Jevons and Menger Re-homogenized: Who Is the Real "Odd Man Out"?

A Comment on Peart

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ABSTRACT. Response to Sandra J. Peart, "Jevons and Menger Re-homogenized?: Jaffé After 20 Years," 1998. *The American Journal of Economics and Sociology* 57(July): 307–325.

I

Introduction

SANDRA J. PEART'S PAPER, "Jevons and Menger Re-homogenized?: Jaffé After 20 Years," is an attempt to re-evaluate the Jaffé Thesis two decades after it was advanced as a reproach against the prevalent tendency of historians of economics to blur the differences among the cofounders of the so-called "marginal utility revolution," Jevons, Menger, and Walras. Jaffé (1976) complained that the tendency to homogenize these three pioneers obscured important differences between them, and that, of the three, Menger was the "odd man out." On re-examining the issue, however, Peart concludes that the differences between Jevons and Menger were not so great as Jaffé asserted, and that on closer study, Walras is the real odd man out. Although I find Peart's study convincing in many respects, especially in her discovery of a natural alliance between Jevons and Menger on key issues such as their mutual focus on process, uncertainty, error, and the significance of time, I also believe that many contemporary historians of economics have missed the boat regarding the fundamental nature of the paradigm shift that constituted the movement from classical economics to neoclassical economics. This fact continues to cloud the issue of the relative standing of Jevons, Menger and Walras in the history of economic thought.

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II

Problems With the Marginal Utility "Revolution"

THE TENDENCY TO HOMOGENIZE Jevons, Menger, and Walras emerged as a consequence of misunderstanding the fundamental nature of the paradigm shift from classical to neoclassical economics. The significance of key developments in economic theory after 1850 was not so much that utility found its way into economists' thinking but that the onus of explanation shifted from the macroeconomy (i.e., questions of economic growth and income distribution) to the microeconomy (i.e., the decisions of the firm and the individual consumer). After all, utility as a motivating factor in human behavior had been recognized by the ancient Greeks. Smith was aware of this even though he shunted utility aside in his paradoxical discussion of value. Bentham returned the concept to prominence, albeit as an *aggregate* welfare measure. Jevons clearly credited Bentham with the appropriate theory of human behavior, even as he redirected the focus of analysis away from collective welfare considerations toward the level of individual decisions. Nor was the *marginal* concept entirely absent from classical economics. Witness Ricardo's theory of rent, in which returns to land were based on its marginal productivity, as determined by differences in soil fertility. Or consider von Thünen's brilliant application of the principle in his own version of an agricultural economy. Nevertheless, classical economics from Smith to Mill had no important place for utility, and therefore no use for marginal utility. Senior (1836), for example, recognized the concept but did nothing with it.

The need for a marginal concept, as Hutchison (1953) indicated long ago, emerges when similar successive units of goods or inputs have a different significance to the consumer or producer. Inasmuch as classical economics analyzed mainly competitive markets in which there is no divergence between marginal and average costs, there was little scope in the main classical models for the marginal concept, or for the distinction between marginal and average values. The absence or presence of utility considerations is not the chief issue. Thus, Hutchison (1953, p. 16) correctly concluded that "what was important in marginal utility was the adjective rather than the noun."

III

Jevons, Menger, and the Econo-Engineering Tradition

One major, overlooked, exogenous event that ushered in the need for the marginal concept was the railroad. As a practical manifestation of new power technology, the railroad touched off a transport revolution; but it also sparked a theoretical revolution in economics. The railroad offered huge potential gains for virtually all consumers but required massive capital investments. The determination of whether or not such investments were advantageous, particularly when public funds were to be committed, was originally the province of engineers. Thus, not surprisingly, the real pioneers of marginal analysis were engineers, such as Ellet (1839), Dupuit (1844, 1849), and Lardner (1850). These writers, and a supporting cast of lesser-knowns, faced new problems of price and output determination by monopoly firms that incurred high fixed and low variable costs, and sharply increasing returns. Issues of cost allocation and optimal railway rates—where the utility of the consumer was an inescapable part of the problem—dominated the new transport economics. Classical economics was ill-suited to deal with such issues. The engineers therefore drew on their special training and resources to discover new analytical tools, and in the process ushered in a fertile period of invention and discovery.

Jevons and Menger were receptive to these developments, whereas Walras remained aloof.[1] In Jevons' case we have his own admission that Lardner's book influenced him when he was writing his first economic essays on the railway problems of New South Wales. He was also alert to other advances by engineers. Jenkin's graphic representation of demand and supply, for example, spurred him into print sooner than he had planned. In Menger's case, direct affiliations are less easily established because he did not overtly acknowledge the writings of the econo-engineers. But his personal library was well stocked with a cross-section of the literature. Concentrating only on the French contributions (which arguably were the most robust), we find among the holdings in Menger's possession the following: the *Annales des ponts et chaussées* (from 1844–1849, the period when Dupuit's pathbreaking articles appeared therein), the *Journal des économistes* (1852–1903), and a partial run of the *Journal de la statistique de Paris*, as well as books by Isnard (1781), Dutens (1804, 1835), Cazaux (1825, 1826), Du Mesnil-Marigny (1860, 1878), Dupuit (1861, 1863, 1865), and Foville (1880).[2] On the one hand, Menger's ownership of these journals and books constitutes mere circumstantial evidence, but on the other hand, we may reasonably infer that Menger was steeped in the econo-engineering literature, for he was no mere bibliophile who simply collected books. It is especially likely that he would have absorbed Dupuit's provocative ideas, several of which bear such striking resemblance to his own.

