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Monetary Exchange as an Extra-Linguistic Social Communication Process*

By Steven Horwitz**
St. Lawrence University

Metaphorical descriptions of the economic functions of money are plentiful among economists and other social scientists. S. Herbert Frankel (1977, p. 2), for one, offers a list of over twenty such descriptions. Included on that list is the metaphor of money as a "means of communication." Many social theorists have noted the similarities between money and language along these lines. James Tobin has noted that: "Both are means of communication . . . use of a particular language or a particular money by one individual increases its value to other actual or potential users" (Qtd. in Yeager, 1982, p. 237). It is this metaphor that this paper attempts to examine by analogizing money's role in the communication of knowledge in the marketplace to language's role in the communication of knowledge in other social processes. Much in the same way that the spoken and written word make mutual understanding possible between individuals in society at large, so money and money prices make orderly processes possible between economic actors in the market. In addition to performing this *analogous* communicative function, money, through its ability to make personal and contextual knowledge socially usable, also *extends* the range of social communication beyond the limits of language and the physical senses.

To explore the relationship between money and language, we will rely on two complementary — and intellectually related — bodies of thought. The subjectivist (or Austrian) tradition in economics provides a comprehensive understanding of money's role as a social medium of exchange and how that role enables money prices to perform their semiotic function in the market. Much of the Austrian tradition descends from earlier work in Continental philosophy and social

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theory,¹ and it is from this Continental tradition, specifically Hans-Georg Gadamer's phenomenological hermeneutics, that we get a theory of the communicative role of language and its relationship to human understanding.² The paper begins with a review of the subjectivist approach to money and prices, including a discussion of the sociologist Georg Simmel's very similar philosophical treatment of money. After introducing the Gadamerian view of language, the paper attempts to weave the two themes together to find their similarities and differences. The paper concludes with some brief methodological observations.

A Subjectivist Theory of Money and Prices

Discussions of money and monetary theory within the subjectivist approach invariably turn to Carl Menger's (1892) theory of the origin of money. To get at the origin of money, Menger argues that we must first recognize that money's most important, and most distinguishing, characteristic is that it is so easily saleable. The problem in a barter economy is the absence of a double coincidence of wants which results from different goods having different degrees of saleability. This makes it difficult to find someone who has what you want *and* wants what you have.

After explicating a number of factors that do and do not enhance the saleability of goods, Menger proceeds to the heart of his theory. We can imagine a series of actors on their way to the market intent on executing exchanges in order to get rid of the goods they have but do not want and acquire others they want but do not have. Such exchanges will be easier to execute if our actors bring with them goods that are more easily saleable. Even those who do not at first possess saleable goods can always exchange what they do have for something somewhat more saleable, which can later be exchanged for the ultimate *desiderata*. It may well be easier to acquire a certain good through a series of exchanges for goods of greater and greater saleability, ultimately leading

¹For more on the relationship between Austrian economics and the Continental tradition of Weber, Husserl, Schutz, and the German Historical School see Prendergast (1987), Schutz (1967), Ebeling (1987, 1988), Lavoie ed. (1991), and Boettke, Horwitz, and Prychitko (1986).

²See Berger (1989) and Lavoie, ed. (1991) for a broader discussion of the relationship between economics and hermeneutics.

to the good in question, rather than hoping for a double coincidence of wants with the originally possessed good and the desired good.³

As the few original users of media of exchange begin to find it easier to obtain the things they ultimately want, others in the market observe their success and begin to imitate their behavior. In so doing, they increase the overall demand for the goods being used as media of exchange. The effect of this increased demand for the originally more saleable objects is to increase their saleability that much more. As a result, not only do the original users demand them as media of exchange, but the imitators do as well. On top of their original saleability as objects of consumption, they are that much more saleable as a result of being used as media of exchange. This increases the complexity of the process, as the saleable objects have two sources of demand: i.e., the monetary and non-monetary demand. Although the monetary demand for the good may eventually completely eliminate its non-monetary demand, Menger's theory makes it clear that any usable money, including fiat paper money, must have once been linked to some commodity with use value. It is the original non-monetary use value that gives the good its original saleability.

The increased complexity of this multiplied saleability can be coordinated because, as a result, more people are successful in using these media and more imitators follow. This process continues until some very small (likely one) number of goods emerge as the most saleable, and it is these that we designate as money or generally accepted media of exchange.⁴ The existence of money is thus "the spontaneous outcome, the unmediated resultant, of particular, individual efforts of the members of a society, who have little by little worked their way to a discrimination of the different degrees of saleableness in commodities" (Menger 1892, p. 250).

Once such a medium of exchange has been arrived at, the vast majority of exchanges take place using it. Money touches every other commodity by virtue of the fact that it is being exchanged against them. To trade commodity for commodity becomes difficult without exchanging one for money first. Menger argues:

³See Jones (1976) on this aspect of Menger's theory.

⁴This is not to imply that the process stops at some point. The evolution of money, like that of all social institutions, continues as long as there are actors utilizing it.

