scholars. By causing the authors to have lower citation counts, a bias against ideology-*i* journals would injure ideology-*i* scholars. And SSCI inclusion has a second significant impact: The author's publication in a journal is often deemed "peer reviewed" partly on the basis of whether the journal is included in SSCI. From our survey of Economics Department chairs we know that at about half of the schools a journal's inclusion in the SSCI is a factor (though usually not a decisive one) in deciding whether to deem a publication "peer reviewed" (Klein and Chiang 2004).

For these combined reasons, a bias against ideology-*i* journals would cause ideologically kindred scholars to have less prestige and eminence than they deserve. Such scholars might avoid the non-SSCI journals and focus their efforts on publishing in the more academic, non-ideological journals that are included in SSCI. Or they might refashion what they believe to make it palatable to ideological-but-not-ideology-*i* journals that are included in SSCI. The community of ideology-*i* scholars loses vitality because its journals are not included in SSCI, and the discourse in general suffers a decline in ideological diversity.

Another way in which a bias would impact ideology-*i* scholars is that the number of citations *to* a journal goes into what is called that journal's "impact factor." These measurements of citation to the journal feed directly into the rankings of the journals—a journal is defined as important because it is cited. Thus, any one ideology-*i* journal would have a higher impact factor if it and other ideology-*i* journals were in the SSCI.

Garfield has repeatedly reported that many editors have implored him that ISI recognition is a matter of life and death for their journals (see Garfield 1979, 5; and 1985, 3). If a number of ideology-*i* journals get included, they thereby achieve citation impact and are academically respectable, and authors get "good publication" credit for articles that appear in them. Also, more prospective authors will send their manuscripts to the journal, and more individuals and institutions will subscribe to the journal. If the ideology-*i* journals do not get included, they then lack citation impact and are not respectable, and their authors do not get "good publication" credit.

By the same token, if some ideological orientation, ideology-*k*, is *favored* by SSCI, if journals of some ideological orientation are disproportionately included in SSCI, then that literature gains academic

legitimacy across the board—impact factors, journal ranking, citation to authors, a livelier flow of manuscripts, and more subscriptions. Indeed, university definition of “peer-reviewed” sometimes hold ISI inclusion (such as in SSCI) to be a *sufficient condition* for calling a journal peer-reviewed.⁸ About a third of Economics Department chairs reported that if a journal is included in SSCI, the department would count a publication in that journal as peer reviewed unless there were some salient reason not to (Klein and Chiang 2004). A faculty member, then, gets credit for a peer-reviewed publication when he publishes an article in an SSCI journal, but not necessarily for articles in journals not included in SSCI.

A Bone to Pick

From time to time I check my SSCI citation count. This has never been a source of satisfaction. Meanwhile, I subscribe to numerous scholarly classical liberal (or libertarian) journals, including *Cato Journal*, *Critical Review*, *Economic Affairs*, *Independent Review*, *Journal des Economists et Etudes Humaines*, *Knowledge, Technology & Policy*, *Regulation*, and *Review of Austrian Economics*, and to less scholarly journals and magazines like *Ideas on Liberty*, *Liberty*, and *Reason*. This literature cites my work with some regularity. But only one of them is included in SSCI – *Critical Review*, which is much less decidedly or consistently classical liberal than the others.⁹ Maybe SSCI steers clear of ideological periodicals? Some of those mentioned aren’t scholarly journals at all. But SSCI does include a few political magazines of news commentary and opinion. And, as for more scholarly journals, a scrutiny of the SSCI list shows that plain political leanings do not necessarily disqualify a journal.

EVIDENCE OF A SOCIAL DEMOCRATIC BIAS IN SSCI

Eric Chiang and I have investigated whether SSCI is ideologically biased. We approached the universe of social science periodicals in a way

⁸ Using Google, I found several Australian universities with guidelines reading: “For journal articles, any of the following are acceptable as evidence [of peer review]: [the first bulleted item is] the journal is listed in one of the Institute for Scientific Information indexes” (Newcastle 2002). The context strongly indicates that “acceptable” here means sufficient.

⁹ The editor Jeffrey Friedman has specialized in hosting fruitful critiques of libertarianism and debates between classical and modern liberals; in fact, *Critical Review* is a core journal in the Left Index.

that first asked whether the periodical has an ideological character. We divided those with an ideological character into social democratic, conservative, and classical liberal/libertarian. The “social democratic” category is really a catchall for the “Left”—I recognize that there are important divisions within the big tent of the Left, but, for a number of reasons, we have chosen not to concern ourselves with the possibility of bias against certain camps within the Left.

