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RICHARD T. ELY LECTURE

The Keynesian Revolution and the Monetarist Counter-Revolution

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When James Tobin and I agreed on the subject of this lecture last spring, it appeared to be a highly topical subject that would command widespread interest among the membership of this Association. Unfortunately, as so often happens with forward planning for academic purposes, others have also been alert to topicality, and have undermined our forward planning by getting in earlier with their version of the theme. Thus Milton Friedman himself gave a widely publicized lecture on "The Counter-Revolution in Monetary Theory" last September in London, which lecture has recently been published by the Institute of Economic Affairs, [4]; Karl Brunner has recently circulated a typically scholarly paper on "The 'Monetarist Revolution' In Monetary Theory" [1]; and undoubtedly many others have been writing and publishing on the same subject. My treatment of this beginning-to-be-well-worn theme today will, I hope, still retain some novelty, inasmuch as I shall be primarily concerned, not with the scientific issues in dispute in the monetarist counter-revolution against the Keynesian revolution, but with the social and intellectual conditions that make a revolution or counter-revolution possible in our profession. This lecture is therefore an excursion—amateurish, I must confess—into the economics and sociology of intellectual change.

As is well known from the field of economic history, the concept of revolution is

difficult to transfer from its origins in politics to other fields of social science. Its essence is unexpected speed of change, and this requires a judgment of speed in the context of a longer perspective of historical change, the choice of which is likely to be debatable in the extreme. Leaving the judgmental issue aside for the moment, one could characterize the history of our subject in terms of a series of "revolutions," very broadly defined, as follows. Economics as we know it began with what might be called the "Smithian Revolution" against the established body of doctrines generically described as "mercantilism," a revolution which changed ideas on the nature and sources of the wealth of nations and the policies required to promote the growth of what we now call "affluence." The Ricardian revolution turned the attention of economists from concern with national wealth and its growth to the distribution of income among social classes and the interactions of growth and income distribution. The marginalist revolution of the 1870's essentially introduced a new and superior analytical technology for dealing with Ricardo's distribution problem, in the process gradually depriving Ricardian economics of its social content; hence, the results of that revolution have been described as neo-Ricardian or more commonly neo-classical economics.

Contemporary economics is based on this development and on at least four dis-

cernible "revolutions" that occurred in the late 1920's and in the 1930's. One was the imperfect-monopolistic competition revolution, which challenged the validity of the assumption of perfect competition on which value theory had come to be built following the marginalist revolution, and particularly the conclusions about the welfare effects of competition to which that theory led. This revolution has more or less fizzled out, though its fossilized remnants continue to plague both students and their instructors in elementary courses. Another was the empirical or econometric revolution, with its insistence initially on the measurement of economic relationships and, subsequently and more ambitiously, on the testing of economic hypotheses—though the "testing of hypotheses" is frequently merely a euphemism for obtaining plausible numbers to provide ceremonial adequacy for a theory chosen and defended on *a priori* grounds. The third was the general equilibrium revolution, based on the introduction by Hicks and Allen of the continental Walrasian-Paretoan approach into the Anglo-Saxon tradition in replacement of the then-dominant Marshallian partial-equilibrium approach. Finally, and most sweeping in its effects, there was the Keynesian Revolution in monetary theory.

By contrast with the abundance of revolutions, counter-revolutions are hard to find in the development of economic thought. About the closest one can come to a counter-revolution in the history of economic thought is to interpret the development of the Austrian theory of value as a counter-revolution against the socialist, and especially the Marxist, tradition of economic theorizing; and that aspect of the work of the Austrian school was a side issue in the marginalist revolution. The monetarist counter-revolution of contemporary times is probably the first signifi-

cant counter-revolution in the development of our subject. In venturing this judgment, however, I should note that the disrepute into which the theories of imperfect and monopolistic competition have fallen, as theories of contemporary industrial competition, in the period since the second world war could be described as the result of an intellectual counter-revolution, based on a combination of faith in the preexisting theory of competition and devotion to the empirical revolution; and also that, if one is prepared to disregard the political labels that people choose to attach to themselves, the left-wing student and faculty demand for a politically and socially relevant "radical" economics and protest against emphasis on mathematical and econometric quantification can be classed as counter-revolutionary, inasmuch as it seeks to revert to the pre-marginalist-revolution concern with the economic system as a system of relationships among social classes.

