The Diffusion of the Keynesian Revolution: The Young and the Graduate Schools

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Experience seems to show that people are divided between the old ones whom nothing will shift and are merely amazed by my attempts to underline the points of transition so vital in my own progress, and the young who have not been properly brought up and believe nothing in particular. . . . I have no companions, it seems, in my own generation, either of earliest teachers or of earliest pupils.—Keynes to Harrod, 30 August 1936

The *General Theory* caught most economists under the age of 35 with the unexpected virulence of a disease first attacking and decimating an isolated tribe of South Sea islanders. Economists beyond 50 turned out to be quite immune to the ailment. With time, most economists in between began to run the fever, often without knowing or admitting their condition.—Paul A. Samuelson, "Lord Keynes and the General Theory"

The division of professional opinion cannot be described in the same terms for every country: in some it amounted to no more than a ripple on the surface. But in England and the United States it went deep, and here a phenomenon asserted itself unmistakably that deserves passing notice. Keynesianism appealed primarily to young theorists whereas a majority of the old stagers were, more or less strongly, anti-Keynesian. One aspect of this is too obvious to detain us and has, in addition often been emphasised: *of course* it is true that part of the resistance which every novel doctrine meets is simply the resistance of arteriosclerosis. But there is another. The old or even mature scholar may be not only the victim but also the beneficiary of habits of thought formed by his past work. . . . And in a field like economics, where training is often defective and where the young scholar very often simply does not know enough, this element in the case counts much more heavily than it does in physics where teaching, even though possibly uninspiring, is always competent.—Joseph A. Schumpeter, *A History of Economic Analysis*

Keynes, Samuelson, and Schumpeter have provided the profession with oft-repeated characterizations of the spread of Keynesian (and other) ideas. They are, however, characterizations that have been followed up only informally. There have been, it is true, "reviews of the reviews" of *The General Theory*, not to mention surveys of the various controversies that the book generated (Klein 1947, chap. 4). There have also been studies of aspects of what followed, such as the invention and adoption of IS-LM and the reactions of various individuals or institutions to the new work (Asso 1990; Collins 1981; Durbin 1985; McCormick 1992; Stein 1968; Young 1987; Young and Lee 1993), and there have been memoirs (Brown 1988; Kregel 1988). The purpose of this article is to add to the existing literature by providing more information about the diffusion of the ideas in question, partially with reference to graduate education in economics.

This last matter is of some interest because in the early 1950s, just after the end of the period under consideration, the notion of a "core" of economic theory "which should bind the profession together and . . . enable economists of all types and persuasions to communicate with one another" entered academic economics (Bowen 1953, 42–43).[1] That core included a widely accepted version of Keynesian economics that had emerged in the years immediately after publication of *The General Theory* (Patinkin 1990).

The core of this paper is a bibliographical and biographical study of the 392 articles that appeared between the beginning of 1936 and the end of 1948 and were recorded either in classes 2.30, 2.31, 2.320, 2.322, and

1. As defined by Bowen, the core in economic theory was "the field as it is generally accepted in the profession at the time." The emphasis was to be "fairly conventional but up-to-date and integrated" and "should acquaint the student with some of the important modern literature and with current intellectual issues in the field" (Bowen 1953, 109).

2.325 of the *Index of Economic Journals* or in the surveys of post–*General Theory* developments in the first two revisions of Gottfried Haberler's *Prosperity and Depression* (1946).[2] These 392 articles were by some 180 different authors, for 147 of whom we have biographical data. This bibliographical and biographical information has been supplemented by an examination of *some* graduate prospectuses for some American and British universities. It could be further supplemented by an examination of what actually happened in various classrooms, either through students' or lecturers' notes or of comprehensive examinations and of dissertation titles, but it is probably impossible to recapture the extent of student interaction and mutual stimulation at universities with large graduate programs in economics.[3]

The dates were chosen for straightforward reasons: *The General Theory* appeared in February 1936, while the 1948 appearance of both Don Patinkin's "Price Flexibility and Full Employment" and the first edition of Samuelson's *Economics* could be taken as marking the widespread acceptance of a basic "Keynesian" model and message at both the professional and undergraduate levels. The end date could, of course be extended to encompass more of the postwar period—and incidentally more of the early publishing careers of the postwar Keynesian establishment—but we are not convinced that anything other than perhaps conformity with the dates in the last column of table 3 would be gained thereby.

