

The Paradoxical Mr. Edgeworth

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Francis Ysidro Edgeworth was born in Edgeworthstown in County Longford Ireland on February 8, 1845, and he died in Oxford on February 13, 1926. His life story has been so well told in a recent biography by Lluís Barbé that I need only give the sparest outline here. After graduating from Trinity College Dublin with honors in 1867, he studied at Oxford, achieving a First Class in 1869 in Humane Letters. He was well prepared for a career in Law and he pursued that indifferently and briefly, before settling into part-time teaching positions such as teaching Greek at Bedford College for women in London. He was ill prepared for a career in mathematical economics and statistics, but in a paradox of the sort that marked his life, that is exactly what he embarked upon.

By the late 1870s Edgeworth had begun to publish on mathematical utility theory; in 1881 he published his book Mathematical Psychics, a work now regarded as a classic in mathematical economics; in 1883 he began to publish in mathematical statistics. In 1881 he became Lecturer, later Professor of Political Economy at King's College London. In 1891 he was elected Drummond Professor at Oxford, a Chair he held at All Souls College, becoming emeritus in 1922. In 1890 he became the founding editor of the Royal Economic Society's flagship journal, the Economic Journal, and he continued that to his death in 1926, for some years sharing the duties with John Maynard Keynes.

Throughout all these years a taste for paradox was evident in both his writing and his substantive work. This could surface in striking ironical statements, such as "International trade meaning in plain English trade between Nations, it is not surprising that the term should mean something else in Political Economy" (Edgeworth, 1894). Or it could appear in deep results such as his 1881 discovery that it was possible and not at all pathological that economic conditions could lead to a situation where a contract was indeterminate – a range of outcomes would exist without economic theory leading to an unequivocal result, an area later christened the "Edgeworth Box" (Edgeworth, 1881). For a more statistical example, Edgeworth showed that when a statistician is faced with two unbiased, independent, finite variance estimates of the same quantity, conditions could be such that greater accuracy could be achieved by tossing one away than by averaging the two (Stigler, 1980). And there is Edgeworth's taxation paradox, showing it is possible (and again not pathological) that, for example, a government could impose a tax upon First Class railway tickets only and induce a profit-maximizing railroad to lower the prices for both First and Second Class seats (Hotelling, 1932).

These and other Edgeworthian paradoxes will be discussed.

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