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ECONOMIC ORTHODOXY AND EXTERNALITIES REVISITED

*By R. C. d'Arge and E. K. Hunt**

As the title indicated, our article was intended primarily as a *critique*.[1] Many substantial criticisms of orthodoxy were offered. Almost none of these criticisms were questioned by William W. Brown and Morgan Reynolds in their critique.[2] Therefore, before addressing ourselves to their "appraisal" we should stress that, regardless of the merit or lack of merit of their objections, the bulk of our article is not questioned or criticized in their "appraisal."

Much of the article by Brown and Reynolds is mere rhetoric which has absolutely no relation to anything contained in our article. They write, "Apparently, mundane questions about the empirical success or failure of economic analysis is of no concern for d'Arge and Hunt." Upon what is such an errantly absurd statement based? Certainly not the article nor anything else either of us has ever written. Again they write, "Perhaps economic investigations of information and transaction costs, alternative property right assignments, and uncertainty . . . are yielding results which [d'Arge and Hunt] do not like." Such unsubstantiated and nonsensical statements could only have been thrown in for their polemical and *ad hominem* effect.

Their principle objections to our article appear to be: (1) that we misinterpreted our quotation from Graaff, (2) that we were unreasonable in characterizing orthodox theory as "unrealistic," (3) that we were in error when we asserted that orthodox theory treats externalities as freakish anomalies, (4) that we were "troubled by the lack of organized markets where trades in external effects could be consummated," (5) that our alternative policy proposals are naive, (6) that we misrepresent the nature of orthodox utility theory, and (7) that our attack on the normative assumptions of orthodox theory is illegitimate—because orthodox theory is "positive" and *not* normative.

These objections were given in a modified order because we believe that objection number (7) which appears first in their article deserves extended comment, and we therefore wish to treat it last. The following is our response to their seven objections, in the order which we listed.

The first objection is easily disposed of. Our quotation from Graaff was not based upon a misunderstanding. Graaff was, in fact, analyzing the entire foundation of the normative theory of Pareto optimum, just as we suggested. We recommend that the interested reader (including Brown and Reynolds) read or reread the whole of Graaff. As an alternative we refer readers to I. M. D. Little's review of Graaff's book in the 1957 volume of *Economica*, in which the destructive, iconoclastic nature of the book is spelled out. Or the reader can peruse E. J. Mishan's definitive "A Survey of Welfare Economics, 1939–59" in which Mishan states: "Graaff is less compromising. On a close examination, he asserts, every proposition in welfare economics is found wanting."[3]

Our critics' second point is that we unfairly characterize orthodox theory as unrealistic. They state: "We wonder if [d'Arge and Hunt] are equally concrned about the effect of assuming a perfect vacuum upon the ability to predict the flight of a cannon ball. Do the 'unrealistic' models of molecular structure prevent a chemist from predicting that combining hydrogen and oxygen yields water."

Really?! Since when do the accomplishments of physicists and chemists become serviceable in breathing realism into grotesquely unrealistic economic theory? A quotation from Norbert Wiener seems appropriate:

> The success of mathematical physics led the social scientist to be jealous of its power without quite understanding the intellectual attitudes that had contributed to this power. The use of mathematical formulae had accompanied the development of the natural sciences and become the mode in the social sciences. Just as primitive peoples adopt the Western modes of denationalized clothing and parliamentarism out of a vague feeling that these magic rites and vestments will at once put them abreast of modern culture and technique, so the economists have developed the habit of dressing up their rather imprecise ideas in the language of the infinitesimal calculus.[4]

The same point was elegantly made by the economist F. H. Hahn, himself a leading economic theoretician:

> The achievements of economic theory in the last two decades are both impressive and in many ways beautiful. But it cannot be denied that there is something scandalous in the spectacle of so many people refining the analyses of economic states which they give no reason to suppose will ever, or have ever, come about. It probably is also dangerous. Equilibrium economics, because of its well known welfare economics implications, is easily converted into an apologia for existing economic arrangements and it is frequently so converted. . . . It is an unsatisfactory and slightly dishonest state of affairs.[5]

In defending the realism of orthodox neoclassical economic theory, most devotees rest their case on the authority not of great physical scientists but of other orthodox economists. In what is, perhaps, the most highly regarded summary of orthodox neoclassical economics, Professor C. E. Ferguson states that until econometricians have found answers to certain questions which plague orthodoxy:

> . . . placing reliance upon neoclassical economic theory is a matter of faith. I personally have the faith; but at present the best I can do to convince others is to invoke the weight of Samuelson's authority.[6]

The third criticism is easily disposed of. Brown and Reynolds ask if it is true that economists treat externalities simply as freakish anomalies, then "how do [d'Arge and Hunt] account for the flood of articles on the subject" in recent times? The answer is simple: we did not say that *articles* on externalities were freakish anomalies, rather, that in the "flood of articles on the subject" many orthodox economists treated externalities as freakish anomalies.