Let us begin with a discussion of the characteristics of the authors of the articles examined. These are set out in tables 1 and 2. From table 1 it is clear that the authors we are concerned with were more likely than not to have been thirty-five or under when *The General Theory* appeared, for 109 of the 147 have birth years of 1901 or later. They also tended to publish "young," in that the "age" of authors at time of first publication in the field covered in the sample was likely to be under thirty-five.

2. This is a reprint of the third edition. The first edition was published by the League of Nations in 1937. A second edition, with an additional chapter 8, followed in 1939, while the 1943 edition had an additional chapter 13. It is interesting to speculate on the form of what became Haberler's *Prosperity and Depression* and of what, perhaps, the whole process of Keynesian diffusion might have taken had the survey been done by the person to whom it was first offered—Dennis Robertson (Nuffield College, Oxford, Loveday Papers, Box 66, Diary, entry for 2 November 1933).

3. For an indication of such programs in the United States, see table 3. Note that, if one restricted the use of the term "large" to those programs producing an average of ten or more Ph.D.s in economics per annum, the field would be much smaller, including only Columbia and Harvard in the first two periods and adding only Chicago, Wisconsin, Cornell, and Illinois in the third period.

Table 1 Characteristics of Authors

Birth Year	No. of Authors	"Age" at First Article[b]	No. of Authors
Before 1883	4	≤ 25	18
1883–90	11	26–30	34
1891–1900	23	31–35	37
1901–5	27	36–40	22
1906–10	31	41–45	11
1911–15	30	46–50	10
1916–20[a]	18	≥ 51	15

[a]Three individuals were born after 1921.
[b]Difference between the year of birth and the year in which the first article in the sample appeared.

Table 2 Top Ten Sources of Authors' Highest Degrees

University	No. of Authors
Harvard	26[a]
Cambridge	17
London School of Economics	16
Chicago	12
Columbia	9
Oxford	7
Berkeley	4
Berlin	4
Wisconsin	4
Vienna	3

[a]In addition, there were two degrees from Radcliffe.

In terms of their graduate training, tables 2 and 3 set out what we know about the authors and American-trained economists more generally. The authors are likely to have been educated, at least in part, outside the United States: 79 of the 147 individuals for whom we have information have an American degree as their highest degree. If I compare the origins of those whose highest degree was from an American institution with what we know more generally about American Ph.D.s in economics, those in our sample are much more likely to come from Harvard or Chicago than the general run of American-educated economists. The

Table 3 Doctoral Dissertations Accepted in American Universities (those with 3 percent of total dissertations or above named)

Institution	1925/6–1934/5		1935/6–1944/5		1945/6–1950/1	
	No.	%	No.	%	No.	%
Berkeley	59	5.1	57	4.4	. . .	. . .
Brookings	40	3.4	—	—	—	—
Chicago	73	6.5	75	5.8	95	6.3
Columbia	112	9.6	150	11.5	132	8.5
Cornell	82	7.0	94	7.2	68	4.5
Harvard	122	10.5	121	9.3	257	17.1
Illinois	79	6.8	73	5.6	66	4.4
Iowa	. . .	. . .	. . .	. . .	46	3.1
Minnesota	35	3.0	51	3.9	48	3.2
New York	. . .	. . .	56	4.3	46	3.1
Northwestern	. . .	. . .	39	3.0	. . .	. . .
Ohio State	. . .	. . .	51	3.9	47	3.1
Pennsylvania	76	6.5	. . .	. . .	. . .	. . .
Stanford	36	3.1	. . .	. . .	. . .	. . .
Wisconsin	99	8.5	91	7.0	92	6.1
Total for U.S.	1,166		1,317		1,501	

Symbols: — does not have graduate program
. . . has graduate program but produced less than 3 percent of successful Ph.D.s in the period in question
Source: Bowen 1953, 209–10

representation of Columbia and Berkeley is roughly what one would expect, while Wisconsin and the remainder of the top ten universities are underrepresented. Outside the United States, Oxbridge and the London School of Economics (LSE) dominate, although the diaspora of the 1930s is evident in the number of individuals with their highest degrees from Berlin and Vienna.