What therefore constitutes the peculiarity of a commodity which has become money is, that the possession of it procures for us at any time, i.e. any moment we see fit, assured control over every commodity to be had on the market . . . the control on the other hand, conferred by other kinds of commodities over market goods, is . . . uncertain, relatively if not absolutely. . . . [T]his difference in saleableness ceases to be altogether gradual, and must be regarded in a certain aspect as something absolute (1982, pp. 251-52).

Thus every market is a market for the money commodity, as virtually every exchange is an exchange against money. As we shall see below, this pervasiveness of money is the basis of its ability to function as a means of social communication.⁵

Importantly for our purposes is that Menger's theory is one where the process of the evolution and use of a medium of exchange does not merely redistribute existing, objective knowledge from actor to actor, but rather creates knowledge that did not previously exist. A market characteristic of a good, such as saleability or scarcity in comparison to wants, is not a piece of objective information in Menger's theory. Rather, such knowledge can only be discovered and constituted through the actual process of economic exchange.

What happens in Menger's theory is that actors discover which goods are more or less saleable — knowledge that was previously unknown.⁶ Not only is saleability itself not inherent in goods, knowledge of such saleability is not given to those who trade such goods. Saleability is ultimately determined by the mental processes of market actors, and the discovery of degrees of saleability is a process of drawing out and interpreting accessible traces of the contextual knowledge of those other minds, rather than uncovering some objective (outside the human mind) piece of information. Actions taken during the process of exchange that originates and extends the evolution of money bring knowledge from the personal to the social. Knowledge about saleability — and other subjective preferences and valuations — is generated by the process of exchange. To view the shift from direct exchange to

⁵See Dyer: "Contrary to the orthodox belief that money's medium of exchange function shows its insignificance in determining real economic outcomes, I will argue that it is precisely this function of money that gives it a major role to play in shaping life in a pecuniary culture" (1989, p. 503).

⁶See the discussion in Kirzner (1989b, chapter 4).

monetary exchange as simply redistributing existing knowledge is to miss the crucial point that such a shift *creates* what previously did not exist in any accessible form.

This links very nicely to Hayek's (1948) later work on the role prices play as conveyors of knowledge.⁷ For Hayek, the importance of having a system of money prices is that the acts of exchange that underlie it allow market actors to communicate their preferences in a compact and precise way. Much of the knowledge embodied in market prices is knowledge of "time and place" that cannot be effectively communicated in any other way (Hayek, 1948, p. 80). This idea was the core of Hayek's argument that a central economic planner would not be able to obtain the knowledge necessary to plan an economy of even a modest degree of complexity, but it can also be used to help us understand the way in which unhampered market processes operate. Money is the medium through which these knowledge embodying prices are formed, as without money we are unable to generate the widespread exchanges necessary to develop a relatively complete system of prices. On this Hayekian view, one cannot eliminate markets because we have no other process by which many kinds of contextual knowledge can be made socially available. The economic planner can at best only come to grips with explicit, articulatable knowledge, which is only a fraction of the knowledge relevant for market processes.⁸

Perhaps the importance of these differing views of knowledge can be seen in what they imply about the efficacy of the knowledge communication process happening during the evolution of money. Consider the following quote from Mises's discussion of Menger's theory of money:

The happy idea of [indirect exchange] could strike the shrewdest individuals, and the less resourceful could *imitate* the former's method. It is certainly more plausible to take for granted that the immediate advantages conferred by indirect exchange were recognized by the acting parties than to assume that the whole image of a society trading by means of money was conceived by a genius and, if we adopt the covenant doctrine, made obvious to the rest of the people by *persuasion* (1966, p. 406, emphasis added).

⁷See also Lavoie (1986) for a more recent, and somewhat more philosophical, defense of this argument.

⁸See Lavoie (1985) for an application of these ideas to issues of economic policy.

One way of looking at this passage is to note the alternative ways of communicating knowledge Mises demarcates. We can either observe the behavior of others, judge its success and choose to imitate it, or we can enter a verbal or textual conversation with others and rely on the persuasive powers of their articulate thoughts to provide us with knowledge. Mises argues that imitation is, in general, a more plausible way to communicate the benefits of social institutions than is articulate persuasion.

Mises's case for imitation is even stronger when we recognize that the actions involved in imitation and evolution can communicate the kinds of contextual knowledge that cannot be known through articulation. Michael Polanyi describes this kind of knowledge and the process by which it is communicated, with the example of a master and a student:

To learn by example is to submit to authority. You follow your master because you trust his manner of doing things even when you cannot analyse and account in detail for its effectiveness. By watching the master and emulating his efforts in the presence of his example, the apprentice unconsciously picks up the rules of the art, *including those which are not explicitly known to the master himself* (1958, p. 53, emphasis added).

Hayek describes the function of money in a similar fashion:

Money is indispensable for extending reciprocal cooperation beyond the limits of human awareness — and therefore also *beyond the limits of what was explicable* and could be readily recognised as expanding opportunities (1989, p. 104, emphasis added).