Our critics' fourth point is rather strange. They attribute to us a point of view that we took some pains to discredit in our article. They state that we are "troubled by the lack of organized markets where trades in external effects could be consummated." In fact, it is a large segment of orthodox economists who are so troubled. What we attempted to show is that such concern is quite meaningless because it is based on a set of assumptions about social behavior and the connection between the economy and the natural environment which in no way are consistent with even casual empirical observation. It appears that in their haste to find fault they have unwittingly and inadvertently joined us in criticizing this particular facet of orthodoxy.

Next Brown and Reynolds criticize our policy recommendations. The gist of their criticism is that the private enterprise system would continue to operate in much the same way it now operates even if an expenditure ceiling were imposed. Furthermore, despite their protestations of normative innocence, it is obvious that this incites their moral approbation. We do not share their Panglossian faith. One does not have to endorse Milton Friedman's apotheosis of the present market capitalist economic system to appreciate the fact that our proposed solutions could not be imposed upon our economic system without drastically changing many other fundamental social and economic institutions. Since our paper was primarily a critique of economic orthodoxy, we did not think it the appropriate place to spell out all of the changes which we believe would be necessary to successfully implement our policy proposals. These proposals were mentioned, in passing, to stimulate new thinking—not to give a definitive defense which would persuade rigid, confirmed believers in economic orthodoxy. However, their critique of our policy proposals is largely based on questioning of the principle of conservation of mass-energy. There is not even the slightest hint in our article that we believe the "production of investment goods does not generate wastes but consumption goods do." We emphasized the obvious fact that "the more material goods generated in an economy, the more air borne, water borne, and solid wastes that will accumulate," but also stated that production of consumption goods increases the *immediate* flow of wastes since these goods are immediately consumed and therefore appear as wastes more rapidly than do investment goods.

The sixth criticism is no less empty than the rest. When we asserted that modern orthodoxy was based upon a variant of hedonism, we were giving it the benefit of the doubt. Hedonism is, generally, a theory with real empirical content that can, in principle, be refuted. We were perfectly aware that some economists had expanded the meaning of utility in order to give their theory of choice a more realistic ring. We, however, agree with Paul Samuelson that this expanded notion of utility maximization "is consistent with all conceivable behavior and refutable by none."[7] Our critics have achieved merely a Pyrrhic victory by elevating orthodoxy to a non-operational and meaningless level.

The last and most important point made by our critics is that the theory we described as economic orthodoxy is positive and not normative. They ask the rhetorical question: "Can you imagine the reaction of a Newton, Galileo, Boyle, Mendel or Leaky to the charge that their theories were vulnerable on psychological and ethical grounds?" We ask if you can imagine the reactions of these men to the assertion that their theories somehow render an obviously normative economic theory invulnerable to psychological or ethical criticisms?

The view that the theory of Paretian optimality is entirely positive and not normative is unusual to say the least. The most extreme statment we had encountered before reading that of our present critics was by Robert Dorfman, Paul Samuelson and Robert Solow, who wrote that the notion "of a Pareto-optimum . . . is a standard tool of welfare economics; its importance comes from the fact that it provides a weak, *universally acceptable*, criterion of when one economic configuration is 'better' in a welfare sense than another."[8] This statement, while not going to the extreme absurdity of stating that the analysis of Pareto-optimum is value free, nevertheless asserts that the values underlying the analysis are *universally acceptable*. This seems a little extreme. The area of social welfare criteria usually generates considerable controversy. We therefore wish to do two things: (1) make explicit what normative values underly the orthodox use of the notion of Pareto-optimum as a welfare criterion, (2) briefly look at the question of why economists might think these values are universally acceptable (or, in the case of our critics, nonexistent).