The ranking of American graduate schools (and, for that matter, LSE) is, however, probably symptomatic of something else. It could be argued that Chicago, Harvard, and LSE, which awarded the highest degrees for 38 percent of those thirty-five or under in 1936, provided graduate students with the best analytical training in economics available in the late 1930s and 1940s. At Harvard, there had been the changing of the guard that brought Schumpeter, Leontief, Haberler, and Hansen to the department. Unusually, none of its 1930s students gained permanent appointments (Mason 1982, 420). At Chicago, the department's existing strength, epitomized by Knight and Viner, was augmented by the arrival in 1939 of Oscar Lange (who provided graduate teaching at the frontier, as it then was) and in 1943 of the Cowles Commission for Research in Economics under Jacob Marschak, which included among its members Trygve Haavelmo, Leo Hurwicz, Lawrence Klein, and Tjalling Koopmans (Patinkin 1981, 8). At LSE, the arrival of Lionel Robbins as professor of economics in fall 1929 and his attempt, over the objections of the director, to make the school a center of economic theory began a period of "creative tension and excitement" that affected both older appointees such as John Hicks and new ones such as R. G. D. Allen, Evan Durbin, F. A. Hayek, Nicholas Kaldor, Abba Lerner, and Ursula Webb (Kaldor, cited in Kregel 1988, 14). There were, as well, links between the younger faculty and the graduate students at LSE and at Cambridge through the joint London and Cambridge Economic Seminar that arose from an attempt by Lerner and some of the other younger LSE people to reduce the intellectual gap between the two institutions. There was also the *Review of Economic Studies* to provide a similar link. Even though LSE was to lose many of those named here to other institutions after 1935, Robbins was able to repeat his exercise of the 1930s after the war and rebuild the economics group, albeit in a different intellectual mold—one created in part by his own change in view which began before the outbreak of and continued during the war (Robbins 1971). Hayek himself left LSE in 1949.

By way of contrast, as far as we can tell, the theoretical training of economists at Columbia left much to be desired. C. P. Kindleberger, who was there as a student, reports that in the 1930s "economics education at Columbia . . . was not exciting" and that "there was no core of economic theory" (1991, 31). A reading of the announcements of the graduate-level offerings of the faculty of political science (which included economics) for the 1930s confirms this. George Stigler, on the faculty from 1947 to 1958, has more to say in its favor. This is perhaps not surprising since the postwar period saw a large infusion of new blood and curricular reforms that swept away many of the traces of institutionalism. However, even Stigler reports: "When I returned to Chicago from Columbia I reckoned it a gain that I was coming to an institution where seniority would not be considered an adequate substitute for research" (1988, 46). He then tellingly compares the Chicago of the 1950s with LSE in the 1930s, of which he had some experience. Wisconsin shared many of Columbia's problems in the period we are discussing.[4]

As yet, we have not mentioned Oxford and Cambridge, largely because they were not well-organized centers of graduate instruction in economics. Both offered doctoral degrees, but the taking of such degrees in economics was a very new phenomenon in the 1930s (and one confined largely to foreigners for several decades), and neither ancient university then offered formal instruction in economics designed specifically for graduates.[5] In these institutions, graduate work really meant learning from the literature, your supervisor, your fellow students, and sympathetic faculty, but it was very much a matter of luck and circumstances, as A. J. Brown's 1988 memoir of his period at Oxford shows. It is true that graduates of overseas universities regularly went to Oxbridge as affiliated students doing a second B.A. In the process, many became quite well-trained economists, as did many of the Oxbridge graduates in our list who left with an undergraduate degree, but the training acquired was a by-product from a system designed for another purpose.[6]

We have briefly considered who the individuals were and where they were educated. We have yet to say anything as to where they published, whom they acknowledged, and whom they cited.

