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# **An Ontology of Economic Objects: *An Application of Carl Menger's Ideas***

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ABSTRACT. Economic reality is constituted by economic objects such as goods, commodities, money, value, price, and exchange which together give rise to the complex entity known as the market. Each of these categories is governed by exact laws that provide the conditions for settling objectively whether individuals' views about an instance of any category indeed correspond to that category. This paper describes these laws as an ontological application of Carl Menger's 1871 contribution. This paper employs Carl Menger's framework from his 1871 contribution as the basis for advancing such conditions for each category of economic objects. The aim of this paper is to lay the groundwork for an ontological description of economic reality. This paper, then, can be conceived as a project in social ontology of the sort defended by John Searle.

## I

### **Introduction**

ECONOMISTS SPEAK OF MACROECONOMIC PHENOMENA such as inflation, unemployment, and growth as existing conditions in our social reality. These conditions describe existing states of affairs in the world which affect choice. To the average individual, for example, such conditions are facts which will influence his saving and spending decisions. When making economic decisions, then, individuals view the world as composed of economic facts. It is not that the individual, *qua* economic agent, shapes the world in a particular way. Tables and chairs, mountains and trees, minerals and rain, dogs and cats—all real things in the world remain the same, and as clearly apprehensible to him as these real things are when he is not acting as an economic agent. However, there is a difference in how the

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individual, *qua* economic agent, divides the reality he perceives. He orders things in the world according to their role in the economic conditions which affect his plans. As a result, a thing of natural beauty such as a tree may acquire an economic character if he perceives a causal connection between the tree and his need for shelter. The individual thus perceives the tree not just as a gift of nature, or a beautiful thing, or as an instance of a woody perennial plant, but also as an intermediate good, a means for the fulfillment of a plan to build a house.

Similarly, all things in the world—both artifacts and naturally existing things—are viewed by the economic agent as constituents of a reality divided by and articulated through economic considerations. All phenomena which economists speak of constitute a reality viewed through the lenses of the economic actor. The elements of such phenomena can not be described by the language of physics alone since such a description would lack the social dimension of objects, such as the tree *qua* construction material. Instead, mainstream economists refer to the ‘economic microfoundations’ of such phenomena which are constituted by elements such as firms, consumers, and markets. But these elements of macroeconomic phenomena presuppose other, more elementary, economic objects. For example, a ‘consumer’ presupposes goods and a market, and ‘firms’ presuppose the production of a good, the demand for a good, and a labor market, and ‘market’ presupposes an existing notion of exchange. There are, then, even more fundamental elements in economic phenomena to which we may refer as economic objects.

The relevant question here is this: what makes any one thing an economic object? Based on the discussion above, the quick and easy answer is that an economic object is a product of beliefs and physical things. However, this answer requires further examination. The purpose of this paper is to present an ontology of economic objects as a first attempt to lay the groundwork for a complete description of the aspect of social reality we shall call economic reality. Throughout the development of the body of economic theory, there has been a piecemeal approach to the description of economic objects such as money, price, and others. With only one exception, no single economist has contributed a general theory of economics containing an exact description of all economic objects which are part of its theoretical framework. This exceptional contribution was provided by Carl Menger in his *Principles of Economics*, first published in 1871. Central

to Menger's general theory is a description of laws governing six economic objects: economic goods, commodity, money, value, price, and exchange. The ontology of economic objects in this paper will be founded on Menger's theoretical framework, although I include some extended philosophical analysis as well as considerations from the perspective of mainstream economics.<sup>1</sup> Menger's description is significant because it offers the conditions for settling objectively whether the views individuals have about an instance of a given category of economic objects indeed correspond to that category.

Let us, then, proceed by considering once again our earlier question: what makes any one thing an economic object? According to Menger, the answer is a combination of two things. First, the views we hold about things *qua* economic objects. Second, the laws describing the categories to which such economic objects belong. The first is an epistemic point which we shall clarify next. The second is part of the larger ontological task of this paper which we shall resume once we have disposed of the first.

## II

### An Epistemic Clarification

KNOWLEDGE AND BELIEFS PLAY an important role in social phenomena. In economic judgments, the views that individuals hold about things *qua* economic objects are central to the analysis. For example, a dollar bill is treated as money because of people's beliefs that it is a token of a universal medium of exchange.<sup>2</sup> Such beliefs about dollar bills or any other unit of accepted currency are *subjective* because there is no single physical property that is common to all the members of the class of economic objects we call money. In other words, money is not reducible to a physical description of the paper, metal, plastic, or electronic components which comprise the various kinds of money we recognize as, and indeed call, money.