It would have been nice if there were a definitive classification of periodicals by ideology, but there isn't.¹⁰ Instead we have had to assemble titles from different sources and make our own distinctions. We have attempted to be fair, transparent, and reasonably systematic. Here we present three tables of periodicals by ideological orientation and SSCI inclusion. Like the title of this paper, our investigation of ideological bias ends with a question mark. We find some evidence of ideological bias, but it is not conclusive.

At the time of our investigation during 2003, there were 1,768 journals in SSCI, and we certainly did not investigate all or even a quarter of them. When we investigated a journal, we did so via the web and only rarely consulted hard copies. The spirit of this quantitative evidence obviously is not comprehensive accounting, but rather sufficiency in raising the issue of ideological bias. I know the classical liberal and conservative periodicals well enough to know that their inclusion in SSCI has not been understated here. We have documented our claims about the social democratic periodicals well enough to know that their inclusion has not been overstated.

SSCI contains some ordinary political magazines. We distinguish between magazine and journal on the basis of submission and review policy, format, style, tone, length of articles, scholarliness, and periodicity. We have deemed those listed in Table 1 as magazines. *The Nation* and *The New Republic* are ordinary political commentary magazines that appear almost weekly. No one would consider them to be scholarly journals. *The Nation* announces that it will not even consider unsolicited manuscripts. It describes itself as a weekly “of left/liberal opinion” (thenation.com, 12 Sept 03). It is included in the Alternative Press Index and the Left Index and

¹⁰ There is no full-spectrum ideological guide to the scholarly journals. There are two major leftist indices: (1) The Alternative Press Index is a product of the Alternative Press Center; in a 1992 issue of *Library Journal*, Marie F. Jones described API as the “leading index of liberal and radical serial publications” (quoted in Alternative Press Index 2004). (2) The Left Index is a product of the National Information Services Corporation. There are also websites such as PoliticalUSA.com and Leftist Links Archive, but these websites include mainly opinion/current affairs type journals, not scholarly journals.

listed among magazines of the Left on such websites as PoliticalUSA.com and Leftist Links Archive. *The New Republic* is oriented toward the establishment and has since 1960 generally favored the Democrats, been pro-free trade, and pro-Israel. *Commentary*, published by the American Jewish Committee, is a centrist neo-conservative, pro-Israel monthly and has an explicit focus on Jewish affairs. SSCI includes no classical liberal/libertarian magazines.

Table 1: Magazines by Ideology and SSCI Inclusion

	Magazines		
	Social Democrat	Conservative	Classical Liberal (Libertarian)
Included in SSCI	<i>Nation</i> <i>New Republic</i>	<i>Commentary</i>	[None]
Not Included in SSCI	Many (see Alternative Press Index, Left Index) just 2 examples: <i>The Progressive</i> <i>Mother Jones</i>	<i>American Enterprise</i> <i>American Spectator</i> <i>Chronicles</i> <i>Human Events</i> <i>Insight</i> <i>National Review</i> <i>Weekly Standard</i> [And perhaps a few others]	<i>Economist</i> <i>Ideas on Liberty</i> <i>Liberty</i> <i>Reason</i> [And perhaps a few others]

The bottom row of Table 1 lists several conservative and classical liberal magazines not included in SSCI. If *The Nation* merits SSCI inclusion, why not them?

Next, consider all periodicals that are more properly described as journals, rather than magazines, even highly scholarly journals, *but that are plainly of an ideological character*. Our bases for saying that a journal exhibits its ideological character “plainly” are the consistency and outspokenness of the views expressed, its institutional affiliations (especially, the publisher), and the way it describes itself—with any one basis being sufficient. Being more relevant, timely, and outspoken, many of these journals are less academic than ordinary academic journals—but not necessarily less scholarly.

Table 2: Plainly Ideological Journals by Ideology and SSCI Inclusion

	Scholarly or Semi-scholarly Journals		
	Plainly Social Democrat	Plainly Conservative	Plainly Classical Liberal
Included in SSCI	<i>Alternatives Journal</i> <i>Critical Asian Stud.</i> <i>Dissent</i> <i>Econ. and Indus. Democracy</i> <i>Economy & Society</i> <i>International Labour Review</i> <i>Monthly Review</i> <i>New Left Review</i> <i>Politics & Society</i> <i>Race & Class</i> <i>Radical Philosophy</i> <i>Science & Society</i> [And probably a few others]	<i>Policy Review</i> <i>Public Interest</i>	[None]
Not Included in SSCI	Many (see Alternative Press Index) just 2 examples: <i>American Prospect</i> <i>Rethinking Marxism</i>	<i>Federalist</i> <i>Hoover Digest</i> <i>Intercollegiate Review</i> <i>Modern Age</i> [And probably a few others]	<i>Cato Journal</i> <i>Economic Affairs</i> <i>Independent Review</i> <i>J. Ayn Rand Studies</i> <i>J. Libertarian Studies</i> <i>Q.J. Austrian Econ.</i> <i>Regulation</i> [And probably a few others]

