

## PHILOSOPHY OF ECONOMICS

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### Contents

1. Introduction
  2. The Point of View of “Pure Economics”
  3. Economically Qualified Entities
  4. Abstraction and Idealization
  5. Ideal Objects
  6. Epistemological Views
  7. Fundamental Measurement
  8. Economics and Philosophy
- Glossary  
Bibliography  
Biographical Sketch

### Summary

After a general philosophical introduction, this chapter discusses the meaning and nature of a “pure” science of economics, both as an analytical and a classificatory conception. This discussion leads to the nature of abstraction, idealization, ideal objects, and the production of abstract mathematical theories in economics, which gives rise to Walras’ problem, namely that of “returning to reality” (or producing empirical claims by means of abstract idealized theories) once one such theory has been concocted. The different epistemological views — attempts at solving Walras’ problem — on economics are presented, keeping in view the concept of empirical claim. Another way of producing empirical claims is attempted through the method of fundamental measurement, to which the penultimate section is devoted, in which proofs of the main theorems on ordinal and cardinal utility are discussed. The chapter closes with a discussion on the philosophical problems faced by any attempt at relating economics with other disciplines.

### 1. Introduction

Reality reveals itself to ordinary human experience as having several aspects, sectors, levels or modalities. We can distinguish — among others — a physical, a biological and a psychical level: we observe, for instance, that there are beings which show physical but not biological properties, whereas others show both physical and biological but not psychical properties, and still others exhibit the three types of properties. There is also a “cultural” realm as well. There are languages, juridical institutions, works of art and

churches, as well as schools and firms. All philosophers have recognized these aspects or modalities — at least *prima facie* — if only to try to prove that some of them are not entirely real and are to be reduced to other or others taken as basic. Mario Bunge, for instance, states that

“An ontological hypothesis involved in and encouraged by modern science is that reality, such as is known to us today, is not a solid homogeneous block but is divided into several levels, or sectors, each characterized by a set of properties and laws of its own. The main levels recognized at present seem to be the physical, the biological, the psychological, and the socio-cultural ones. Every one of these may in turn be divided into sublevels. For instance, the main sublevels of the physical level are the physical proper and the chemical sublevels, and the main sublevels of the socio-cultural level are the economic, the social proper, and the cultural sublevels. Finer divisions can be introduced and none are clear-cut and rigid.”

A special science is a discipline that sees the objects of experience from the point of view of one of these aspects or levels. For instance, physics studies bodies from the point of view of force and energy, whereas biology sees them from the point of view of organic life. A question that can be raised is: *What is the point of view of a “pure” science of economics?*

## 2. The Point of View of “Pure Economics”

A classical characterization of the economic point of view runs as follows:

“the sparing or frugal mode of administering scarce goods, implying an alternative choice of their destination with regard to the satisfaction of different human needs.”

This sentence intends to capture the substance of what it means to be economic. The author thinks that its insight is quite deep, indeed, and completely in accordance with the prevailing conception of the economic point of view as developed by Lionel Robbins in an influential book written in 1932.

First of all, Robbins distinguishes a *classificatory* conception of economics from an *analytical* one. An analytical conception does not attempt to pick certain *kinds* of behavior, but focuses attention on a particular *aspect* of behavior, the form imposed by the influence of scarcity. It follows from this, therefore, that in so far as it presents this aspect, any kind of human behavior falls within the scope of economic generalizations.

Yet, the analytical conception must be complemented with a classificatory one, because some behaviors — specifically some forms of organized behavior or social organizations — can be seen as *qualified* by economic laws, which means that they are of an *economic kind*, even though this is not to say that they do not display properties belonging to other modalities. The author would call ‘*typically* economic behavior’ any behavior qualified by economic laws. Thus, there are many cases of economic behavior but not all economic behavior is typically economic. (More on this distinction will be discussed in the next section.)