Nevertheless, we must also consider that people are frequently mistaken in their beliefs. The case of counterfeit money presents a fitting example in which individuals who accept counterfeit money in their transactions are mistaken in their views about those tokens they take to be genuine instances of the type-category money. However, an economic object is not arbitrarily designated to be a token instance of a type-category by our merely believing it to be so. Although economic judgments are subjective,

they are not arbitrary. There are, as we shall see, certain conditions or, as Menger calls them, exact laws for each economic category such that the truth or falsity of a belief about an economic object can be objectively settled.

But I am getting ahead of the ontological story about money. The chief point that I would like to drive home in this epistemic clarification is that economic objects are not reducible to either beliefs or to some intrinsic property of things. Economic objects, as social phenomena, are the product of beliefs and objective properties of things, some of which are physical facts and others are social facts. A coin, for example, has the objective property of the metal it is made of. The social fact is that a piece of round, flat metal with a fixed value which issued by a government is treated as money. Such social facts arise in spontaneous social activity. The ensuing ontological description, then, will include both the subjective and objective factors in economic phenomena. In what follows, I shall describe Menger's six categories of economic objects: good, commodity, money, value, price, and exchange.

### III

#### **Menger's Six Categories of Economic Objects**

##### *The Category 'Economic Good'*

AN ECONOMIC GOOD EXISTS as such by virtue of putative features that an individual attaches to a thing in relation to an end the individual has in mind. With this end in mind, the thing is either the mediate or immediate means. In either case, the thing thus acquires what Menger calls a goods-character. Hence, the goods-character of a thing cannot be instantiated in the thing apart from a judging mind. The following conditions describe the subject-dependent mode of existence of an economic good:

1. A judging subject must perceive a thing as scarce, relative to this total supply of the thing.
2. The thing must be evaluated in relation to a need known to the judging subject as more urgent than any other need. Because less urgent needs might have to be sacrificed, an evaluation of means ensues in order that the subject can make the most efficient allocation of resources to acquire the thing and thus maximize his total utility.
3. The thing acquires an importance to the judging subject in relation

to this unmet need or want, since the judging subject perceives a causal connection between the thing and the fulfillment of an end. It is with the association of the thing to the judging subject's expectations to the thing that the thing acquires the putative feature of an economic good.

4. Not least in importance is the judging subject's belief that he has a feasible command of the thing sufficient to be able to direct it to the satisfaction of an end. If the judging subject does not hold this belief because, for example, his resources are insufficient to acquire the thing, then the thing does not acquire a goods-character. Neoclassical economists would characterize this point by saying that the thing does not enter into the individual's utility curve.<sup>3</sup>

*The Category 'Commodity'*

AS WE HAVE SEEN ABOVE, a thing is a good if an agent perceives it to be in direct connection with the fulfillment of a want or need. This is, however, only one side of the coin for, on the other side, a thing must also be supplied in order for it to be acquired. This other side of the coin is what describes the commodity-character of a thing: its availability for sale, exchange, or acquisition, regardless of its "tangibility, mobility, or character" as either a consumption or a production good.<sup>4</sup> The conditions for the commodity category of economic objects are as follows:

1. A thing intended for sale at a price agreed upon between buyer and seller.
2. A dependence relation of the thing for sale to the seller of such a thing. This dependency relation is what gives rise to the commodity-character of a thing.
3. The use of a commodity is not intended for consumption but for sale or exchange. Once a commodity is purchased with the intention of consumption, the commodity-character of the good ceases although its goods-character does not.
4. The marketability of a commodity is limited to:
  - a. Persons who perceive it as an economic good.
  - b. Persons who are not prevented, legally, physically, or otherwise, from purchasing it.
  - c. Persons who have knowledge of its availability for purchase.<sup>5</sup>

*The Category Money'*

IN THE *Principles*, Menger describes the historical emergence of money. For our purposes, the conditions described below apply only to the mature concept of money: that which is considered a universal medium of exchange as well as a commodity for storing exchangeable wealth. Thus, the conditions for the money category of economic objects are:

1. The widespread acceptance of a medium of exchange—i.e., a type-currency—as money.
2. The marketability of a type-currency based on its widespread acceptance.
3. The marketability of tokens corresponding to a type-currency based on the widespread acceptance of the type-currency.
4. Legal orders which legitimize both type-currencies as well as their corresponding tokens as:
  - a. Universal substitutes in exchange.
  - b. Commodities for storing exchangeable wealth.
5. The acceptance of the unit measures of a type-currency—i.e., its denominations—as objective scales for assigning a price to any commodity, including the exchange ratio with other type-currencies *qua* commodities.