The ideological character of the social democratic journals listed in the upper left cell is evident from the way they describe themselves. *Dissent* is “a magazine of the left;” *Economy & Society* is a “radical interdisciplinary journal of theory and politics;” *New Left Review* is “a key journal of the international Left;” *Politics & Society* pursues the “development of Marxist, post-Marxist and other radical perspectives;” *Race & Class* is subtitled “A Journal for Black and Third World Liberation;” *Radical Philosophy* is “a journal of socialist and feminist philosophy;” *Science & Society* “is the longest continuously published journal of Marxist scholarship.” Appendix 1 (Panel A) provides quotations and URLs from the websites of the 12 journals listed in the upper-left cell. Of the 12, all but two are included in the Alternative Press Index (as of 27 Sept 03) and all but three had at least 40 articles indexed in the Left Index (as of 18 Nov 03).

SSCI includes two plainly conservative journals, both American. *Policy Review*, published by the Hoover Institution, focuses on international affairs

and foreign policy. *The Public Interest* offers a neo-conservative perspective on domestic social and policy issues. Both of these journals are quite establishment oriented. SSCI includes no plainly classical liberal journals.

Now consider journals that are reservedly ideological and consistently of a more academic nature. In Table 3 we have joined conservative and classical liberal into one column. Most of these journals fashion themselves as serious academic journals. Almost none of the journals listed in Table 3 would ever be found in any bookstore. Nonetheless, each of these journals seems to exhibit an ideological orientation, though in a way more reserved than those of the previous two tables.

Table 3: Reservedly Ideological Journals by Ideology and SSCI Inclusion

	Journals that are:	
	Reservedly Social Democrat	Reservedly Conservative or Classical Liberal
Included in SSCI	[Depending on the benchmark for biasedness, the number of journals belonging to this cell could be anywhere from 75 to many hundreds . See the list of 83 journals in Appendix 1B.]	<i>Am. J. Econ. & Soc.</i> <i>Critical Review</i> <i>J. Inst. and Theoretical Econ.</i> <i>J. Law & Econ.</i> <i>J. Legal Stud.</i> <i>Kyklos</i> <i>Public Choice</i> <i>Social Phil. & Policy</i> [And perhaps a few others]
Not Included in SSCI	Many	<i>Academic Questions</i> <i>Constitutional Pol. Econ.</i> <i>J. Economistes et Etud. Hum.</i> <i>Knowledge, Tech. & Pol.</i> <i>Planning & Markets</i> <i>Rev. Austrian Econ.</i> <i>Humanitas</i> [And probably a few others]

With 1,768 journals in SSCI, it is impractical to try to give a comprehensive account of the journals with some ideological character. Again, the spirit here is evidentiary sufficiency.

The main issue for Table 3 is how to define having an ideological orientation. We usually say that an organization is oriented toward a particular ideology if, *relative to the norm*, it dwells on, expresses, or espouses

the sensibilities of that ideology. But in assessing the matter for, say, a top ranked sociology journal, what is the relevant norm? The general population of the U.S.? Academics in general? Or sociologists? This question of the benchmark is central because it is well established that social democratic sensibilities dominate the social sciences and humanities.¹¹

As far as the ordinary Republican citizen is concerned, if he could penetrate the academic journals at all he would probably regard a significant portion of the anthropology, history, political science, and sociology journals as having a social democratic orientation, and surely the same can be said of psychology, law, communications, environmental studies, education, philosophy, planning, social work, public health, gender studies, ethnic studies, and cultural studies—that is, every social-science or humanities discipline except economics.¹² In the top ranked sociology journal, a large portion of its articles exhibit a focus on race, class, and gender in a manner typical of social democratic academics. Leon Bramson (1961, 16-18, 51-52, 85-86) and Edward Shils ([1978], 141-42) suggest that many of the social science disciplines developed in the United States as projects to marshal science in the service of melioristic reforms and were oriented in their fundamental outlook toward collectivist ideas and government intervention. In Europe sociology was more directly rooted in socialism and anti-liberalism (Bramson 1961, 11-18, 48-50). Even within the discipline of economics, the ordinary Republican citizen would regard many journals to have a leftist or “liberal” orientation.