As I have already mentioned, the chief problem in identifying revolutions and counter-revolutions and distinguishing them from slower and more comprehensible and rational processes of change in economic thought is to arrive at a judgment of the relative speed of change and the degree to which the speed is justifiable. From this point of view, some of what I have just now described as revolutions were not really revolutionary—notably the Smithian and marginalist revolutions, the imperfect-monopolistic competition revolution, and the general equilibrium and empirical revolutions. The Smithian and marginalist revolutions spread relatively slowly, through the force of their scientific superiority and intellectual appeal and the process of natural wastage of their opponents. The imperfect-monopolistic competition revolution was the end result of puzzling by many minds over a problem that Marshall had stated but

had been unable to solve satisfactorily—the existence of downward-sloping cost curves for individual firms. The general equilibrium revolution was a result of the delayed appreciation by economists of the need for a better command of mathematical techniques, the delay being occasioned by the long association of the subject with philosophy in the English academic tradition and its continuing association with law in the continental tradition. And the empirical revolution depended on the development of the techniques of statistical inference—most of the historically great economists were quantitatively oriented, or at least paid lip service to the need for quantitative work, but lacked the requisite tools to carry out such work themselves. For real intellectual revolutions, we are left with three major examples: the Ricardian revolution, the reasons for whose rapid propagation were examined some twenty years ago by S. G. Checkland [2], the Keynesian revolution, and the monetarist counter-revolution. These last two are the subject of my lecture today.

My concern, specifically, is with the reasons for the speed of propagation of the monetarist counter-revolution; but I cannot approach this subject without reference to the reasons for the speed of propagation of the Keynesian revolution, since the two are interrelated. Indeed, I find it useful in posing and treating the problem to adopt the “as if” approach of positive economics, as expounded by the chief protagonist of the monetarist counter-revolution, Milton Friedman, and to ask: suppose I wished to start a counter-revolution against the Keynesian revolution in monetary theory, how would I go about it—and specifically, what could I learn about the technique from the revolution itself? To pose the question in this way is, of course, to fly in the face of currently accepted professional ethics, ac-

ording to which purely scientific considerations and not political considerations are presumed to motivate scientific work; but I can claim the protection of the “as if” methodology against any implication of a slur on individual character or a denigration of scientific work.

From this point of view, obviously, the first problem is to identify the elements in the situation at the time of the *General Theory* that accounted for its rapid acceptance and propagation among professional economists. Such elements are of two types, one relating to the objective social situation in which the new theory was produced, the other relating to the scientific characteristics of the new theory itself.

As regards the objective social situation, by far the most helpful circumstance for the rapid propagation of a new and revolutionary theory is the existence of an established orthodoxy which is clearly inconsistent with the most salient facts of reality, and yet is sufficiently confident of its intellectual power to attempt to explain those facts, and in its efforts to do so exposes its incompetence in a ludicrous fashion (on this see [8]). Orthodoxy is, of course, always vulnerable to radical challenge: the essence of an orthodoxy of any kind is to reduce the subtle and sophisticated thoughts of great men to a set of simple principles and straightforward slogans that more mediocre brains can think they understand well enough to live by—but for that very reason orthodoxy is most vulnerable to challenge when its principles and slogans are demonstrably in conflict with the facts of everyday experience.

So it was in the 1930's, and particularly in the 1930's in Britain, which had already experienced a decade of mass unemployment associated with industrial senescence and an overvalued exchange rate, mass unemployment which the prevailing orthodoxy could neither explain nor cope with. This, it may be noted, was

in large part the fault of the economists themselves. There existed already a body of monetary analysis that was quite capable of explaining both Britain's and the industrial world's unemployment problems as a consequence of monetary mismanagement. But, hypnotized by the notion that money is merely a veil cast over real phenomena—the homogeneity postulate of contemporary monetary theory—the economists of the time attempted to explain what were essentially monetary phenomena by real causes. Eminent British economists sought to explain mass unemployment as a consequence of the satiation of real human wants, a satiation that should have produced a general reduction in working hours but unfortunately and inexplicably operated instead differentially to reduce the working hours of a substantial part of the population to absolute zero. Other economists viewed the depression as a punishment justly visited upon enterprises and individuals for past sins of speculation and erroneous microeconomic decision-taking. The concern for microeconomic explanations diverted attention from what the available macroeconomic analysis could have said about the problem; it also led to the recommendation of *ad hoc* remedies such as public works that lacked any firm grounding in theory as generally understood.