The case of counterfeit money presents an interesting philosophical problem for it suggests that, if the existence of money is dependent on people's beliefs, then error on the part of subjects who mistake counterfeit money for actual money could not be discovered objectively by means of facts. Let us, then, address this problem. In the presence of counterfeit money, economic agents might be fooled by the token objects they believe to be genuine members of the type-category money described above. The error might be, in fact, passed inadvertently through several exchanges with other individuals. But this error will not be a lasting one unless the counterfeit money is stored under a mattress. In normal circumstances, however, the discovery of error will occur quickly and systematically. It will occur quickly because, given the velocity of the circulation of money, it is unlikely that counterfeit money will not reach a bank sooner rather than later. Private banks, as sellers of the commodity money, have a vested interest in establishing security checks for the verification of genuine tokens in their transactions. And the discovery of error will occur systematically because

the facts which will settle the truth or falsity of the beliefs individuals have about token instances of money are established by the legal orders which oversee the circulation of its currency.

The problem of error, then, is an epistemic problem of the individual. Within a larger social framework, money has a structure of social facts which settle objectively the truth or falsity of the individual's beliefs about an instance of the type-category money. It is by virtue of social facts that the type-category money has a mode of existence which is not altered by any single individual's false beliefs. Accordingly, instances of error in a judgment about a false token of the type-category money do not alter the false token by arbitrarily instantiating in it the properties of an actual token any more than the false token alters the type-category itself. In our present nationalized monetary systems, the legal orders are institutionalized central banks. They determine the kind of paper, weight, texture, color, and other secret security measures to prevent duplication. Central banks have a vested interest in keeping counterfeit money out of circulation because the national currency is also a commodity. As such, consumer confidence in the stability and strength of a type-currency will determine its demand in international money markets. Any rumor of counterfeit money will seriously affect a currency's exchange value. The systematic checks on the part of central banks are, therefore, rigorous in strong currency systems. Since strong currencies are the only ones worth the trouble of producing counterfeit tokens, the occurrence of counterfeit money is rare. Moreover, private banking institutions which accept foreign currencies follow the systematic controls established by the central bank of the currency's origin since they, too, stand to lose by accepting counterfeit money. Successful non-banking businesses, too, will adopt routine checking mechanisms in their daily transactions for verifying the authenticity of certain denominations most likely to be counterfeit in order to prevent losses. Hence, counterfeit money will be most likely discovered even before it reaches a bank.

*The Category 'Value'*

VALUE IS A THORNY CATEGORY because the term 'value' is often used in conflicting ways. Most accounts of value, for example, attempt to reduce it either to the mind or to some intrinsic property of things. Of all theories of value, however, economic value theory stands out as the most coherent theory, the episode of the labor theory of value notwithstanding. Ever since



the publication of Menger's *Principles*, economic value has been described as subjective. Accordingly, the category of economic value has the following conditions:

1. A significance attached to a good resulting from a conceptualization of the good in terms of a desired end. Such a conceptualization can be characterized as an *interested* evaluation since the agent perceives a causal connection between the possession of the good and the fulfillment of an end.<sup>6</sup>
2. The recognition of a perceived utility stemming from concrete quantities of a good in relation to an end.
3. The instantiation of the feature of scarcity in a good resulting from the agent's perceived lack of concrete quantities of such a good in relation to the fulfillment of his total utility.
4. A dependence relation between the assigned importance to any one need or want and the relative importance of other needs or wants.
5. A dependence relation between the relative importance of any need or want and the agent's overall degree of fullest satisfaction expected.
6. A dependence relation between the importance of higher-order goods and the importance of first-order goods.<sup>7</sup>
7. A dependence relation between the future value of things and the present value of things.<sup>8</sup>
8. The nature of the significance attached to a good varies according to the relation between wants and things. Hence, the putative significance of a good in a judging subject's mind is transitory since such significance arises and disappears as wants arise and disappear.
9. The value of the *services* of particular goods such as land, capital, and labor are subject to the same laws of value, outlined above, as for any other economic good.