Let us take the matter of acknowledgments first, if only because it was not all that common: only sixty-four (16 percent) of the articles examined contained any acknowledgments; only two individuals[7] published three articles with acknowledgments, and only seven individuals[8] published two articles with acknowledgments. Of those acknowledged,

4. Of course one could do worse. Evsey Domar reports of his undergraduate career at UCLA, which did not produce any Ph.D.s in economics before 1945 (Bowen 1953, 209): "But 1936 was the year of *The General Theory*. It was hotly debated in the journals, and yet all that I learned about Keynes by my graduation in 1939 was that such an economist existed; and even this information came not from my professors but from a fellow student" (quoted in Szenberg 1992, 119).

5. The Oxford B.Phil. was first examined in June 1948, but the small number of candidates (four in 1950) limited the amount of formal teaching provided for some years. The Cambridge M.Phil., which followed almost three decades later, had formal instruction from the beginning.

6. For memoirs of Oxbridge undergraduates during the period surrounding the creation and publication of *The General Theory*, see Brown 1988, esp. 18–31, and Bensusan-Butt [1967] 1980, esp. 26–35; for affiliated students see, for example the notes by Bryce, Salant, and Tarshis in Patinkin and Leith 1977, 39–64.

7. Abba Lerner and Harold Somers.

8. Trygve Haavelmo, Alvin Hansen, Lawrence Klein, H. M. Oliver, Melvin Reder, Paul Samuelson, and Henry Wallich.

only fourteen individuals' names appeared twice or more. The most acknowledged economist was Alvin Hansen with five; Milton Friedman, Abba Lerner, and Dennis Robertson came in with four apiece; and Oscar Lange, Jacob Marschak, and Paul Samuelson came in with three each.[9] All held posts at Cambridge, Chicago, Harvard, LSE, or Oxford during the decade under consideration. Apart from the fact that all of Alvin Hansen's acknowledgments came from Harvard-educated or -employed economists, there is no clear pattern.[10]

Of course, acknowledgments recognize only one possible source of stimulus or assistance. There is also the straightforward citation of the work of oneself and of others. In the articles we examined, there were citations of 897 other individual pieces of literature. The most cited item was Keynes's *General Theory* with 144 mentions. With that number of citations for the one book, it is not surprising that Keynes was the most cited author with 248 citations. Nobody else reached 100, and only five individuals, including Keynes, exceeded 50. The thirty-eight people with ten or more citations appear in table 4; the twenty-six publications with ten or more citations appear in table 5.

It is interesting to note that among the most cited books and articles we get almost all the classic items we would expect from the early years of the discussions of *The General Theory*: Lange's 1938 piece for *Economica*, Haberler's 1946 *Prosperity and Depression*, Hicks's 1937 formulation of IS-LM for *Econometrica*, Hicks's 1939 *Value and Capital*, Robertson's 1940 *Essays in Monetary Theory*, and Hawtrey's 1937 *Capital and Employment*. Perhaps the only oddities arise from the low level of citation of the other papers closely associated with the initial formulation of IS-LM: Meade's 1937 piece for the *Review of Economic Studies* and Harrod's 1937 article for *Econometrica*, both of which received only three citations, two fewer than Modigliani's classic 1944 article for *Econometrica*. But this merely provides an example of the power of a simple diagram in the profession.

The dominance of Oxford, LSE, Harvard, Chicago, and Cambridge continues in the citations. Only four of the twenty most cited living authors did not hold a post at one of those universities at some time between 1936 and 1948. Within the overall rankings, however, the Eu-

9. Those with two mentions were W. M. Crum, W. Fellner, R. B. Goode, A. G. Hart, L. R. Klein, W. W. Leontief, and A. C. Pigou.