In this situation of general confusion and obvious irrelevance of orthodox economics to real problems, the way was open for a new theory that offered a convincing explanation of the nature of the problem and a set of policy prescriptions based on that explanation. Such a theory, however, would have to possess certain characteristics if it were to win intellectual acceptance and political success. In particular, it would have to come from within yet offer liberation from the established orthodoxy—for one must remember that orthodoxy includes both an estab-

lished conservative orthodoxy and an established self-termed “radical” orthodoxy, and, since each recognizes and accommodates the other's arguments, there is no real hope of progress being achieved by a switch from one position to the other.

To be more specific, a revolutionary theory had to depend for its success on five main characteristics—here I must admit that I am conducting my analysis in the blinding light of hindsight. First, it had to attack the central proposition of conservative orthodoxy—the assumed or inferred tendency of the economy to full employment—with a new but academically acceptable analysis that reversed the proposition. This Keynes did with the help of Kahn's concept of the multiplier and his own invention of the propensity to consume. Second, the theory had to appear to be new, yet absorb as much as possible of the valid or at least not readily disputable components of existing orthodox theory. In this process, it helps greatly to give old concepts new and confusing names, and to emphasize as crucial analytical steps that have previously been taken as platitudinous; hence, in the *General Theory*, the marginal productivity of capital became the marginal efficiency of capital; the desired ratio of money to income, the *k* of the Cambridge tradition, became a minor constituent of the new theory of “liquidity preference;” and the *ex post* identity of savings and investment, which previous theorists including Keynes himself had rightly recognized as unhelpful to dynamic analysis, became the *sine qua non* of right reasoning.

Third, the new theory had to have the appropriate degree of difficulty to understand. This is a complex problem in the design of new theories. The new theory had to be so difficult to understand that senior academic colleagues would find it neither easy nor worth while to study, so that they would waste their efforts on pe-

ripheral theoretical issues, and so offer themselves as easy marks for criticism and dismissal by their younger and hungrier colleagues. At the same time, the new theory had to appear both difficult enough to challenge the intellectual interest of younger colleagues and students, but actually easy enough for them to master adequately with a sufficient investment of intellectual endeavour. These objectives Keynes's *General Theory* managed to achieve: it neatly shelved the old and established scholars, like Pigou and Robertson, enabled the more enterprising middle- and lower-middle-aged like Hansen, Hicks, and Joan Robinson to jump on and drive the bandwagon, and permitted a whole generation of students (as Samuelson has recorded) to escape from the slow and soul-destroying process of acquiring wisdom by osmosis from their elders and the literature into an intellectual realm in which youthful iconoclasm could quickly earn its just reward (in its own eyes at least) by the demolition of the intellectual pretensions of its academic seniors and predecessors. Economics, delightfully, could be reconstructed from scratch on the basis of a little Keynesian understanding and a lofty contempt for the existing literature—and so it was.

Fourth, the new theory had to offer to the more gifted and less opportunistic scholars a new methodology more appealing than those currently available. In this respect, Keynes was lucky both in having a receptive audience available, and to hit somewhere conveniently between the old and the newly emerging styles of economic theorizing. The prevailing methodological orthodoxy was that of Marshall—a partial-equilibrium approach set within a clear appreciation of the two complex problems of general equilibrium and of historical change, and hence both unsatisfactory at the simple level of partial-equilibrium analysis taken by itself, and ex-

tremely difficult to apply skillfully in a broader analytical and social context. The new methodological challenge was coming from the explicitly mathematical general-equilibrium approach of Hicks and Allen, an approach whose empirically and historically almost empty generality was of little general appeal. The *General Theory* found a middle ground in an aggregated general-equilibrium system which was not too difficult or complicated to work with—though it demanded a substantial step forward in mathematical competence—and which offered a high degree of apparent empirical relevance to those who took the trouble to understand it.

Finally, the *General Theory* offered an important empirical relationship for the emerging tribe of econometricians to measure—the consumption function, a far more challenging relationship than the demand for sugar, a relationship for which the development of national income statistics provided the raw material needed for estimation, and which could be estimated with surprising success given the limitation of the available data to approximately a single business cycle.