*The Category 'Price'*

SINCE PRICE IS ATTACHED to a commodity, many modern economists refer to price as an *objective* measure of value. This is somewhat misleading, however, because the *objectivity* to which they refer is not a feature of price. It would be inconsistent to assert that price is an objective measure since such an assertion would raise the following question: Upon what facts is the objectivity of measurement grounded? Since the value of a good is acquired from putative features attached to the good by a judging subject,

there cannot be any objective facts upon which to establish the objectivity of price or its measurement. It is unclear to what, then, objectivity is ascribed. One possibility is that objectivity is predicated of number as an abstract entity. But this, surely, is not what is meant.<sup>9</sup>

A better interpretation of what modern economists mean when they refer to price as an objective measure of value is that the discrete succession of natural numbers gives rise to an objective criterion of identity for each number in this succession. Let me briefly elaborate by means of an illustration. Suppose that there are two groups of things in the world. One group consists of pencils, and the other group consists of chairs. By comparing each group based on a one-to-one correspondence between each single element in the pencil group with one element in the chair group, we may find that both groups are correlative in number. In other words, in our example, there is an exact one-to-one correspondence with respect to quantity between the elements of both groups. We could say, then, that concrete reality grounds our concepts for numerical representation (*e.g.*, two, three, etc.) of quantity identity in two distinct groups of things. Insofar as mathematical beliefs concerning numerical quantities are about representations (*e.g.*, names, symbols, or utterances) in the form of one, two, three, and so on, which can be said to be grounded on states of affairs in the world that can be described in terms of numerical quantities, then the theory of number must allow for a realist criterion of identity.<sup>10</sup> How could mankind have developed mathematical formulations involving numbers if representations of numerical magnitudes were to be conceptualized differently by different people? And, more particularly, how could we have developed any system of prices if any one individual could not grasp the identity relation between the \$5 price of good X and the \$5 price of good Y? That we are able to grasp identity relations in numerical quantities speaks of the intelligibility of concrete reality. In this sense, then, we can assert that the criterion of identity of discrete numerical magnitudes is objective since its truth is settled by facts in the world.

The above explanation is not offered by neoclassical economists, although it does not contradict neoclassical price theory. However, without the above explanation, the mainstream characterization of price does not appear to cohere with the theory of subjective value. For Menger, the above explanation is unnecessary since he does not characterize price in the same misleading language as that found in neoclassical theory. In fact Menger

anticipates this problem when he writes, “since prices are the only phenomena of the process that are directly perceptible, since their magnitude can be measured exactly, and since daily living brings them unceasingly before our eyes, it [is] easy to commit the error of regarding the magnitude of price as the essential feature of an exchange, and as a result of this mistake, to commit the further error of regarding the quantities of goods in an exchange as equivalents.”<sup>11</sup> Price, then, is merely an objective magnitude of numerical value. But the putative value of the commodity tagged at a particular price is not equivalent to the price. The putative value is subjectively evaluated by the agent. Accordingly, the conditions for the price category of economic objects are as follows:

1. Price is a numerical magnitude that can be measured exactly and objectively.
2. The value of the discrete units of magnitude tend to increase or decrease in an inverse relation to increases or decreases in the supply of the good, *ceteris paribus*.
3. The value of the discrete units of magnitude tend to increase or decrease in a direct relation to increases or decreases in the demand of the good, *ceteris paribus*.
4. In the presence of competition, the price of a good will tend to decrease since competition tends to increase the available supply of goods to meet the demand.
5. A price agreed upon by a buyer reflects one objective measure among a range of possible magnitudes at which the buyer might have been willing to exchange.<sup>12</sup>

*The Category ‘Exchange’*

ALL OF THE ABOVE CATEGORIES come into definite relations in the category of economic objects called *exchange*. Namely, an individual will perceive a thing as a good if it will satisfy a need or want. This evaluation results in the good acquiring a significance to the individual which instantiates its economic value. Since the thing is perceived as a good, then it is available as a commodity offered in exchange for a price. The seller of the commodity also finds value in the exchange since he attaches greater significance to the proceeds of the sale than in possessing the commodity. The asking price for the commodity is an objective magnitude which is expressed in terms of a quantity of money as the pecuniary term of the trans-

action. As such, money is the medium for the exchange. The exchange requires at least two participants (the seller of the commodity, and an agent who perceives the commodity as a good), a thing (perceived by the potential buyer as a good, and perceived by the seller as a commodity) with an assigned price, and a monetary transaction. If an exchange between two or more parties occurs, then the transaction is considered mutually beneficial and the results more satisfactory than if the exchange had not occurred. The conditions for the category exchange are as follows:

1. If two or more individuals contemplate a mutual transfer of commodities such that they assess their needs to be better satisfied with the transfer than it would be the case in the absence of such a transfer, then an exchange between such individuals will occur.
2. The participants in the transaction have no legal, physical, or mental obstacles preventing them from the determination of the terms of the transaction such as the quantity of the commodity to be transferred, the price of the commodity, the terms of payment, the time and place for the transfer, etc.
3. The cause of the transfer is the willingness to satisfy needs as completely as possible.
4. Each of the participants in the transfer must possess either a definite quantity of a commodity or a definite quantity of money, which has a smaller value to the respective owner than what he will obtain.
5. All participants are willing to engage in the transfer voluntarily.

#### IV

#### **Concluding Remarks**

THE ABOVE ONTOLOGICAL DESCRIPTION of economic phenomena suggests the following conclusion: On the one hand, *an economic object is a subjective entity* since its mode of existence depends on it being perceived by agents as 'economic'. What 'economic' means is that the judgment involves an evaluation directed at making a choice among known alternatives. Every choice concerns some element of scarcity such as limited time, limited productive resources, physical and intellectual limitations, levels of satiation, and so on. Coping with scarcity is a fundamental feature of the human condition which demands the allocation of means to meet ends. Any ac-

tivity of this nature is an economic activity and any thing evaluated in such an activity acquires an economic character.

On the other hand, *the judgment which the agent makes regarding the economic object is subjective*. But its truth or falsity *can* be settled objectively by the correspondence of the judgment with facts about the object. Some of these facts are intrinsic properties of the object. For example, suppose that I see red apples which, in my judgment, appear luscious and sweet. Further suppose that I desire to possess these apples in order to bake an apple pie. Owing to my judgment, the apples acquire certain putative features which I see connected to the fulfillment of my present need to eat a sweet and delicious apple pie. The actual fulfillment of my expectations, however, will depend in part on the intrinsic properties of the apples. If their red and luscious appearance does not correspond to their actual state of ripeness, then my expectations will be proven false when I eat a piece of sour apple pie if, for example, the apples were artificially ripened so they look red and delicious but their chemical composition has not yet reached the level of sweetness of ripe apples. But these are not the only facts to consider in settling the truth or falsity of my expectations about the apples. If, for example, the apples are in a basket on my neighbor's yard but they are not for sale, then these apples are not commodities. I could offer money to my neighbor to try to persuade him to sell them to me but, if he does not accept the offer, there will not be an exchange. Some of the facts, then, are physical facts and other facts are social facts such as those involved in an act of exchange. Any truth claims about my economic judgment are, then, objectively determinable by means of all relevant facts.

The analysis we may advance, then, is this. There are two senses of 'subjective' in economic phenomena.<sup>13</sup> On the one hand, there is an epistemic sense of the term subjective that is embodied in economic judgments. On the other hand, there is an ontological sense of the term subjective according to which what is subjective are the things which are the target of economic judgments. By means of economic judgments, putative features are attached to things in connection with a want or need. These features—*e.g.*, scarcity, the thing's significance in relation to a want or need, the causal connection between the possession of the thing and the fulfillment of an end—obtain, in the thing, a goods-character. But this is not all. These two senses of subjective are reconcilable with facts, both physical and social, if and when the expectations correspond to these

facts. The theory of truth in this realist economic ontology is, then, one of correspondence. In other words, what will instantiate truth in economic judgments is the correspondence between expectations and their fulfillment in facts.

### Notes

1. Carl Menger's contribution preceded the emergence of the neoclassical school of economics which is the present mainstream in economics. His *Principles of Economics* served as the foundation for the Austrian school of economics which, unlike the neoclassical school, did not employ mathematics as its means of describing economic phenomena. Much of neoclassical theory is, however, founded on Menger's and other Austrian economists' contributions to economic theory.