IV

Conclusion

BECAUSE OF THE EARLY AND PIVOTAL ROLE of the engineers in the development of economic theory, it is safe to say that by 1870 the shift from macroeconomic to microeconomic inquiry was well underway in Europe. Once this shift gathered momentum, two discernible approaches emerged: the partial-equilibrium approach of Jevons, Menger, and Marshall, and the general-equilibrium approach of Walras. Dupuit foreshadowed the partial-equilibrium method, but Marshall refined it a generation later. But the general-equilibrium approach was a theoretical novelty of the first order for which Walras alone deserves credit. As Jaffé and others have pointed out, marginal utility was for Walras almost an afterthought, albeit a pivotal one, because it enabled him to bridge the analytical gap between demand and the price equations his general-equilibrium system required. In Jaffé's words, "instead of climbing up from marginal utility to the level of his general equilibrium system, Walras actually climbed down from that level to marginal utility" (Jaffé 1976, p. 513). By contrast, Jevons and Menger started with the concept of subjective utility and built from the bottom up.[3]

Two decades ago, Jaffé provided a service by warning against the dangers of indiscriminately lumping writers together in a way that emphasizes their similarities to the exclusion of their differences. Within reason, every writer should be evaluated on his or her own merits in the appropriate historical setting. Yet there is also value in identifying broad "camp" movements that influence the direction of economic theory. The choice between partial-equilibrium and general-equilibrium methods presented a kind of methodological crossroads to economists of the twentieth century. In this regard, it is clear that Walras belonged to one camp, whereas Jevons and Menger belonged to another.

Notes

1. The official path to becoming a *ponts* engineer in France was through the École polytechnique and the École des ponts et chaussées. The latter was a kind of postgraduate

school for students of the former who aspired to become civil engineers in the service of the state. Walras was never able to pass the entrance exam at the École polytechnique and thus was barred from both institutions. He remained bitter toward the engineering establishment in France throughout his life.

2. See *Katalog der Carl Menger-Bibliothek* (1955) at the University of Hitotsubashi in Tokyo for a complete list of Menger's library holdings. For an evaluation of the relative contributions of the engineers cited above to the econo-engineering tradition, see Etner (1987) and Ekelund and Hébert (1999). Throughout the nineteenth century, Austrian railway engineers studied at the École des ponts et chaussées in Paris, and *ponts* engineers frequently used data from the Austrian railway system in their empirical studies.

3. Jaffé (1976, p. 515) added that, in contrast to Jevons and Menger, "It cannot be emphasized enough that what Léon Walras was after was the completion of his competitive market model, and not the elaboration of a theory of subjective valuation in consumption."

References

Cazaux, L. F. G., 1825. *Elémens d'economie privée et publique; ou science de la valeur des choses, et de la richesse des individus et des Nations.* Paris: Huzard.

———. 1826. *Bases fondamentales de l'économie politique, d'après la nature des choses.* Paris: Huzard.

de Foville, A., 1880. *La transformation des moyens de transport et ses conséquences économiques et sociales.* Paris: Guillaumin.

Du Mesnil-Marigny, J., 1860. *Les libre-échangistes et les protectionnistes conciliés ou solution complète des principales questions économique*, 2nd ed., Paris: Guillaumin.

———. 1988. L'économie politique devenue science exacte ou les libre échangistes et les protectionnistes, 3rd ed. Paris: E. Pion.

Dupuit, J., 1844. "De la mesure de l'utilité des travaux publics," *Annales des ponts et chaussées, mémoires et documents*, 2^e sér., 8(2):332–75.

———. 1849. "De l'influence des péages sur l'utilité des voies de communication," *Annales des ponts et chaussées, mémoires et documents*, 2^e sér., 17(1):170–248.

———. 1861. *La liberté commerciale: son principe et ses conséquences.* Paris: Guillaumin.

———. 1863. *Etudes théoriques et pratiques sur le mouvement des eaux dans les canaux découverts et à travers les terrains perméables*, 2d ed. Paris: Dunod.

———. 1865. *Traité théorique et pratique de la conduite et de la distribution des eaux*, 2d ed. Paris: Dunod.

Dutens, J. M., 1804. *Analyse raisonnée des principes fondamentaux de l'économie politique.* Paris: Chez Courcier.

———. 1835. *Philosophie de l'économie politique, ou nouvelle exposition des principes de cette science.* Paris: J. P. Aillaud.

Ekelund, R. B., Jr., and R. F. Hébert, *Secret Origins of Modern Microeconomics: Dupuit and the Engineers.* University of Chicago Press, (forthcoming 1999).

Ellet, C., Jr., 1966. *An Essay on the Laws of Trade in Reference to the Works of Internal*

Improvement in the United States. 1839. Reprint, New York: Augustus M. Kelley Reprint.

Etner, F., 1953. *Histoire du calcul economique en France.* Paris: Economica, 1987.

Hutchison, T. W., *A Review of Economic Doctrines* 1870–1929. Oxford: Clarendon Press.

Isnard, A. N., (1781). *Traité des richesses.* 2 vols. Chez Londres: F. Grasset.

Jaffé, W., "Menger, Jevons and Walras De-Homogenized," *Economic Inquiry,* 14, 1976:511–24.

———. 1955. *Katalog der Carl Menger-Bibliothek in der Hitotsubashi-Universität.* 2 vols. Tokyo: Bibliothek der Hitotsubashi-Universität.

Lardner, Dionysius, *Railway Economy.* 1850. Reprint, New York: Augustus M. Kelley Reprint, 1968.

Senior, N. W., 1836. *An Outline of the Science of Political Economy.* Reprint New York: Augustus M. Kelley Reprint.