The three salient benchmarks are the general population, academic social science in general, and the particular discipline or field. In Appendix 1 (Panel B), we list 83 journals that we have deemed to be “reservedly social

¹¹ One indication of the ideological lopsidedness in academia is political-party affiliation ratios among the faculty. Voter registration studies done by the Center for the Study of Popular Culture and others report extreme lopsidedness in Democrat v. Republican ratios. I am involved as a principal author in two separate scholarly investigations of this matter, one being a meticulous treatment of voter registration among faculty at two top universities, and the other being a large scale survey of academics asking them what party they vote for. Both studies are in progress, but the data collection is complete in one case and nearly complete in the other. The upshot is that the lopsidedness is extreme. I expect that both the voter registration findings and the survey findings will be released by the end of 2004.

¹² Irving Kristol (2000: A 26) writes: “The feminine, maternal version of the welfare state [that is, social democracy] now has the support . . . of institutions and professions that have been nourished by this state. . . . These are now designated collectively as the ‘helping professions,’ and include social work, nursing, psychology, public health, librarianship, teaching, and branches of TV journalism.” As of 13 August 2003, there were 15 SSCI journals with “social work” in the title, 128 with “psychology,” and 83 with “health.”

democratic” in orientation. In these cases we have deemed the orientation “reserved” rather than “plain” on the grounds that in its self-description on the web the journal does not seem to make the ideological point of view as central to its character as do the plainly ideological journals. The “social democratic” designation is based on any of three criteria: (1) their self-descriptions on the web; in many cases we have provided in Appendix 1B relevant quotations and URLs; (2) inclusion in the Alternative Press Index; or (3) inclusion in the Left Index with at least 40 records (that is, articles) indexed.¹³ The list of 83 was developed by pointed search and investigation, such as by inclusion in the leftist periodical lists (such as Alternative Press Index and the Left Index), by social-democracy oriented publishers, and by journal title-words that correlate to a social-democrat orientation. On the sheer basis of posted self-description, continued investigation would surely expand the list. We did not examine *the contents* of journals. But, in principle, one could examine the contents of every one of the 1,768 SSCI journals and assess its contents for overall ideological orientation, and on that basis quite possibly add hundreds of journals—again, depending on the benchmark used—to the list of reservedly social democratic journals.

It is on that broader basis that specific journals are listed as conservative or classical liberal in the right column of Table 3. There is nothing in the self-descriptions of *Journal of Law & Economics*, *Journal of Legal Studies*, *Public Choice*, and *Kyklos*, for example, that indicates their ideological orientation, except that, relative to academic social science in general, “law and economics” and “public choice” themselves indicate a classical liberal orientation. Thus, *there is an important asymmetry between the bases for listing the social democratic journals in Appendix 1B and the journals in the right column of Table 3*. If one were to apply symmetrically the basis upon which *Journal of Legal Studies* is listed in the right column, one might well add *Stanford Law Review*, *California Law Review*, and many, many other law journals to Appendix 1B (as of July 03 SSCI included 90 journals with “Law” in the title). To carry out the symmetric investigation would be extremely time consuming and impossible to verify on a broad plain.

As for the completeness of the listings in the top right cell of Table 3, I’m pretty sure it is reasonably complete. Bear in mind that many journals are too dry to be regarded as ideological at all. For example, *Southern*

¹³ We excluded from Appendix 1 one journal that had more than 40 records in Left Index: *Critical Review* had 396 records. As noted earlier, that journal is devoted basically to exchange between social democratic and classical liberal ideas. It is, in fact, more appropriate to view it as a classical liberal journal.

Economic Journal, the journal of the Southern Economic Association, has traditionally been more congenial to classical liberal ideas than the average social science journal or even the average economics journal. But, by and large, the articles in the journal are narrow and highly technical. One could choose to add *SEJ* to the top-right list, but correspondingly one then would have to add scores of journals to the top-left list.

In the bottom right cell we list six journals that are reservedly conservative or classical liberal and not included in SSCI (*Planning & Markets* is an electronic journal, and ISI seems to consider electronic journals equally (Testa 2002, 3)). There are probably a few others that could be listed in that cell.

The ideological lopsidedness of academics in general might get ISI off the hook. ISI might respond that SSCI includes a lot of social democratic journals because there are a lot of social democratic journals, and it includes few classical liberal journals because there are few classical liberal journals. The general lopsidedness of academics surely goes a long way in explaining the lopsidedness of the first row of Table 3.

Eugene Garfield's Ideological Orientation

Again, ISI was built and directed for more than 30 years by Eugene Garfield. In the introduction to a volume honoring Garfield, Cronin and Atkins write, "For many people, the name Garfield is synonymous with citation indexing, an idea that he championed indefatigably for more than four decades" (2000, 1).