2. Friedrich A. von Hayek makes this point in "The Facts of the Social Sciences," *Individualism and Economic Order*, The University of Chicago Press, Chicago and London, .1948, p.59. Hayek writes, "Money is money, a word is a word, a cosmetic is a cosmetic, if and because somebody thinks they are." *Ibid*, p. 60. John Searle has argued similarly in, for example, *Minds, Brains and Science* and *The Construction of Social Reality* that money is what people think, use, and treat as money.

3. Neoclassical economists employ the term utility to denote preference for one good or bundle of goods. A *utility curve* is a representation of the level of preference of a bundle of goods. Suppose that the bundle of goods includes two goods, and one of these is X and the other Y. The utility curve of such a bundle of goods is assigned a numerical value by a utility function of the form  $U = U(X, Y)$ .

4. See Carl Menger, *Principles of Economics*, p. 239

5. This last condition explains the spontaneous organization of market places, fairs, or other means for advertising the availability of goods for sale. See Carl Menger, *Principles of Economics*, p. 248—250. It is erroneous to think that needs for things are created by the advertising of commodities since the concept of 'need' is a condition for the goods-character of a thing. Accordingly, a commodity does not produce a need but merely addresses an already existing need.

6. By contrast, Kant describes the satisfaction obtained from the beautiful as entirely *disinterested*. In other words, Kant's conception of disinterestedness in the aesthetic judgment of the beautiful is not merely the absence of desiring to possess the thing of beauty. More importantly, Kant explains that the satisfaction derived from the beautiful finds no grounds in the judging subject's situation or private conditions. Rather, the satisfaction is derived from the inherent characteristic in the thing itself which is universally intelligible as beautiful. Whether or not one agrees with Kant, his explanation of disinterested judgment presents a distinction between judgments which consider a personal gain—as is the case with economic judgments—and those which are not bound up with concepts, feelings, or deliberations unique to the judging subject given particular circumstances—as Kant describes the satisfaction obtained from the beautiful to be. See Immanuel Kant, *Critique of Judgment*, J.H. Bernard's translation, 1968, pp.38—46.

7. First-order goods are those which provide an immediate satisfaction of a need or want. Higher-order goods, such as second-order or third-order goods, are those which stand in the mediate stages toward the satisfaction of a need or want. As such, higher-order goods do not provide a direct satisfaction in themselves, although their importance lies in the fact that they are the intermediate needs toward the satisfaction of an end. The value attributed to yeast, flour, butter, and eggs is, for example, dependent on the putative value of the bread which these ingredients can be used to produce. If the agent perceives a connection between the prospective value of the bread in connection with the satisfaction of his hunger, then the bread as a good of a first order will determine the putative value of all the ingredients as goods of a higher order.

8. Hence, the future value of a building is not equal to the capital invested in the factors of production for the construction of the building. Rather, the future value of the building will depend on the putative value of the satisfaction the agent will have to forego in the present if his capital and entrepreneurial activity were not dedicated to the construction of the building. The sacrificed present value of his resources will determine the expected future value of the chosen alternative.

9. The main reason for this is that the body of economic theory does not address the ontological status of 'number'. Furthermore, to establish such an ontological commitment is philosophically problematic since it does not explain how we establish the epistemic link with abstract, mind-independent entities. In other words, since numbers are not part of our sensory experience, how do we acquire knowledge of numbers? And further, how do numbers enter the realm of human interaction such that, when I utter "two," my interlocutor grasps my meaning of "two"?

10. The intentional directedness of mathematical beliefs is central to Husserl's analysis of mathematical objects. The considerations offered in the discussion rely on Husserl's insights. See Edmund Husserl, *Logical Investigations*, Section 2, Volume II, pp. 250—253. See also Richard Tieszen, "Mathematics," *The Cambridge Companion to Husserl*, pp. 438—462.

11. Carl Menger, *Principles of Economics*, p. 192, brackets mine.

12. Suppose that the price tag for a pair of shoes is \$100. If the potential buyer estimates that the pair of shoes has more value to him than other potential uses of the \$100, then he will buy the shoes. This does not mean that the price is equal to the subjective value of the shoes to the buyer. The price of \$100 that the buyer is willing to pay only reflects that the subjective value of the shoes is *at least* \$100. But it is possible that the buyer might have been willing to pay \$150 or more for the pair of shoes.

13. I am indebted to John Searle for his exposition of the epistemic and ontological sense of subjective in *The Construction of Social Reality*, pp. 7—9.