10. Among those with two acknowledgments, only Crum's and Pigou's were restricted to graduates of or colleagues in their own institutions.

Table 4 Author's Citation Rankings (10 or more citations)

	Name	No. of Citations		Name	No. of Citations
1.	Keynes, J. M.	248	20.	Wicksell, K.	18
2.	Hicks, J. R.	82	21.	Klein, L.	18
3.	Pigou, A. C.	65	22.	Knight, F. H.	17
4.	Robertson, D. H.	64	23.	Dunlop, J. T.	16
5.	Lerner, A.	53	24.	Kuznets, S.	15
6.	Lange, O.	43	25.	Hayek, F.	14
7.	Hansen, A. H.	39	26.	Fisher, I.	13
8.	Robinson, J.	38		Woytinsky, W. S.	13
9.	Haberler, G.	35		Angell, J.	13
10.	Ohlin, B.	32		Smithies, A.	13
11.	Harrod, R. F.	29	30.	Kahn, R. F.	12
	Hawtrey, R. G.	29	31.	Viner, J.	11
13.	Kaldor, N.	27		Frisch, R.	11
14.	Kalecki, M.	26		Tinbergen, J.	11
	Samuelson, P.	26		Shackle, G. L. S.	11
16.	Clark, C.	21	35.	Leontief, W.	10
	Marshall, A.	21		Lutz, F.	10
18.	Schumpeter, J.	20		Myrdal, G.	10
19.	Clark, J. M.	19		Wright, D. M.	10

ropean diaspora prevented those five institutions from dominating the educational experiences of those most frequently cited. Nevertheless, if one considers the "young" within this group,[11] 70 percent took their highest degree at either Oxford, LSE, Harvard, or Cambridge.[12]

The journal citations recorded in tables 4 and 5 also point to another characteristic of the literature: its general supportiveness of the Keynesian position with most of the support coming from the "young." If one goes to the individual publications of living authors recorded in table 5, leaving Keynes himself to one side, fourteen might be considered as supportive of his position and seven as critical. The age factor also comes out clearly in table 5, with eleven of the supportive authors born in 1901 or after, and

11. Because they were both born in 1900, Harrod and Haberler would not count as "young" in Samuelson's sense. Both probably did in Keynes's and Schumpeter's.

12. One other, Lawrence Klein, took his Ph.D. at MIT; Lange had been at LSE and Harvard without taking a degree, while moving toward Chicago. Samuelson, whose undergraduate career included graduate courses, might be said to leave a trace of Chicago on the record (Samuelson 1972).

Table 5 Individual Publication Citation Rankings (10 or more citations)

	Publication	No. of Citations
1.	Keynes, *General Theory*	144
2.	Lange, *Economica* 1938	28
3.	Haberler, *Prosperity and Depression*	27
4.	Hicks, *Value and Capital*	26
5.	Hicks, *Econometrica* 1937	22
6.	Keynes, *Treatise on Money*	21
	Ohlin, *Economic Journal* March & June 1937	21
8.	Keynes, *Economic Journal* June 1937	20
9.	Harrod, *Trade Cycle*	17
	Lerner, *Economic Journal* 1938	17
11.	Robertson, *Economic Journal* September 1937	16
12.	Hicks, *Economic Journal* 1936	15
13.	Robertson, *Essays*	14
14.	Robertson, *Quarterly Journal of Economics* 1936	13
15.	Marshall, *Principles*	12
	Hawtrey, *Capital and Employment*	12
	Hansen, *Fiscal Policy*	12
18.	Pigou, *Industrial Fluctuations*	11
	Kahn, *Economic Journal* 1931	11
	Clark, *National Income*	11
21.	Wicksell, *Interest and Prices*	10
	Lerner, *International Labour Review* 1936	10
23.	Pigou, *Economic Journal* 1937	10
	Dunlop, *Economic Journal* 1938	10
	Kalecki, *Essays*	10
	Klein, *Keynesian Revolution*	10

Note: For full bibliographical details see the bibliography.