In my judgment, these factors accounted for the success of the Keynesian revolution: on the one hand, the existence of an important social and economic problem with which the prevailing orthodoxy was unable to cope; on the other hand, a variety of characteristics that appealed to the younger generation of that period—notably the claim of the new theory to superior social relevance and intellectual distinction, its incorporation in a novel and confusing fashion of the valid elements of traditional theory, the opportunity it offered to bypass the system of academic seniority by challenging senior colleagues with a new and self-announcedly superior scientific approach, the presentation of a new methodology that made general-equilibrium theory both manageable

and socially relevant, and the advancement of a new empirical relationship challenging for econometricians to estimate.

The very success of the Keynesian revolution, however, ensured that it would in its turn become the established orthodoxy, and as such be as vulnerable as the old to revolutionary attack—which would necessarily have to be a counter-revolutionary attack. Keynes himself, as Leijonhufvud's monumental reinterpretation of his thought [9] has reminded us, had a seasoned and subtle mind, conscious both of the flow of economic history and of the role of theory as an adjunct to policy-making in a given set of historical circumstances. His followers—which means the profession at large—elaborated his history-bound analysis into a timeless and spaceless set of universal principles, sacrificing in the process much of his subtlety, and so established Keynesianism as an orthodoxy ripe for counter-attack.

There are several factors in this transmogrification worthy of note. The first, and probably most important, has been the conviction of Keynesians that the mass unemployment of the 1930's represents the normal state of capitalist society—more accurately, of capitalist society unaided by Keynesian management—and that unemployment is always the most urgent social problem. This view was elevated into a dogma in the United States under the leadership of Alvin Hansen, whose theory of secular stagnation was the subject of his Presidential Address to this Association [6]. While that theory has been quietly forgotten, or frugally converted into a theory applicable to the underdeveloped countries, vestiges of it linger on in the thinking of American Keynesians. The view that unemployment is the overriding social problem also lingers on among British Keynesians such as Joan Robinson, Roy Harrod, and Thomas Balogh, though I should note that Nicholas Kaldor has for many years taken a

much more optimistic view of the resilience of capitalism. The corollary of the Keynesian view of the primacy of the unemployment problem has been a pronounced tendency to play down the adverse economic consequences of inflation, and to assume that, if only the unemployment consequences of anti-inflationary policies were properly understood, society would cheerfully agree to adopt and implement an incomes policy instead.

A second factor in the transformation of Keynesianism into an orthodoxy has been that people who made their academic reputations and earned their present status on the basis of an early and enthusiastic conversion to Keynesianism in the late 1930's and early 1940's have continued to trade on their foresight, to the academic detriment of their juniors, who have never had the same chance to jump onto the front—and not the rear—of an academic bandwagon. This factor has been far more effective in paving the way for a monetarist counter-revolution in the United States, where institutional competition prevents centralized control of professional advancement, than in the United Kingdom, where Oxbridge continues to dominate the academic scene.

A third factor has been that, while the Keynesian revolution in its time offered a tremendous liberation to the energies of young economists in the fields of pure theorizing about concepts, the construction of macroeconomic general-equilibrium models, and the estimation of econometric models of the economy, these activities have run into diminishing returns so rapidly that they have ceased to be appealing to young and ambitious economists.

The result has been that—beginning perhaps sometime in the mid-1950's—Keynesianism has become itself an established orthodoxy, ripe for attack in exactly the same way as what Keynes chose to call “classical economics” and to attack

in the 1930's. It has had the same two vulnerable characteristics: inability to prescribe for what has come to be considered a major social problem—inflation, in contrast to the unemployment of Keynes's time—and a dependence on the authority and prestige of senior scholars which is oppressive to the young. Also, ironically enough in view of Keynes's own long concern with the influence of money on the economy, it has suffered from the same major defect as the orthodoxy Keynes attacked—the attempt to explain essentially monetary phenomena in terms of a mixture of real theory and *ad-hoc*-ery, and specifically to explain inflation in terms of real effective demand and the Phillips curve. The fact that Keynesian economics has stumbled into the same pitfall as the "classical" orthodoxy it succeeded is, perhaps, an indication of the difficulty of monetary theory as contrasted with value theory, as well as of the perils of abandoning monetary theory in favor of what appears seductively to be more reasonable common sense.

If, in accordance with the "as if" methodology of positive economics that I adopted earlier in this lecture, one posed the question of how to mount a counter-revolution against Keynesian orthodoxy, and considered the question in the light of the factors that contributed to the success of the Keynesian revolution, one would, I think, be driven inescapably to two sets of conclusions.

The first would be the need to find an important social problem that the established orthodoxy is incapable of dealing with, even though it tries its best and claims to be successful. The second would be the need to develop a counter-revolutionary theory that had the requisite characteristics to be academically and professionally successful in replacing the previous revolutionary theory.