The scrutiny of personal character and values is often said to be an illegitimate form of evidence or argument, and disparaged as an "*ad hominem* attack." Indeed, it is often unpleasant and invidious to scrutinize an individual, and hence inappropriate. But everyone knows that character and purpose are vitally relevant and meaningful. Considerations of motive are crucial in reaching court decisions, and rhetoric scholars recognize that the wholesale rejection of "*ad hominem*" arguments is a fallacy (e.g., Walton 1985). When getting a better reading of a matter is important, and the cold hard facts do not speak clearly, "circumstantial evidence" and the analysis of motives are especially crucial. Whether people realize it or not, Eugene Garfield and his associates have played a major role in shaping the definition and pursuit of the social sciences. They have played a major role in the machinations that determine which scholars, which ideas, and which values attain legitimacy and eminence. It is appropriate to ask if a social

democratic bias in SSCI would conform to Garfield's own ideological orientation. Hence we have investigated Garfield's copious writings for ideological indicators. For decades Garfield wrote a wide-ranging, often political column for ISI's periodical *Current Contents*. There is significance in the fact that Garfield editorialized freely in his journal, officially devoted to scientometrics, for it shows his tendency to personalize the larger mission and to use it for wider causes. Moreover, it meant that Garfield put his own views and personal history into the public domain; more recently, he has made all of these writings available on his website.

Garfield's columns clearly exhibit a social democratic orientation, in advocating expanded welfare-state programs, nationalization of certain services, and new ambitious regulatory interventions. We have gathered 14 sample quotations, with citation, in Appendix 2.

The relevance of this "ad hominem" material is for the reader to decide. Whether Garfield personally signed off on each journal for inclusion in SSCI, I don't know. More likely, he delegated much of that to ISI staff. But during his 30 plus years up through 1992 as ISI chief, and continuing today as Chairman Emeritus, if he did not make the journal decisions himself, he surely did influence the selection of the top people making those decisions. We offer these facts about the man who has been the guiding force of ISI as something to consider within a broad set of information about SSCI and ISI's journal selection process.

Are We Talking about a Significant Number of Citations?

Again, if SSCI is ideologically biased, that will impact the ideology favored and the ideology slighted. Here we provide some numbers.

ISI produces a product called Journal Citation Reports that tallies citations by a journal's articles. That is, it tallies how many citations a journal generates (meaning how many articles it cites), including citations to books, manuscripts, and journals not in ISI's databases. Of course, the report is made only for ISI-indexed journals, such as those in SSCI. At Stanford University we accessed Journal Citation Reports to see how many citations the social democratic periodicals listed in Tables 1–3 generate.

Table 4: Citation Generation by a Sample of Social Democratic Journals

Social Democratic Periodical	Number of Citations Generated 2002 ¹⁴
Journals from Table 1	
<i>Nation</i>	170
<i>New Republic</i>	150
Selected Journals from Table 2	
<i>Alternatives Journal</i>	854
<i>Dissent</i>	56
<i>Economic and Industrial Democracy</i>	964
<i>International Labour Review</i>	464
<i>New Left Review</i>	678
<i>Race & Class</i>	366
<i>Radical Philosophy</i>	400
<i>Science & Society</i>	696
Selected Journals from Table 3	
<i>Cambridge Journal of Economics</i>	1,953
<i>Feminist Economics</i>	718
<i>Journal of Economic Issues</i>	2,126
<i>Journal of Post-Keynesian Economics</i>	916
<i>Labor History</i>	927
<i>Review of International Political Economy</i>	1,630
<i>World Development</i>	6,078

The table reports the citation-generation numbers for the two social democratic magazines, several of the plainly social democratic journals, and a sample of the reservedly social democratic journals from Appendix 1. This is just a sample that has been selected haphazardly and is probably representative, though we wanted to be sure to show here the remarkable number for *World Development*, which alone each year creates 6,078 citations

¹⁴ A detail: As was confirmed by an email message (May 27, 2003) from ISI Technical Support Representative Chris Pasquini, the number reported here is the number of citations generated by articles *indexed*—not published—in 2002. For example, if ISI does not receive and index the December 2001 issues of *The Nation* until early 2002, then the citations generated by those issues will be counted in the 2002 number, not the 2001 number. This difference between indexed and published would even out if the process remained the same year after year.

for the scholars cited in that journal, and boosts the impact factors of the cited journals. A complete listing of counts for the 98 SSCI social democratic journals shown of Tables 1, 2, and 3 is provided in Appendix 1 (in a few cases the JCR did not supply the number).