all of the critics having been born before 1900. If one goes by the living authors in table 4, again leaving Keynes to one side, the ratio of support to opposition would be much closer. But the same pattern appears: the overwhelming majority of twenty "supporters" were born in 1901 or after, while among the critics, the figures are just as strongly reversed.[13]

13. A rather rough look at the list of all publications by authors for whom we have sufficient biographical data suggests a similar dominance of the young among Keynes's supporters. If one divides the articles into three classes—supportive, opposed, and unknown—for authors born in 1900 or earlier, the numbers are 14:38:11, as compared to 67:27:24 for those born in 1901 or after.

Table 6 Most Cited Journals

	Journal	No. of Citations
1.	Economic Journal	182
2.	Quarterly Journal of Economics	132
3.	Econometrica	100
4.	American Economic Review	95
5.	Review of Economic Statistics	92
6.	Economica	79
7.	Journal of Political Economy	52
8.	Review of Economic Studies	36
9.	International Labour Review	17
10.	Oxford Economic Papers	11

Interestingly enough, the pattern of journal citation differed from that of journal publication, with the *American Economic Review* and *Review of Economic Statistics* less cited than published in and *Economica*, the *Economic Journal*, *Econometrica*, and the *Quarterly Journal of Economics* more cited. Rankings appear in tables 6 and 7.

It can thus be said that the evidence suggests a strong association between the discussion and diffusion of Keynesian ideas and a limited number of centers of learning. One of these centers, Cambridge, was the source of the ferment as well as of significant criticism. Another, Oxford, had disciples (Harrod and Meade) who had been intimately involved in the creation of the ideas and, in the Institute of Economics and Statistics, an active and a growing research enterprise (Chester 1986, chap. 10; Young and Lee 1993, chap. 5). Neither center provided formal graduate instruction in economics. That was characteristic of the other three centers—Harvard, Chicago, and LSE—of which the last two were also sources of significant criticism as well as of support.

How did the ideas get diffused to particular individuals? Here some notions of Albert Hirschman's might prove useful:

> New ideas have two principal intellectual effects: the persuasion effect and the recruitment effect. The persuasion effect is the obvious one of attracting followers from among specialists already labouring in the particular discipline where the idea makes its appearance. The recruitment effect is more important and ambiguous. As a result of

Table 7 Original Journals of Publication

	Journal	No. of Articles
1.	American Economic Review	43
2.	Review of Economic Statistics	37
3.	Quarterly Journal of Economics	34
4.	Economic Journal	32
5.	Econometrica	22
6.	Review of Economic Studies	17
7.	Journal of Political Economy	16
8.	Economic Record	13
9.	Economica	11
10.	Indian Journal of Economics	8
11.	Southern Economic Journal	8

> the intellectual excitement generated by the new idea and the ensuing debates, intellectually able and ambitious recruits are newly attracted toward the field where the discovery has been made, where its scientific merits remain to be evaluated, and where its ramifications are yet to be worked out. This phenomenon was extremely important in the United States with its vast university system. (1989, 356)

Good examples of "persuasion" there certainly are. At LSE one need think only of Abba Lerner and Nicholas Kaldor—and, perhaps, Evan Durbin. Before 1936 Lerner had established himself as an active publisher in microeconomics and international trade, but had made no contribution to macroeconomics. However, as the result of persuasion from Joan Robinson and Richard Kahn, he spent some of his Leon Fellowship year in 1934/35 in Cambridge where the ideas were taking their final shape, was persuaded of their utility, and became a prolific and fervent advocate, first at LSE and from 1937 in America.[14] Kaldor started his academic career as a devotee of Robbins and Hayek, yet under the influence of John Hicks, whose reading was more catholic, he was "put on the track of (among others) the younger Swedish economists, particularly Myrdal, who made me realise the shortcomings of the . . . approach of the Austrian school . . . and made me such an easy convert to Keynes after the