The obvious answer to the first problem—finding an important social problem

that orthodox theory cannot solve—is to concentrate on the issue of inflation, the issue that Keynesian theory was least well designed to deal with. The trouble with that answer has been that, under the influence of both experienced inflation and Keynesian theory, the public has for the most part not been much concerned about the economic evils of inflation, and so has not regarded inflation as an important test of the intellectual strength of Keynesian orthodoxy. The history of the monetarist counter-revolution has, in fact, been characterized by a series of mostly vain efforts to convince the profession and the public (a) that inflation is an important question and (b) that monetarism can provide an explanation and a policy whereas Keynesianism cannot. Proposition (b) is eminently plausible; but it can only get a hearing if proposition (a) is accepted first; and, aside from a brief interlude in the late 1950's, the public has become convinced of proposition (a) only very recently. It is no accident that the appearance of monetarism as a strong intellectual movement has had to wait until the aftermath of the escalation of the war in Viet Nam in 1965. It is even less of an accident that its current success has depended on a prior Keynesian claim to, and acceptance of, responsibility for efforts to stop inflation by Keynesian fiscal means, under the auspices of the "New Economics." Monetarism has until the past few years been in the position of investing a great deal of intellectual ability in analyzing problems and producing solutions that no one else has considered worth the effort involved. It has eventually become a public force less by its own efforts than as a consequence of the "New Economics" overreaching itself when it was riding high in the formation of national economic policy. The "New Economics" was favored by the opportunity to sell Keynesian policies to meet a Keynesian problem; it encountered disaster

when it tried to sell reverse Keynesian policies to meet a non-Keynesian problem. And the monetarist counter-revolution has been cashing in on that mistake of intellectual strategy.

Nevertheless, on this score of social relevance, the monetarist counter-revolution has had certain factors working in its favor which have enabled it to survive and prosper despite the absence of an overwhelmingly obvious inadequacy of the established Keynesian orthodoxy, for most of the postwar period. One has been that, with the growing professionalization of economics and the expansion of academic support of interest in it, it has become increasingly possible for an issue to be deemed scientifically interesting and worthy of investigation even if the general public displays no visible interest in it. Another has been the rise of the United States to the position of a world power, which has made the exploration of issues of no direct relevance to the economic interests of the United States nevertheless worth pursuing as potentially matters of the national interest in the world economy. Both the hyper-inflations in Europe and elsewhere that followed the two world wars, and the strong inflations that have characterized Latin American economic history, have lent themselves to investigation with the aid of the quantity theory as matters of potential relevance to U.S. economic policy. But, as already mentioned, while these foreign experiences have provided fodder for monetarism, and in the course of time support for the contention that monetarism rests on a far wider base of empirical investigation than Keynesianism, the real counter-revolutionary thrust of monetarism has only developed since inflation became a major problem for the United States itself. Further, it is only since that event—which, given the world importance of the United States, has meant the emergence

of inflation as a worldwide problem—that monetarism has been taken seriously by academic and public opinion in other countries.

Practical social relevance apart, the question of success for a new theory, whether revolutionary or counter-revolutionary, depends on its fitting appropriately into the intellectual climate of its time. Here we may apply what has already been said about the reasons for the successful rapid propagation of the Keynesian revolution to the “as if” question of how to proceed to mount a quantity-theory counter-revolution. There were, I trust you will remember, five elements in the success of the Keynesian revolution, and I shall take them in turn.

The first was a central attack, on theoretically persuasive grounds, on the central proposition of the orthodoxy of the time. In the case of the Keynesian revolution, that proposition was the automatic tendency of the economy to full employment. In the case of the counter-revolution, the obvious point of attack, in a world characterized by high employment and inflationary tendencies, was the vulgar Keynesian orthodox position that “money does not matter.” As James Tobin has pointed out, there is a world of difference between two alternatives to this proposition, namely, one, “money does too matter,” and, two, “money is all that matters.” But this difference was easily and conveniently blurred, to the benefit of the counter-revolution, by seizing on the extreme Keynesian position that money does not matter at all as the essence of the prevailing orthodoxy.