The numbers for the non-SSCI classical liberal journals are not, of course, available from Journal Citation Reports because they are not included in SSCI; so we have manually counted the number of citations generated in 2002 (for a subset of the classical liberal journals appearing in Tables 1, 2 and 3).

Table 5: Citation generation by a Sample of Classical Liberal Journals

Classical liberal periodical	Number of citations generated 2002
Selected Journals from Table 1	
<i>Ideas on Liberty/Freeman</i> ¹⁵	535
<i>Reason</i>	55
Selected Journals from Table 2	
<i>Cato Journal</i>	780
<i>Economic Affairs</i>	615
<i>Independent Review</i>	934
<i>J. of Libertarian Stud.</i>	864
<i>Q. J. of Austrian Econ.</i>	646
<i>Regulation</i>	198
Selected Journals from Table 3	
<i>Constitutional Pol. Econ.</i>	667
<i>J. Economistes et Etud. Hum.</i>	882
<i>Knowledge, Technol. & Pol.</i>	722
<i>Planning & Markets</i>	119
<i>Rev. of Austrian Economics</i>	808

If these journals were included in SSCI, then the cited scholars would enjoy higher citation counts and the cited journals would enjoy higher impact factors.

¹⁵ *Ideas on Liberty/Freeman* uses endnotes. We counted citation as if the journal used Reference List style—that is, even if an article had one endnote citing Hayek 1960, p. 53 and another endnote citing Hayek 1960, p. 133, we counted just one citation to Hayek 1960 (SSCI would count that as two citations to Hayek 1960).

Being on Schedule: A Factor that could Explain the Seeming Pattern

Even if we agree that there seems to be an ideological pattern in SSCI inclusion, we must keep in mind the possibility that it is just a result of chance. In particular, one criterion said to be important for SSCI inclusion is being on schedule. I have not done a systematic investigation of whether the classical liberal journals have been reasonably punctual. However, I can say that as a subscriber of many of them, I have been aware of publication lags for only two or three of them. Also, I suspect that it is common among SSCI journals to experience occasional publication lags. The only way to find out would be to do a journal-by-journal investigation, and it is unlikely that the journals themselves would readily cooperate with such an investigation and reliably report on their own punctuality.

Ways of Correcting the (Alleged) Bias

We have provided a variety of evidence of social democratic bias in SSCI. Perhaps the matter will become clearer with further investigation or a response by ISI.

If we are to conclude that such a bias exists, how could ISI correct it? One way would be to weed out overt ideological orientation and judgment by trimming the current SSCI journal list. This would mean deleting a lot of social democratic periodicals.

In my opinion, it would be better to embrace the social sciences and humanities as, not consensus-oriented, but dialogue-oriented, in which policy relevance, judgment, outspokenness, and debate are essential, and therefore expand rather than truncate the list. A good place to start would be by adding to SSCI many of the conservative and classical liberal periodicals listed in the “not included” rows of Tables 1, 2, and 3.¹⁶

A third way deserves serious consideration: ISI could make inclusion an option that any periodical meeting minimal requirements may exercise by paying a fee to ISI and regularly providing its formatted data to ISI. This would avoid any problems or allegations of biasedness, since its treatment of journals would be truly equal. This would seem to be good business—ISI would sell its products as usual, but now would also collect fees from

¹⁶ Of those, the following are included in EconLit as of 11 February 2004: *American Enterprise*, *Cato Journal*, *Constitutional Political Economy*, *The Independent Review*, *Regulation*, *Quarterly Journal of Austrian Economics*, and *Review of Austrian Economics*.

the journals. Would the product altered in this way be less in demand? I don't think so. I think it would be *more* in demand. Citation analysis could continue to serve the vetting and ranking functions for which people now look to SSCI. The scholars evaluate journals by citing or not citing them, participating in or shunning them, and by speaking well or ill of them. We do not also need ISI to vet and certify journals preemptively. Furnish the full data and diverse rankings will emerge and compete in a more spontaneous fashion.

We should bear in mind that the idea of reducing the apparent ideological lopsidedness in the SSCI by trimming the over-represented sides or adding to the under-represented sides is limited under ISI's current practice with respect to retroactive citations. Under current ISI practice, if ISI were to drop *The Nation* from SSCI today, all the citation from *The Nation* up to today would remain in the system. And if ISI were to add *Constitutional Political Economy* today, it would only start counting citations from that journal beginning today. The legacy of lopsidedness would remain in the system.