The logical analysis of Dooyeweerd's and Robbins' shared definition of the economic point of view clearly displays four universal components in the economic aspect of any economic behavior:

- (C1) *Human needs or ends that have different importance for the agent.*
- (C2) *The resources or means available to satisfy the needs or achieve the ends are scarce.*
- (C3) *The means or resources are capable of alternative application and can be used to satisfy any of the needs or achieve any of the ends, but not all of them at the same time.*
- (C4) *A frugal or efficient choice regarding this application, seeking to satisfy as many needs or achieve as many ends as possible, starting with those that are deemed as more important by the agent.*

The presence of conditions (C1)-(C4) makes some human acts have an economic aspect:

“when time and the means for achieving ends are limited *and* capable of alternative application, *and* the ends are capable of being distinguished in order of importance, then behavior necessarily assumes the form of choice. Every act which involves time and scarce means for the achievement of one end involves the relinquishment of their use for the achievement of other. It has an economic aspect.”

It follows that an agent placed in the Land of Cockaigne cannot display economic behavior. Certainly, such an agent may have needs, but there is no scarcity and therefore does not have to *economize*, i.e. to make an efficient use of resources available to reach those ends. There are many situations in real life where there is plenty of some factor and so the agent does not think he has to make an efficient use of it. An agent that behaves according to (C4) is said to be *rational*.

The reference of the terms ‘human needs’ or ‘human ends’ is relative, in the sense that it varies from one situation to another and also from one agent to another. Yet, it can be fixed when a particular, concrete economic behavior is being discussed. These needs are reflected in the preferences of the agent. For instance, if in asking an agent he says that he prefers beans over perfumes, we may gather that he feels more need of eating than of smelling well. Examples like this, which are quite abundant, make clear that the concept of preference is unavoidable, natural, and useful to characterize the concept of a human need or end: all of the time we can see ourselves and other people preferring some things over others. This does not mean, however, that preferences are necessarily “rational” (i.e. connected and transitive); only that the concept is of wide applicability and indeed necessary when it comes to the description of economic behavior.

The concept of scarce resources, on the other hand, is relative to proposed ends or given needs. There are no scarce resources in themselves but only with respect to some purpose. And the ends may also conflict among themselves, in the sense that reaching one end may preclude the reaching of another. When they are not incompatible and the resources available to an agent are sufficient to reach all his ends and satisfy his needs, there is no problem of scarcity, but then no economic behavior either. The fact of scarcity *forces* the agent into ordering his ends and making an efficient use of his

resources, since in this form he can achieve the realization of more ends. In other words, the agent is forced into producing preference rankings of his ends and making optimal (or “good”) use of resources to achieve as many ends or satisfy as many needs as possible with the resources available. Choosing the most preferred ends, or the most urgent needs, is called ‘preference-maximization’ in the literature.

### 3. Economically Qualified Entities

Even though virtually every human behavior exhibits an economic aspect, not all human behavior is typically economic. It is clear that the fact that a church, a school or a family, for instance, has an inner accounting and makes efficient use of resources, does not make these organizations be typically economic, even though they may be under pressure to make money, since their end is not *merely* to make money, but mainly to satisfy other human needs. On the other hand, it seems that firms like the central bank of a country or a stock market like Wall Street *are*, effectively, typically economic organizations. The question is this: What is the criterion to classify some processes, behavior or institutions as typically economic?

The clue to find this criterion is the notion of scarcity relationships. It is apparent that a social organization is *typically economic* if and only if (iff) its existence would be unnecessary if there were no scarcity. That is to say, a typically economic organization is one whose very *raison d’être* is to confront a scarcity problem. Can we imagine a society without scarcity in which there are firms or tax collection? It seems clear that the answer is negative: scarcity requires the constitution of organizations and social relations devoted to confront it. We can imagine the Land of Cockaigne, a society with ends established in a culture, in social institutions as families, worship communities or schools, which requires no more inputs than the brute materials at hand in order to reach these ends and reproduce its way of life. Clearly, production or distribution would not be necessary in this admittedly rough and elementary society. Firms and merchants would be unnecessary.

Generalizing this mental experiment, we may characterize as a scarcity relationship any social relationship whose end is to respond to any scarcity problem. Exchange, for instance, is a social relationship of this type. If an individual or an organization had at hand all the resources that it needs, it would never have to exchange goods. If the individuals or organizations were not “ambitious”, lived in Cockaigne and settled for taking daily what is at the reach of their hand to subsist, they would not suffer scarcity and the processes or organizations that ordinary language classifies as “economic”, precisely those that have to do with production and distribution, would be unnecessary.

