

René Roy, the Separability and Subordination of Needs, and Post Keynesian Consumer Theory

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Abstract: This paper introduces readers to the translation of a lesser-known article by René Roy (1943). In that paper, Roy constructs a consumer who has all the features of the current Post Keynesian consumer. Goods are ordered in groups, independently of prices; substitution effects only play a role within groups; income effects explain how consumers move from one group to another; changes in the prices of basic necessity goods have an impact on the demand for goods of higher order, but prices of the commodities belonging to these superior groups have no feedback effects on the demand for basic necessity goods.

The text that follows is a translation of an article by René Roy that was published in French in 1943, in the journal *Econometrica*. Roy himself is still well-known to microeconomists – indeed his name was granted an entry by Maurice Allais (1987) in *The New Palgrave* – mainly because of the so-called Roy Identity.¹ However, his 1943 article has nearly gone into oblivion, and indeed Allais (1988), in his long review of Roy’s work on consumer theory, does not consider that article to be among the important papers written by Roy. According to the Social Science Citation Index, since 1970 the 1943 Roy paper has been cited only three times in economics journals, including twice in works of mine, where, despite its poor citation record, I have argued that the paper was well worth reading. Having so titillated the attention of Peter Earl, an author of two wonderful books on the economics of an alternative consumer theory, he has convinced the editor of this *Review* that the 1943 Roy paper was of enough merit to require a translation, for the sake of all those heterodox economists with some interest in consumer theory who cannot read French.

Why is Roy’s article so important for heterodox or Post Keynesian consumer theory? I have argued elsewhere that although Post Keynesians have written little about consumer theory, there is a substantial amount of similarity and coherence in the claims that they have been making more or less independently, as can be read from passages or chapters written by authors such as Philip Arestis, Alfred Eichner, Edward Nell, Luigi Pasinetti, Bertram Schefold and Joan Robinson, as well as in the works of Peter Earl.² The great thing about Roy’s article is that it anticipates the arguments made by those Post Keynesian authors. Roy’s paper is an excellent heuristic introduction to the main principles that constitute an alternative and more realistic view of consumer choice. These main principles, I have argued in various places, are the following:

- (i) The principle of procedural rationality;
- (ii) The principle of satiable needs;
- (iii) The principle of separability of needs;
- (iv) The principle of subordination of needs;
- (v) The principle of the growth of needs;
- (vi) The principle of non-independence.
- (vii) The principle of heredity.

All these principles can be found, some more explicitly than others, in Roy's 1943 article. As I said earlier:

In his little-known article, Roy (1943) puts forward several propositions that would seem to constitute the core of a post-Keynesian theory of consumer choice and that are quite compatible with the rest of post-Keynesian theory. For instance, Roy denies that the preferences of consumers (demand) explain the prices of consumer goods, thus rejecting the neoclassical view of value based on scarcity. He rejects the generalized use of indifference curves, for he believes that such a representation is not a realistic representation of human needs. He argues that goods can be, to some extent, separated into groups of goods with common features, substitution effects playing an important role within a group, but not in-between groups. In addition, he believes that these groups can be ordered in a hierarchy, with consumers moving from one group of goods to another, as their most urgent needs get progressively satiated and as their incomes rise. Variations in the prices of goods located in core groups (the basic needs) will have an impact on the demand for the goods of peripheral or discretionary groups ('luxury goods'), but by contrast variations in the prices of goods located in discretionary groups will have no impact on the demand for the goods of core groups. (Lavoie 2004, p. 641)

Roy believes that to a large extent the hierarchy of needs is determined by physiological features but also by social and environmental influences, customs, traditions, the habitus, social conditioning, cultural capital, and the socio-economic background of the individual. His vision is quite compatible with what Andrew Trigg (2001, 2004) believes to be the most appropriate basis for an alternative evolutionary or Post Keynesian theory of consumption – an approach based on the social theory of Pierre Bourdieu, where 'the social hierarchy both constrains the consumption of lower social strata and leads to subtle, less conspicuous consumption patterns at the top of the social hierarchy' (Trigg 2004, p. 393). This hierarchy of needs is not influenced, or barely so, according to Roy, by variations in prices. Roy's vision thus encompasses procedural rationality, the principle of non-independence (where decisions depend on those of others and eventually on the power of advertising), and the principle of heredity (where decisions depend on past experiences and habits, thus introducing path-dependence, since individuals hold more keenly to goods or services that they already have).

Without saying so, while doing everything else, Roy (1943) puts forth the idea of an ordering of a lexicographic nature, which was to be formalised and proposed so clearly by Nicholas Georgescu-Roegen (1954) a dozen years later. Georgescu-Roegen, like Roy, believed that hierarchised needs ruled consumer choice, and that needs of different orders were irreducible.³ The nice thing about Roy's paper is that it is a simple introduction to the intricate notion of hierarchy, with separability and subordination of needs. Such a view, which I find is embedded in a great many statements by Post Keynesian authors, also plays an important role among other strands of heterodox economics, namely in humanistic economics and in ecological economics, where Georgescu-Roegen is recognised as an important source of inspiration.