The second aspect of Keynesian success was the production of an apparently new theory that nevertheless absorbed all that was valid in the existing theory while so far as possible giving these valid concepts confusing new names. This was the technique followed—again I would emphasize

the "as if" character of my interpretation—in Friedman's classic restatement of the quantity theory of money [3]. The restated quantity theory is, as Patinkin has recently pointed out, essentially a generalization of Keynes's theory of liquidity preference on the basis of a more sophisticated analysis of the nature of wealth and the relation of wealth to income. Novelty and the requisite intellectual confusion were provided by the substitution of the concept of "permanent income" for that of wealth, and the dragging across the trail of the red herring of human capital that was emerging from other work being conducted at Chicago at that time. Nevertheless, the restatement of the quantity theory of money did include one important and genuinely novel element, drawn not from Keynes but from his predecessors in monetary theory, which was highly relevant to the problem of inflation and which continues to distinguish quantity theorists from Keynesians; this consisted in its emphasis on the Fisherian distinction between the real and the money rate of interest and on the expected rate of price inflation or deflation as determining the difference between the two.

For the reasons just given, the restatement of the quantity theory provided a new theory meeting the third criterion for success, a degree of difficulty of understanding just sufficient to deter the old and to challenge and reward the young, and hence to reopen the avenues of professional opportunity for the ambitious.

The fourth criterion for success was a new and appealing methodology. Here the counter-revolutionary theory could appeal against the tendency of Keynesian economics to proliferate into larger and yet larger models of the economic system, a tendency which sacrificed theoretical insights to the cause of descriptive realism and which had the incidental but important detractions of demanding large sums

of scarce research money available only to senior economists and of turning young economists into intellectual mechanics whose function was to tighten one bolt only on a vast statistical assembly line, the end product of which would contain nothing that could be visibly identified as their own work. In place of this approach, the counter-revolution set up the methodology of positive economics, the essence of which is not to pursue descriptive realism as represented by the largest possible system of general equilibrium equations, but to select the crucial relationships that permit one to predict something large from something small, regardless of the intervening chain of causation. This methodology obviously offered liberation to the small-scale intellectual, since it freed his mind from dependence on the large-scale research team and the large and expensive computer program.

The fifth criterion for success was the advancement of a new and important empirical relationship, suitable for determined estimation by the budding econometrician. That relationship was found in the demand function for money, the stability of which was claimed to be the essence of the traditional quantity theory of money. Presentation of the stable demand function for money as the essence of the quantity theory offered a close parallel to the Keynesian consumption function of the 1930's—a statistical relationship simple to understand theoretically and not too hard to estimate statistically, which promised, nonetheless, to contribute importantly to the resolution of central theoretical issues. Moreover, since intelligent and gifted young men and women will persevere until they succeed in finding statistical validation of an allegedly important theoretical relationship, and will then interpret their results as evidence in favor of the theory that originally suggested the relationship, their efforts will

inevitably be extremely favorable to the theory in question. And so it has proved. A stable demand function for money is by no means inconsistent with the Keynesian macroeconomic general equilibrium model, and indeed is presumed to exist in the construction of the standard IS-LM diagram. But the empirical finding of the existence of such a function has been widely adduced in support of the quantity theory as against the rival Keynesian theory, a procedure justified only by the identification of the Keynesian orthodoxy with the proposition that money does not matter and that velocity is either highly unstable or infinitely interest-elastic.

The quantity-theory counter-revolution could therefore make use of the same factors as facilitated the rapid propagation of Keynesian economics—the attack on a central and widely held theoretical proposition, the development of a new theory that absorbed and rechristened the best of the old, the formulation of that theory in terms that challenged the young and enabled them to leapfrog over the old, the presentation of a new methodology that made more immediate sense than the prevailing methodology, especially in terms of accessibility to the young and to those outside the established centers of academic excellence, and a new and presumptively crucial empirical relationship suitable for relatively small-scale econometric testing.

A counter-revolution, however, has to cope somehow with a problem that a revolution by definition can ignore—though it can trade on it in its propaganda—the problem of establishing some sort of continuity with the orthodoxy of the past. Specifically, the monetarist counter-revolutionaries were burdened with the task of somehow escaping from the valid criticisms of the traditional quantity theory, which the Keynesian revolution had elevated into articles of dogma and self-justi-