Scarcity oscillates between two bounds. A lower bound, which is the minimum consumption level allowing survival and the reproduction of the culture (however elementary); and an upper bound, determined by nature and human capabilities. Within these bounds, scarcity is defined by the ends adopted by the individuals and society. To a certain type of ends and social organization there corresponds a certain type of necessities and, within this system, some things will appear as scarce to some members of the society.

As a conclusion, it seems clear that typically economic are those social relationships, processes or organizations that would be unnecessary if there were no scarcity. The subject matter of economics can be delimited thus as the relationships, processes or social organizations imposed by scarcity, from the point of view of the efficient use of resources. All schools of economic thought intend to produce systematic accounts of the workings of these processes, relationships and social organizations, as well as to characterize in general terms the nature of rational choice in the sense of (C4) above. The schools that put more emphasis on the organizations are labeled ‘institutionalists’; those that put more emphasis on rational choice usually employ more abstract mathematical notions and techniques — the axiomatic method — and are characterized by dealing with highly idealized objects. But, in order to do this, all schools produce theories resorting to abstraction and idealization to some extent.

#### 4. Abstraction and Idealization

At least some aspects of ordinary, pre-theoretical experience must be distinguished from the *interpretations* humans make of them, always within the framework of a (religiously oriented) worldview. The author takes as evident that all men, in all times, no matter their religion and culture, are aware not of sense-data in the empiricist sense, but of real properties of real things with which, moreover, they interact in order to survive. For instance, Could you imagine a tribe in which no individual has some idea of which herbs and animals are edible and which are not? Or a clan at war that cannot tell stones from sticks? Clearly, no such human group could survive. But this is an evolutionary argument to the effect that a certain fashionable universal skepticism (or cultural relativism), of the sort advocated by many philosophers nowadays, is far-fetched: All human groups share a certain set of universal concepts that allow them to survive in an environment (nature) that (you can rest assured) is not tailored by their wishes or previously concocted concepts.

The universality of these concepts also makes possible communication among cultures that are distant in space, time, and content. Some relativist philosophers have suggested that the nature a thing is relative to the conceptual frame within which it is conceived. A typical example is that of the American natives who thought that the Spanish riders were centaurs. According to the relativists, the riders with their horse *were* centaurs for the Native Americans, *were* just horse riders for the Europeans, and the two views were *incommensurable*, so that there was no fact-of-the-matter involved at all. But this is a view that destroys the possibility of any communication between two very different cultures — and it is just a fact that that communication has taken place and is taking place all of the time.

Things and their properties are not abstract entities and are experienced in their full integrity not mainly in contemplation, but above all in the production process, in the interaction between man and its means of labor. If this fact is not accepted, it is impossible to make sense of the different types of abstraction, nay, of the very notion of abstraction. Talking about abstraction presupposes that there is something to be abstracted and also an object out of which this something is abstracted. A first approach to abstraction makes a distinction between low and high abstraction. Low abstraction is basically the focusing of our attention on some parts or aspects of a situation. Imagine

some hunters looking for sharp stones to cut meat. They will mentally single out stones from other types of things around, and also thin edges from other shapes exhibited by stones. Of course, focusing upon certain stones is not the same as piling them up in a heap. One thing is to focus upon the stones (i.e. view them as the only relevant type of thing in a material system for a given human purpose) and quite another to separate them from their original environment. Laboratory experimentation not only separates things from their original environment, but also places them under controlled situations, isolating them from certain causal factors that are deemed relevant for the phenomenon under study. The first type of operation, which somehow “isolates” the stones or some of their properties by not paying attention to their environment, is called ‘intellectual isolation’. The second operation is called ‘material isolation’.

Thus, the first fundamental distinction is that between material isolation and intellectual isolation. Material isolation is the operation of putting a material system (a rock, a plant, a virus, a chemical substance) beyond certain causes acting upon it. Intellectual isolation is entirely a mental operation that focuses upon certain things, properties or relations, without thereby materially isolating such things, properties or relations. An intellectual isolation that focuses upon the nature, property or relation of a thing, but keeps seeing the nature, the property or the relation *as* the nature, property or relation *of* the thing, the author would call ‘low’ abstraction. If it “detaches” the nature, property or relation from this particular thing in order to consider the nature, property or relation in itself, as capable of being instantiated in different things, it will be called ‘high’ or ‘theoretical’ abstraction. Thus, theoretical isolation is only one type of intellectual isolation.