Indeed, one of the few references to Roy's 1943 article can be found in the book by Lutz and Lux (1988, pp. 331-2)⁴, which was a follow-up to their wonderful book on the *Challenge of Humanistic Economics* (1979), which underscored the

lessons that could be drawn, for choice and consumer theory and economics in general, from the work of the psychologist Abraham Maslow. The insistence on the existence of higher-order needs, which take on a dramatic importance once a threshold income level is achieved, can also be found as early as 1986 in the contributions to consumer and household choice in heterodox environmental economics, also called ecological economics. This has been recently exemplified in several contributions to the ecological literature, and practical and dramatic consequences have been drawn regarding the under-estimation of the value of the environment when doing contingency studies based on standard neoclassical choice theory assumptions, as I have tried to show recently (Lavoie 2005).⁵

The only other reference to Roy's work is to be found in a neat article written by José Encarnación (1964). This article is a short paper on orderings of a lexicographic nature, the inspiration for which arose from Georgescu-Roegen's (1954) paper that I already mentioned. In a footnote, Encarnación (1964, p. 215) writes that a 'referee has kindly pointed out that Professor René Roy's article [the translation of which appears next] presents ideas similar to those in [Georgescu-Roegen's 1954 article]'. As Encarnación's paper was published in *Econometrica*, the same journal in which Roy's 1943 article appeared, Roy's paper escaped total oblivion thanks to a referee or an editor who was probably long associated with the journal and possessed a highly reliable memory. As far as my own memory goes, I probably rediscovered Roy's article through the following chain. In Earl's (1983) book, there is a reference to the very complicated survey of lexicographic orders by Peter Fishburn (1974); among its 127 references, Encarnación's (1964) short paper is listed, which finally led me to Roy (1943).

Although René Roy was fairly well known in his time, readers of the *Review* may wish to learn a bit more about him.⁶ Roy signed his 1943 paper as a professor at the *Institut de Statistique de l'Université de Paris*, a statistical institute, and at the *École nationale des ponts et chaussées*, an engineering school where he had studied earlier. As his other publications show, besides dealing with transport issues, Roy was a specialist in consumer theory. In 1933 he published an article in the very first issue of *Econometrica*, the journal of the newly-created Econometric Society, on Cournot and the mathematical school – as one would expect from an engineer economist. Roy published several other papers in *Econometrica*, these papers, like most of the rest of his work, being devoted to consumer theory, utility theory, demand theory and price index theory (Roy wrote a huge book with François Divisia). Obviously, measurement was a key concern of his, and, in 1947, he created what became a highly-reputed workshop, the *Séminaire d'Économétrie* (the Econometrics workshop). He led the workshop until his retirement in the 1960s, at which point Edmond Malinvaud, a former student of his, took over its leadership. Roy also showed some foresight in arguing forcefully, in 1956, in favour of supporting studies in operations research and in game theory at his engineering school.

Roy was born in Paris in 1894 and he died in 1977. In 1914 he sat the entrance examinations for the famous military scientific school, *l'École Polytechnique*, but the start of the First World War sent him off to the military front instead. In 1916 he was hit by shrapnel, and despite an operation, he became blind in both eyes. A year later he started to learn Braille and in 1918 he entered the *Polytechnique*, along with many other matriculants of the 1914 group. Despite his handicap, he came out first in his year, became a student at the *École Nationale des Ponts et Chaussées* in 1920, and then in 1925 he defended a Ph.D. dissertation in

economics, on the topic of low-traffic railway tracks, thus following in the footsteps of other famous French engineer economists, such as Dupuit and Léon Walras.

It seems that, generally speaking, René Roy held only moderately progressive views about economics and income distribution. However, during the Econometrics workshop, Roy reasserted on a number of occasions that the future was in no way an extrapolation of the past, and that forecasting was a rather precarious activity in a world of uncertainty, a view which some would find akin to a non-ergodic (Davidsonian/Shacklean) description of the world. In any case, Roy was very clear-sighted about the distinction between needs and wants, as well as the necessity to entertain a modified consumer theory, based on the hierarchy of needs, where the domain of validity of substitution effects would be severely restrained.

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Notes

1 Roy's Identity, which was first outlined in 1942, is an application of the envelope theorem. It is obtained from an indirect utility function, that is the maximum utility that can be obtained for a given price vector and a given money income. One can derive Marshallian demands from indirect utility functions by applying Roy's Identity. Similarly, Slutsky demand equations are easily derived. This is discussed in great detail by Allais (1988).

2 All references to these authors and the numerous articles on lexicographic choice by Stavros Drakopoulos, as well as quotes, can be found in Lavoie (1992 chapter 2, 1994, 2004), and so they will not be repeated here.

3 Indeed, Roy's concepts as they appear in the 1943 article were also briefly presented in an earlier article:

One thus has the possibility of establishing, among all consumer goods, a ranking in terms of groups that responds to the hierarchy of needs, such that individuals would first try to acquire the items of a group, in preference to those of a higher group, only dealing with the higher group if their financial resources are sufficient; individuals would make choices according to their personal tastes only within each group. It may be difficult to identify the frontiers of such groups in practice, but it is certainly possible to conceive of their existence.

Secondly, we admit that groups are made up in such a manner that individuals only move to the a higher group when they have incomes that are sufficient to satisfy in their entirety the needs corresponding to the lower groups; in other words, each individual applies successively the various fractions of his income to the satiety of his most urgent needs, moving later to the needs of a higher order (Roy 1933, p. 267).

4 Where, unfortunately, he is referred to as Le Roy!

5 Once again, a large amount of references is offered there, including the works of John Gowdy, Clive Spash and Stefano Zamagni.

6 All of the following information is drawn from the note written by Pierre Massé (1978), who was a student of Roy and who, upon his death, was elected to replace Roy

at the *Académie des Sciences morales et politiques*. English-speaking readers may want to check the brief entry by Allais (1987).

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