fication. These criticisms were, first, that the quantity theory had assumed an automatic tendency to full employment, which was manifestly in conflict with the facts of experience; and, second, that velocity was a highly unstable variable, useful, if at all, only for the *ex post* description of historical events. The restatement of the quantity theory met these criticisms by two counter-contentions: that the question of whether the economy responds to monetary impulses by price-level or by output changes is an empirical question falling outside the domain of monetary theory properly defined, because the quantity theory is a theory of the demand for money and not a theory of aggregate response to monetary change; and that the essence of the quantity theory as a theory of the demand for money is not presumptive constancy of velocity but the stable functional dependence of velocity on a few major variables. The former counter-contention freed the quantity theory from the charge that it was too silly to be worth considering, and opened the way for fruitful scientific controversy and development in monetary theory—though, as I shall explain later, the abnegation of responsibility for explaining the division of the effects of monetary change between price and quantity movements has subsequently proved a serious short-coming of the counter-revolution, now that the counter-revolution has come to be taken seriously. The latter counter-contention, involving emphasis on the existence of a stable demand function for money, permitted the absorption of the best of Keynesian ideas into the quantity theory cause, without any recognized need for acknowledgment of their source. The problem in the case of both counter-contentions was to establish a plausible linkage with pre-Keynesian orthodoxy.

The solution to this problem was found along two lines. The first was the inven-

tion of a University of Chicago oral tradition that was alleged to have preserved understanding of the fundamental truth among a small band of the initiated through the dark years of the Keynesian despotism. The second was a careful combing of the *obiter dicta* of the great neo-classical quantity theorists for any bits of evidence that showed recognition (or could be interpreted to show recognition) of the fact that the decision to hold money involves a choice between holding money and holding wealth in other forms, and is conditioned by the rates of return available on other assets.

Don Patinkin has very recently—and over-belatedly, from the standpoint of the history of economic thought—exploded these efforts to provide bridges between the pre-Keynesian orthodoxy and the monetarist counter-revolution [10]. He demonstrates conclusively that in their theorizing the neo-classical theorists did assume a tendency to automatic full employment, and that in their analyses of practical policy problems they regarded the inherent instability of velocity as a major disturbing element and made no use whatever of the functional relationship between velocity and other aggregate variables implied by their own *obiter dicta*. And he shows specifically that the Chicago quantity theorists—Simons and Mints—were no different from their quantity theory colleagues elsewhere in these respects. There was no lonely light constantly burning in a secret shrine on the Midway, encouraging the faithful to assemble in waiting for the day when the truth could safely be revealed to the masses; that candle was made, and not merely lit, only when its light had a chance of penetrating far and wide and attracting new converts to the old-time religion.

Nevertheless, one should not be too fastidious in condemnation of the techniques of scholarly chicanery used to promote a

revolution or a counter-revolution in economic theory. The Keynesian revolution derived a large part of its intellectual appeal from the deliberate caricaturing and denigration of honest and humble scholars, whose only real crime was that they happened to exist and stand in the way of the success of the revolution. The counter-revolution had to endow these scholars, or at least their intellectual successors, with a wisdom vastly superior to what their opponents had credited them with. *Obiter dicta* and an oral tradition are at least semilegitimate scholarly means to this polemical end. Moreover, as time has passed and the counter-revolution has acquired increasing academic respectability, it has become increasingly possible to admit, and even to brag, that the useful ideas have been drawn from the revolution and not from the preexisting orthodoxy. Indeed, this is a necessary element in a successful counter-revolution, an element for which a previously successful revolution inevitably provides the foundations—because it ultimately becomes possible to draw an intellectually acceptable distinction between the sophisticated ideas of the revolutionary leader and the unsophisticated ideas of the revolutionary followers and executors, and to absorb the former into the counter-revolutionary ideology while discarding the latter as beneath intellectual contempt. The service of drawing this distinction in intellectually acceptable terms has been performed for the monetarist counter-revolution with great scholarly distinction by Axel Leijonhufvud's book on Keynesian economics and the economics of Keynes.

I have in this lecture been concerned primarily with the intellectual and social factors that make it possible to launch a successful revolution or counter-revolution in economic theory. However, I would judge that the key determinant of success or failure lies, not in the academic

sphere, but in the realm of policy. New ideas win a public and a professional hearing, not on their scientific merits, but on whether or not they promise a solution to important problems that the established orthodoxy has proved itself incapable of solving. Keynes, and many other economists in Britain and elsewhere, spent much time in the 1920's and 1930's advocating public works as a cure for unemployment—a cure that, because it conflicted with prevailing orthodoxy, was unacceptable. The *General Theory* was successful, precisely because, by providing an alternative theory to the prevailing orthodoxy, it rationalized a sensible policy that had hitherto been resisted on purely dogmatic grounds. Similarly, the monetarist counter-revolution has ultimately been successful because it has encountered a policy problem—inflation—for which the prevailing Keynesian orthodoxy has been able to prescribe only policies of proven or presumptive incompetence, in the form of incomes or guidelines policy, but for which the monetarist counter-revolution has both a theory and a policy solution.