14. McCormick (1992, 167) credits Lerner for inviting R. B. Bryce from Cambridge to give a lecture on Keynes's ideas to his LSE seminar. Unfortunately, the paper in question was discussed at four meetings of Hayek's seminar, as Bryce's letter of 5 July 1935 makes clear (CW 29:131). McCormick's study is full of such minor errors, which means it must be used with care.

appearance of the *General Theory*" (Kregel 1988, 14). By that time Hicks had already left LSE for a post in Cambridge, not because he had become a Keynesian "which in a sense I was," but because of an invitation from Pigou and friendship with Dennis Robertson (Hicks, as quoted in Kregel 1988, 4–5). While in Cambridge, of course, he formulated IS-LM. This became an important instrument of persuasion itself. It was first used for such purposes in print by Kaldor in his critique of Pigou's 1937 paper in the *Economic Journal*, which served as a substitute for a presidential address to the Royal Economic Society (Kaldor 1937). Durbin occupied an intermediate position: politically he was more aligned with Labour, but in economic theory he was intellectually influenced by, if critical of, Hayek. Durbin's most important theoretical publications preceded the appearance of *The General Theory*, but from his political views and his correspondence it is clear that he moved part way toward Keynes (Durbin 1985, esp. part 3; McCormick 1992, 71–75).

The classic and by far the most important American case of persuasion was that of Alvin Hansen. The exact dating of the conversion between his two reviews of Keynes's *General Theory* and his first full academic year at Harvard in 1937/38 is uncertain (Barber 1987, 200ff). Gottfried Haberler recalled Hansen's presence at the Geneva seminar organized to discuss the draft of *Prosperity and Depression*, where "he did not take a very Keynesian position" (1976, 11). He called the Hansen conversion "sudden," but does not know how it came about. Neither, it seems, does anyone else. But Haberler suggested that for Hansen, theory was not an end in itself but rather "a means to derive prescriptions for effective policy" (11). In this context he suspects that Hansen was persuaded because Keynesian policies were "the obvious cure for mass unemployment and Keynes provided a rational theoretical justification, while many orthodox economists strongly rejected the obvious remedy" (11). William Barber's discussion of the causes of the conversion, which he dates slightly later, is basically consistent with Haberler's explanation (Barber 1987, 204–5).

Examples such as these were important because they had direct effects in the classroom, as both the LSE calendar list of graduate courses with suggested reading and memoirs of the Hansen/Williams seminar tellingly indicate. *The General Theory* is in the course syllabi of Durbin, Kaldor, and Lerner in the 1936/37 academic year, and it remained there.[15] It

15. The three courses are initially called "The Modern Purchasing Power Controversy," "Problems of the Theory of Economic Dynamics," and "The Theory of Index Numbers." Kaldor's course later became "Advanced Problems of Economic Theory (Statics and Dynamics)," while

even enters the undergraduate curriculum of the school in 1937/38 in P. B. Whale's course "Theory of Money and Credit" and in 1938/39, albeit in Hicks's IS-LM form and clearly labeled supplementary and more advanced reading, it is in Robbins's "General Principles of Economic Analysis."[16]

There was also the persuasion and recruitment of students by their peers. The classic case here is R. B. Bryce, the "missionary" to Hayek's seminar at LSE, who proceeded full of the Keynesian message to Harvard in autumn 1935.[17] This paper, the basis of his LSE seminars, turns up in Schumpeter's papers as the theoretical justification for Bryce's "Memorandum of Work Proposed" of 1 October 1935 (Harvard University Archives, Schumpeter Papers, HUG(FP)47, Box 2). Bryce also reported that he used the same notes in discussions with his fellow students (Bryce, quoted in Patinkin and Leith 1977, 40–41). It is not surprising that a group of Harvard students around Bryce ensured early access to *The General Theory* by arranging for the shipment of thirty copies directly from London. Inevitably, there was a study group, organized at Harvard by Seymour Harris, to see what the new work contained (Tsuru, cited in Kregel 1988, 185). Among the students who arrived with Bryce at Harvard in fall 1935 were Paul Samuelson, Robert Triffin, and Shigeto Tsuru. With Abram Bergson, John Kenneth Galbraith, Richard Musgrave, Paul Sweezy, and Wolfgang Stolper already in residence and more to follow, it is not surprising that Triffin recalled, "I learned as much or more, as an economist, from *student colleagues* of mine in the most brilliant class

Durbin's became "Modern Trade Cycle and Monetary Theory." Lerner's departure from the school meant that he never gave his graduate lectures on "Unemployment in Theory and Practice" advertised in the 1937/38 calendar.