Finally, if it seems that ISI is biased and will persist in this fashion, maybe someone else should get into the business and do it right. The ambitious plan would be to replicate SSCI entirely but correct the bias. A less ambitious and seemingly quite feasible project would be to create a corrective supplement to SSCI. The social democrats have the Alternative Press Index and the Left Index, although these products, like EconLit, are not *citation* indices—not *yet*, that is. Classical liberals (along with conservatives) could embark on compiling their own citation index, the Social Affairs Citation Index (SACI). A classical liberal citation index covering the classical liberal periodicals could be promoted as a supplement to the ISI citation indices (particularly, SSCI and the Arts and Humanities Citation Index), designed to advance intellectual diversity and prevent ideological discrimination. For tenure cases and the like, the individual could submit his SACI citation count along with his SSCI (or AHCI) count. If SACI provided tallies of citations *not counted by SSCI (or AHCI)*, the individual could conveniently assure reviewers that there is no double-counting in summing the SSCI and SACI numbers. In time, the proposed classical liberal citation index might come to be recognized and utilized in institutional machinations.

CONCLUSION

When I hear someone telling a private company how to run its business, I usually figure he's just a loud mouth. The loud mouth doesn't have the local knowledge that the company's officers have. The loud mouth has little appreciation of the systemic effects of the changes he urges.

Yet here I am telling the Thomson Corporation to make SSCI more consistent, transparent, and ideologically neutral. In some cases it is appropriate to criticize private companies. Thomson ISI is a major player in the world of science. It seems to me that our esteem for ISI ought to hinge on its abiding by the scientific norms of consistency and transparency.

And even if ISI's opaque, inconsistent practices have some explanation—beyond the outsider's comprehension—this investigation suggests that the rest of us ought to question more seriously the meaning of ISI citation counts.

APPENDIX 1:

[Linked Excel Spreadsheet:
Panels A and B](#)

APPENDIX 2:

14 Passages from Eugene Garfield that Project a Social-Democrat Point of View (followed by source)	
"My uncles were Marxists. One of them gave me Bernal's book 'The Social Function of Science' when I was 14 years old. It may have had some influence on me."	
	Deeds and Dreams of Eugene Garfield; <i>Chemical Intelligencer</i> , Oct 1999, p.26-31; Quote on p.28. [URL: http://www.garfield.library.upenn.edu/papers/chemicalintelligencerp26y1999.pdf] [DA: 6/6/03]
"Unfortunately, the US ranks well below other developed nations in its support for working parents. In the past decade, the US government has failed to enact any legislation to provide comprehensive child care. And many of the day-care programs that had been serving the poor have been eliminated."	
	Child Care: An Investment in the Future. Part 1; Current Comments column in <i>Current Contents</i> , Vol. 6 Feb 7, 1983, p.5-11; Quote on p.7. [URL: http://www.garfield.library.upenn.edu/essays/v6p031y1983.pdf] [DA: 6/6/03]
"The Yellow Cab Company chain is a small fraction of what could constitute a national system, and we need one. There ought to be federal standards of safety, courtesy, and comfort, if not uniformity of prices and service."	
	Confessions of a Cab Driver; Current Comments column in <i>Current Contents</i> , #20, May 16, 1977, p.5-7; Quote on p.6. [URL: http://www.garfield.library.upenn.edu/essays/v3p116y1977-78.pdf] [DA: 6/6/03]
"Massive cuts made in the US mental health and social services budgets preclude any additional aid to these people. And cuts in funding for social science research will, of course, mean that their plight won't be investigated."	
	Of Beggars, Bagladies, and Bums; Current Comments column in <i>Current Contents</i> , #6, Feb 8, 1982, p.5-15; Quote on p.414. [URL: http://www.garfield.library.upenn.edu/essays/v5p395y1981-82.pdf] [DA: 6/6/03]
"For example, Demark is considered a leader in waste management. It's Kommunekemi, or "community chemical" plant, is run by a government-owned waste-management firm that also profits from consulting with other countries."	
	Hazardous Waste. Part 2; Current Comments column in <i>Current Contents</i> , #36, Sept. 8, 1986, p.3-10; Quote on p.5. [URL: http://www.garfield.library.upenn.edu/essays/v9p264y1986.pdf] [DA: 6/6/03]