It is possible to move from low to high abstraction, and vice versa. If one jumps from considering one’s own knife to consider the universal *knife* then one would be moving to another level of abstraction, a theoretical (high) one. This type of abstraction is called ‘vertical abstraction’. To this operation there corresponds a sort of inverse one called ‘vertical de-isolation’: that of moving from high to low abstraction, as when you move from the universal *knife* to this particular knife.

But there is also a type of isolation and corresponding inverse within the same level of abstraction. Suppose that, in a first intellectual operation, the knife as being in one’s pocket is isolated, so that one focuses his/her attention upon the-knife-in-the-pocket. And suppose, further, that in a second operation one disregards his/her pocket and consider only the knife. Clearly, the result of this second operation is at the same level of abstraction as that of the first (both are low). If, as a result of this type of horizontal isolation, one formulates an accurate sentence about the knife itself, the result is a true assertion that fails to mention many other things about the knife (for instance, that it is in one’s pocket), and so it “violates” the “whole truth” which is to say that it does not contain or imply all true assertions about the knife: it omits them. Nevertheless, since what it claims is not a distortion of reality, it is said that it does not violate “nothing-but-the-truth”. The operation of taking those omitted items into account again is called ‘horizontal de-isolation’.

This suggests that a twofold distinction is inescapable, namely between *horizontal* and *vertical* isolation. Horizontal isolation takes place when both the starting and the finishing point of the intellectual operation are within the same level of abstraction (both

high or both low). Vertical isolation takes place when we move from low to high abstraction. Horizontal and vertical de-isolations are, respectively, the inverse operations.

But horizontal isolation can be performed also — and this is more interesting from a meta-theoretical point of view — by means of idealizing assumptions, since there are two types of horizontal isolation. One of the examples, based upon mere omissions, is a very common one. A second one operates upon high abstractions and consists of isolating the universal by means of explicitly formulated idealizing assumptions. The verbal expression of this isolation ends up producing counterfactual conditionals that stipulate what would happen if the powers of the isolated universal were operating in different sets of conditions. For instance, in a first operation the nature of motion is abstracted and then particular cases of unimpeded motion are observed. Now, it is possible to experience particular cases of unimpeded motion but never a case of a body not at all subjected to forces preventing it from moving in an entirely free way (inertially). To say that a body not subjected to any forces will move in a certain way (e.g. in a rectilinear and uniform manner) is a statement about inertial motion, even though perhaps never in the history of mankind will there be someone in a position enabling him to directly verify it (even if space and time were absolute, as Newton thought). Newton's First Law is an example of such a statement.

Uskali Mäki, who is the author of some of the distinctions just presented, distinguishes among two types of idealizing assumptions: *nullifying idealizations* and *stabilizing idealizations*. Nullifying assumptions express that a certain factor, which is usually present affecting the powers of the isolated universal, is missing. If  $p(x)$  is the degree in which factor  $p$  is present at  $x$ , a nullifying assumption can be expressed in the form  $p(x) = 0$ . A stabilizing assumption expresses that the rate of change of factor  $p$  at  $x$  is nullified, and is expressed as  $\dot{p}(x) = 0$ . Another type of idealization is *mythologization*. While a nullifying assumption asserts that the degree in which a certain factor present in a certain entity is null, mythologization asserts that the factor reaches its maximum in a given object. Mythologization is a very common procedure in economic theory. For instance, to attribute to an economic agent unbounded computational powers or perfect memory are cases of this intellectual operation.

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### **Biographical Sketch**

**Adolfo García de la Sienna** was born in Monterrey, Mexico, where he earned his degree in Philosophy in 1982. In 1984, he earned his Master of Arts degree at the Department of Philosophy of Stanford University (California, USA) where he also earned his Ph.D. degree in Philosophy at the same Department of Philosophy (1986).

He has been research fellow at the Instituto de Investigaciones Filosóficas of the National University of México, at the Center for Research and Teaching of Economics, and currently at the Universidad Veracruzana both at the Instituto de Filosofía and the Faculty of Economics, where he teaches Microeconomics. His interests lie mainly in the field of the philosophy of economics. He has published a book and a number of articles in international journals.