16. In a recent letter to the author, Tom Wilson remembers Robbins's graduate seminar in the same year: "I was never his pupil at LSE but I used to attend the great graduate seminar in 1938/39 which he chaired. We watched with fascination the terrific battles between Hayek and Kaldor which Kaldor usually won. What was particularly interesting was to watch Robbins himself gradually shift his position towards Keynesianism. He did not move all the way, of course, but he shifted closer to Keynes than to Hayek." In a sense this is not surprising, since Robbins's behavior when he joined the Economic Section of the War Cabinet Offices and as a member and later director provided active support to the campaigns for national income accounting and employment policy would not make much sense in any other terms (Cairncross and Watts 1989, chap. 6; CW 22:326–27).

17. Bryce, an engineer by training who had only taken up economics in 1932, was technically a Ph.D. candidate at Cambridge. His ostensible purpose in going to Harvard was (tellingly in the light of our earlier discussion) to improve his knowledge of formal economic theory for his dissertation on business cycles.

that Harvard probably ever had . . . than I did from the professors whose classes I attended" (quoted in Kregel 1988, 151).

The process of recruiting was well under way—and it would continue for no little time.

Butlet us go back to the beginning and the hypotheses associated with the three quotations from Keynes, Samuelson, and Schumpeter. It is clear that publication of *The General Theory* affected the young more than the old, although, for example, the conversion of Alvin Hansen (born 1887) and the use of IS-LM in *Employment and Equilibrium* (1941) by A. C. Pigou (born 1877) (Solow 1986) show the speed with which the virus could significantly infect the work of scholars over age fifty in varying degrees—in both cases, within five years. The cutoff of thirty-five, with the qualifications about ultimate acceptance, is arbitrary, given that there were a number of people aged just over thirty-five who played an important role in diffusing the ideas—Gottfried Haberler, Roy Harrod, Jacob Marschak, and M. F. Timlin—and a number of people in the thirty-five to fifty age range in 1936 who were *never* reconciled to the ideas: A. W. Marget and J. Rueff, for instance. But the generational emphasis of the hypothesis, which is not new—it is, after all, a part of Thomas Kuhn's (1962, chap. 12) discussion[18] of the process in which scientific revolutions are resolved—is well borne out. However, at least in the context of this body of literature, what might be called the Keynes/Schumpeter hypothesis of "the young who have not been properly brought up" or have been defectively trained does not seem to be well sustained. If it were as likely as not that those involved in the discussion of *The General Theory* and its implications for economics, especially the young, were more likely than normal to have been the recipients of the best training available at the time, including that in Schumpeter's own department, then one must think again. Such training, with its renewed openness to Continental influences, might for Keynes, a Marshallian to the end, have seemed like a less than "proper" upbringing. But it should have hardly been such to Schumpeter, the champion of Walras and almost all things Continental.

Finally, it is clear that in an important sense, as Nathan Rosenberg (1975, 475–76) has emphasized, the decade following publication of *The General Theory* saw the ideas in the book refined, elaborated, and modified so that the profession could make them operationally useful.

18. See also Feuer 1982, 308–11.

This process of "critical revision," which aided the diffusion of the ideas themselves, was itself helped by complementarities between Keynes's ideas, the development of econometrics, and the development of national income accounting.

All of this might only echo David Bensusan-Butt's comment that "the *General Theory* fell among the economists of the day with a very big bang indeed. Nothing, *for any of them*, was ever quite the same again" ([1967] 1980, 35; emphasis added).

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