The necessary and sufficient conditions for utilizing the Pareto-optimal criterion for comparing alternative economic configurations are the specifications of all constraints embodied in each configuration and a set of social welfare criterion applicable to all economic configurations or states. It is in the definitions and identification of the sets of social welfare criteria and constraints that the problem of universal acceptability arises. In orthodox theory, the social welfare criteria are often reduced to two principles: one, the "pig principle" that "if you like something, more is 'better' and secondly, that individual preferences are the unique measures of social welfare. Acceptance of these criteria means that the orthodox economist must approve of all individual consumer tastes which are backed by sufficient purchasing power. And since these tastes are the ultimate value criteria of their Paretian Optimality analysis, they must approve of all of the social and economic processes by which these tastes are formed (and also assume that all individuals have knowledge of all important characteristics of all goods—or approve of the way in which they are acquiring that knowledge).

Inherent in the acceptance of the social constraints, within the context of which the orthodox criteria are defined, are a great many value judgments which orthodox economists generally accept.[9] They must either approve of or disregard the moral implications of the existing distribution of income,[10] or must assume that appropriate actions will produce a morally desirable income distribution before the theory becomes relevant;[11] they must approve of, disregard, or assume appropriate changes will be made in the distribution of wealth; they must approve of . . . etc., the existing systems of laws and rules—including the laws of private property and the operation of social control,[12] They must approve . . . etc., of the power structure and the way in which power is wielded; they must assume there are no handicapped individuals, or, in economists' jargon, they must assume that every person has an initial endowment with which he can "both survive and participate in the market"[13] (otherwise, while we are enjoying our "best of all possible worlds," Paretian Optimality, some people may be starving).

When we look at these supposedly "universally acceptable" normative assumptions, we are forced to agree with S. K. Nath when he asks,

> *Where* are the value judgements supposed to be widely acceptable? For it is very likely that the value judgements that are likely to be widely acceptable differ from one society to another. Some writers would like to believe that a common set of value judgements would be acceptable in what have been described as the countries of the West. But this is too sanguine. The different histories of social-security measures (with the greatest contrast being provided perhaps by Britain and the United States) are ample refutation of any such presumption.[14]

In fact, the orthodox Paretian judgement that whatever each individual prefers is always best for him is explicitly denied by a host of legislative measures. "Compulsory education, compulsory national insurance, tax on tobacco and alcohol, subsidized milk, libraries, national parks and concert halls, to mention only the more obvious examples,"[15] are measures based on the widely held assumption that the individual is *not* always the best judge of his own welfare. The commonsense knowledge that most advertising seeks to "brainwash" the individual for the profit of large corporations also refutes the basis of the conventional Paretian value judgement. Moreover, it is grotesquely unrealistic to imagine we could get universal agreement on the issues of what are morally proper distributions of income, wealth and power. Thus, the assertion that the traditional use of the criterion of Paretian optimality is based on values that are "universally acceptable" is, at best, silly. The notion that orthodox welfare economics is only positive analysis and contains no normative elements—and hence is invulnerable to normative criticism—is so patently absurd that we cannot imagine anyone taking it seriously.

Orthodox welfare economics is loaded with value judgements—most of them controversial. And even if we grant the basic value assumptions of Pareto optimum analysis the results of the analysis have little to recommend them. "One does not have to go very deep into philosophy to observe rather tritely with Frank Knight and others that want satisfaction is not a particularly worthy ethical ideal."[16]

Economists persist in traditional neoclassical welfare analysis for one very basic reason. It is an elaborate apology for the status quo. The analysis becomes pernicious when ideological apologetics parade as "pure science" which is "value free" and "objective." The distinguished English economist Joan Robinson has written:

> There has been a great deal of confused controversy about the question of "value judgements" in the social sciences. Every human being has ideological, moral and political views. To pretend to have none and to be purely objective must necessarily be either self-deception or a device to deceive others. A candid writer will make his preconceptions clear and allow the reader to discount them if he does not accept them. This concerns the professional honour of the scientist. But to eliminate value judgements from the subject-matter of social science is to eliminate the subject itself, for since it concerns human behavior it must be concerned with the value judgments people make.[17]

Perhaps the most intellectually gifted proponent of the point of view that "analytic" or "scientific" elements in economic thought should be isolated from "ideologies" or "value preconceptions" was Joseph A. Schumpeter. Despite this advocacy, he tried to deceive neither himself nor others:

> Factual work and "theoretical" work, in an endless reaction of give and take, naturally testing one another and setting new tasks for each other, will eventually produce *scientific models*, the provisional joint products of their interaction with the surviving elements of the original vision, to which increasingly more rigorous standards of consistency and adequacy will be applied. This is indeed a primitive but not, I think, misleading statement of the process by which we grind out what we call scientific propositions. Now it is perfectly clear that there is a wide gate for ideology to enter into this process. In fact, it enters on the very ground floor, into the preanalytic cognitive act of which we have been speaking. Analytic work begins with material provided by our vision of things, and this vision is ideological almost by definition. It embodies the picture of things as we see them, and wherever there is any possible motive for wishing to see them in a given rather than another light, the way in which we see things can hardly be distinguished from the way in which we wish to see them. The more honest and naive our vision is, the more dangerous it is to the eventual emergence of anything for which general validity can be claimed.[18]

Thus, appeals to the scientific accomplishements of Newton, Galileo, Boyle, Mendel or Leaky will not hide the obviously ideological nature of orthodox welfare economics, nor make it invulnerable to psychological and ethical criticisms. A most interesting question would be why so many defenders of orthodoxy (and the social and economic status quo) imagine their analyses to be value-free. Perhaps like bad breath, one's own ideology may be difficult for one to perceive.

FOOTNOTES

❖ Mr. d'Arge is an Associate Professor of Economics, and Mr. Hunt an Assistant Professor of Economics, both at the University of California, Riverside.

[1] R. C. d'Arge and E. K. Hunt, "Environmental Pollution, Externalities, and Conventional Economic Wisdom: A Critique," *Environmental Affairs*, Vol. 1 No. 2 p. 266 (June 1971).

[2] W. Brown and M. Reynolds, "d'Arge and Hunt on Externalities and Economic Orthodoxy: A Critique Appraised," *Environmental Affairs*, Vol. 1 No. 4 p. 837 (March, 1972).

[3] E. J. Mishan, "A Survey of Welfare Economics, 1939–59" in The American Economics Association and Royal Economic Society *Surveys of Economic Theory*, Vol. I p. 208, New York: St. Martin's Press (1966).

[4] N. Weiner, *God and Golem, Inc.*, p. 91, Cambridge: M.I.T. Press.

[5] F. H. Hahn, "Some Adjustment Problems," *Econometrica*, 38(1) pp. 1–2 (1970).

[6] C. E. Ferguson, *The Neoclassical Theory of Production and Distribution*, pp. xvii–xviii, Cambridge, England: The Cambridge University Press (1969).

[7] P. A. Samuelson, *Foundations of Economic Analyses*, pp. 91–92 Harvard University Press (1953).

[8] R. Dorfman, P. A. Samuelson and R. M. Solow, *Linear Programming and Economic Analysis*, p. 409, New York: McGraw-Hill (1958). Emphasis added.

[9] In preparing this paragraph we were benefited by perusing an excellent, but as yet unpublished, paper by Professor W. J. Samuels, entitled "Welfare Economics, Power and Property."

[10] E. J. Mishan, "Pareto Optimality and the Law," Oxford Economic Papers Vol. 19 p. 279 (1967).

[11] P. A. Samuelson, *supra* note 7 at 214.

[12] T. C. Koopmans, *Three Essays on the State of Economic Science*, p. 54, New York: McGraw Hill (1957); and J. M. Buchanan, "The Relevance of Pareto Optimality," *Journal of Conflict Resolution* Vol. 6 pp. 241–354 (1966).

[13] T. C. Koopmans, *supra* note 12 at 59.

[14] S. K. Nath, *A Reappraisal of Welfare Economics*, p. 126, New York: Augustus M. Kelly Publishers (1969).

[15] *Id.*

[16] S. S. Alexander, "Comment on Political and Economic Evaluation of Social Effects and Externalities," in J. Margolis, *The Analysis of Public Output*, p. 28, New York: The National Bureau of Economic Research (1970).

[17] J. Robinson, *Freedom and Necessity, An Introduction to the Study of Society*, p. 122 New York: Pantheon Books (1970).

[18] J. A. Schumpeter, *History of Economic Analysis*, pp. 42–43, New York: Oxford University Press (1954).