No particular point would be served in a lecture of this kind by recounting the stages of accomplishment in the monetarist counter-revolution (see [7]). The advance from strength to strength is summarizable in a few key phrases: the restatement of the quantity theory, a statistical illusion in the judging of Keynesian models, velocity versus the multiplier in U.S. monetary history, monetarism versus fiscalism, and “the new new economics.” The question of interest is whether the monetarist counter-revolution will sweep the board and become the orthodoxy of the future, itself ripe for attack by a new revolution, or whether it will gradually peter out.

Personally, I expect it to peter out, for two reasons. The first, and most impor-

tant, is that I believe the Keynesians are right in their view that inflation is a far less serious social problem than mass unemployment. Either we will vanquish inflation at relatively little cost, or we will get used to it. The odds at present are that we will accept it as a necessary price of solving other pressing domestic issues—this seems to be the current view of the present Administration—and in that case monetarism will again be reduced to attempting to convince the public of the importance of the problem it is equipped to solve before it can start arguing about the scientific superiority of its proposed solution to the problem. The second reason is that monetarism is seriously inadequate as an approach to monetary theory, judged by prevailing standards of academic economics, and in the course of repairing its intellectual fences and achieving full scientific respectability it will have to compromise irretrievably with its Keynesian opposition.

The most serious defects of the monetarist counter-revolution from the academic point of view are, on the one hand, the abnegation of the restated quantity theory of money from the responsibility of providing a theory of the determination of prices and of output, and, on the other hand, its continuing reliance on the methodology of positive economics. Abnegation of responsibility for analyzing the supply response of the economy to monetary impulses, and particularly the disclaiming of the need for an analysis of whether monetary changes affected prices or quantities, was, as I have explained earlier, necessary to the restoration of the quantity theory to a position of academic respectability. But this need was transitory: once the quantity theory regained academic respectability, it was obliged to resume responsibility for the short-run forecasting of aggregate movements of prices and

quantities (see [5]). This it has begun to do, most importantly through the research work of the Federal Reserve Bank of St. Louis, and with appreciable success; but it has been lured into playing in a new ballpark, and playing according to a different set of rules than it initially established for itself.

In similar fashion, the methodology of positive economics was an ideal methodology for justifying work that produced apparently surprising results without feeling obliged to explain just why they occurred, and in so doing mystifying and exciting the interest of noncommitted economists and wavering Keynesians. But the general equilibrium and empirical revolutions of the recent past have taught economists to ask for explicit specification of the full general equilibrium system with which the theorist or empiricist is working, and to distrust results that appear like rabbits out of a conjurer's hat—and an old-fashioned top hat at that. The demand for clarification of the mechanism by which results can be explained is contrary to the methodology of positive economics, with its reliance on the "as if" approach. But it will have to be answered satisfactorily if the monetarist counter-revolution is to win general acceptance among the profession; and the attempt to answer it will necessarily involve the counter-revolutionaries in the opposing methodology of general-equilibrium systems and multi-equation econometric models. The quantity theorists have already begun to extend their efforts into simultaneous-equation formulations and estimations of economic relationships. In so doing, they have been making important methodological compromises with the Keynesian opposition—or, to put it another way, reaching out for a synthesis between the revolution and the counter-revolution.

In summary, it seems to me that the

monetarist counter-revolution has served a useful scientific purpose, in challenging and disposing of a great deal of the intellectual nonsense that accumulates after a successful ideological revolution. But its own success is likely to be transitory, precisely because it has relied on the same mechanisms of intellectual conquest as the revolution itself, but has been forced by the nature of the case to choose a less important political issue—inflation—to stand on than the unemployment that provided the Keynesian revolution with its political talking point, and has also espoused a methodology that has put it in conflict with long-run trends in the development of the subject. If we are lucky, we shall be forced as a result of the counter-revolution to be both more conscious of monetary influences on the economy and more careful in our assessment of their importance. If we are unlucky (those of us who are not good at jumping on band-wagons) we shall have to go through a post-counter-revolution revolution as the price of further progress on the monetary side of our science.

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