"US legislators could learn from the Seveso Directive, which shows that a uniform approach is more effective than the current US situation of having different hazardous-waste laws in each state."	
	Hazardous Waste. Part 2; Current Comments column in <i>Current Contents</i> , #36, Sept. 8, 1986, p.3-10; Quote on p.6 [URL: http://www.garfield.library.upenn.edu/essays/v9p264y1986.pdf] [DA: 6/6/03]
"It is not inconceivable that in this century basic telephone service, like health services, might come to be regarded as a fundamental right provided by government."	
	What This Country Needs is a Free Phone Call; Current Comments column in <i>Current Contents</i> , #38, Sept. 19 1977, p.5-10; Quote on p.7. [URL: http://www.garfield.library.upenn.edu/essays/v3p226y1977-78.pdf] [DA: 6/6/03]
"The educational infrastructure of the country urgently requires both strong leadership and many more federal dollars to stem its decline."	
	The Military Threat to R&D; <i>The Scientist</i> , 1(15):9, June 15, 1987, pp. [not given][URL: http://www.garfield.library.upenn.edu/essays/v14p243y1991.pdf] [DA: 6/6/03]
"The lack of federal support for instrumentation and facilities, which can be traced as far back as the late 1960s, has ben left unaddressed and has prompted many universities to pursue the pork-barrel route to federal funds."	
	The Military Threat to R&D; <i>The Scientist</i> , 1(15):9, June 15, 1987, pp. [not given]. [URL: http://www.garfield.library.upenn.edu/essays/v14p243y1991.pdf] [DA: 6/6/03]
"The scientific community has a long-standing commitment to political activism concerning matters of conscience, but this new attention to the politics of science funding, is in my view, welcome and overdue."	
	Scientists Must Learn to Lobby; <i>The Scientist</i> , 1(12):9, May 4 1987, pp. [not given]. [URL: http://www.garfield.library.upenn.edu/essays/v14p234y1991.pdf] [DA: 6/6/03]
"Of course, labeling regulations as they now exist are not all bad. They guarantee that with all the processing our good goes through these days, we'll have, at least, an indication of some of the things used."	
	Toward Ending the Confusion Surrounding Food Additives; Current Comments column in <i>Current Contents</i> , #24, June 11, 1979, p.5-17; Quote on p.12. [URL: http://www.garfield.library.upenn.edu/essays/v4p180y1979-80.pdf] [DA: 6/6/03]

	<p>"Two bills, now in the Pennsylvania General Assembly, would allocate funds from the sales of cigarettes for such worthwhile programs. One would place a 1 cent per pack tax on cigarettes to be paid to the Pennsylvania Cancer Control and Research Fund. The other would place a 1 cent per pack tax on cigarettes to be paid to the state's Department of Health for grants and low interest loans for the payment of cancer treatment."</p>
	<p>Nicotine Addiction is a Major Medical Problem; Current Comments column in <i>Current Contents</i>, #31, July 30, 1979, p.5-13; Quote on p.12. [URL: http://www.garfield.library.upenn.edu/essays/v4p229y1979-80.pdf] [DA: 6/6/03]</p>
	<p>"The philanthropic foundation is very much a part of the American way of life. If, however, as I have suggested above, it can't emotionally espouse the cause of basic scientific research, then I propose that we enlist another phenomenon at which Americans show great skill: the political lobby. . . . Since the Heart, Cancer, Fibrosis, etc. organizations must know of their dependence on basic research, I suggest that it would be sensible for them to do exactly what they would do if they were 'business' organizations rather than 'scientific' organizations: they would support a lobbyists in Washington to promote support of their common need, basic research. They might even be shrewd enough to instruct such a lobbyist to vigorously promote support of <i>any</i> specific research that currently strikes the public's and the Congress's fancy, so as to strengthen the scientific research front at every point possible. For example, such a lobby might have worked full time to prevent the recent disastrous cuts in training programs." (p. 6)</p>
	<p>We Need a Lobby for Basic Research; Here's How It Might Be Done; Current Comments column in <i>Current Contents</i>, #11, March 14, 1973, p.5-7; Quote on p.6. [URL: http://www.garfield.library.upenn.edu/essays/V1p418y1962-73.pdf] [DA: 6/6/03]</p>
	<p>"In my capacity as President of the Information Industry Association, I have prepared a proposal to create legislation for establishment of a National Information Funding Authority. Through this Authority, funds would be channelled [<i>sic</i>] directly to information consumers so that each one could choose and test from the variety of commercially available information services those most relevant to his needs. Direct stipends would be allocated to scientists based on simple criteria, such as size of research grant, number of scientists to be served, etc. . . . Eventually I would hope that this approach would be adopted by international organizations in developing information consciousness and utilization in developing countries." [This quote comes at end of the article.]</p>
	<p>Since Information Isn't Free, Why Not Direct Stipends to Prime the Information Pumps?; Current Comments column in <i>Current Contents</i>, #43, October 25, 1972, pp. [not given]. [URL: http://www.garfield.library.upenn.edu/essays/V1p372y1962-73.pdf] [DA: 6/6/03]</p>

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