Despite the tacit nature of much of our knowledge, it can be made available to others through social action, such as exchange or exercising a skill, and passed on through a process of imitation. To take advantage of this tacit knowledge we must recognize the importance of imitative learning in the extended social order. Relying solely on articulate persuasion limits us to what can be communicated only through speech and texts and chokes off other sources of knowledge.

Georg Simmel's Sociology of Money

First published in 1900 and revised in 1907, Georg Simmel's *The Philosophy of Money* is an extensive treatment of the nature of money and its role in the extended social order of capitalist economies. Owing much to Menger and subjectivist thought, Simmel expands that perspective to a broader sociology of money, including some elements

of Marxian social analysis.⁹ Importantly, Simmel who makes explicit the analogy of money and language to be developed in more depth.

A crucial aspect of money's role in society is how it brings people into the social process by "facilitat[ing] the development of an ever widening circle of economic interdependence based on the dispersion of trust" (Frankel, 1977, p. 14). In short, money socializes us by enabling us to utilize the contextual knowledge of others through the trust embodied in monetary exchange. Much as imitation enables the communication process necessary for advancing the complexity of the monetary order, trust serves that function in maintaining and extending the existing complexity of that order. For Simmel, virtually all social relationships involve trust due to the difficulty in acting "entirely on what is known with certainty about another person" (Simmel, 1978, p. 179). Simmel continues: "very few relationships would endure if trust were not as strong as, or stronger than rational proof or personal observation. In the same way, money transactions would collapse without trust." The trust element here is the belief that others equally accept the money commodity as a medium of exchange.¹⁰ Menger's explanation of money arising out of intersubjectively held values explains how this trust is generated. It is money's saleability that creates the trust that we can get non-money goods whenever we please. The "absoluteness" of this saleability permits the value of money to transcend the personal and achieve a social acceptance and trust.

Frankel elaborates on how trust takes the place of detailed knowledge of others:

When we trust a person, we are going beyond the mere assessment of

⁹The link to Menger is never made explicitly by Simmel due to the absence of formal footnotes in his book. However, the striking similarity of their analyses could not be coincidental, especially given that both came from a German language tradition. Second hand references to the linkage are in Frisby (1978), Frankel (1977) and Laidler and Rowe (1980, pp. 100-1). Laidler and Rowe refer to personal communication with Fritz Machlup who assured them that the Austrians of the 1930s and 40s were aware of Simmel's work and considered it a parallel development to their ideas. Mises (1980) also refers to Simmel's book several times.

¹⁰This trust element is relevant for any kind of money. It is most obvious in fractional reserve banking systems where one must put trust in the issuer of money. However, even commodity money still contains the trust involved in the socially held belief that it is generally accepted.

probabilities. Indeed, trust or mistrust takes its place precisely because such an assessment cannot easily be made, or because it is too costly or time-consuming to do so. It enters where more exact knowledge is not available . . . Individuals and societies are dependent on countless symbols, myths, beliefs, and institutions which function as indicators of trustworthiness or the opposite. That is why trust has been described as a means of reducing complexity and a form of social communication . . . [it] spans the problems of time and uncertainty (1977, pp. 36-37).

Simmel came to a similar conclusion, "To 'believe in someone', without adding or even *conceiving what it is that one believes about him*, is to employ a very subtle and profound idiom" (1978, p. 179, emphasis added). We use trust to build social bonds because we cannot have detailed knowledge of the people or institutions in question. Hayek says of money that with it:

we reach the climax of the progressive replacement of the perceivable and concrete by abstract concepts shaping rules guiding activity: money and its institutions seem to lie beyond the boundary of the laudable and understandable physical efforts of creation, in a realm where the comprehension of the concrete ceases and incomprehensible abstractions rule (1989, p. 102).

When denied knowledge of the particulars, trust can serve as an effective substitute.

The trust aspect of monetary exchange also expands the circle of social relationships beyond that which can be achieved through face-to-face contact.¹¹ Simmel states:

expanding economic relations eventually produce in the enlarged, and finally international, circle the same features that originally characterized only closed groups; economic and legal conditions overcome the spatial separation more and more, and they come to operate just as reliably, precisely, and predictably over a great distance as they did previously in local communities (1978, p. 182).

The fact that some anonymous "other" trades with money indicates that she shares the common trust in the social order that money embodies. Thus "money-user" becomes what Max Weber and Alfred Schutz term an "ideal type."¹² Ideal types are abstract constructions of the expected

¹¹Hayek points out that the Greek word for "exchange" (*katallattein*) also meant "to admit into the community" and "to change from enemy into friend" (1977, p. 108).

¹²See Schutz (1967) and Ebeling (1987, 1988) and the discussion in Gadamer (1976) for an interpretation of ideal types that emphasizes their role in social theory.

behavior of particular categories of people. In this case, those who participate in a market economy are expected to be money-users. The expectations given to us from ideal types enable us to act successfully in the social world. The particular ideal type of a money-user gains us entry to the extended social order by providing knowledge of anonymous other market actors without the need for either complete knowledge of their intentions or direct interaction. For Simmel, this aspect of money is the means by which monetary exchange expands the range of freedom available to the individual.

Simmel also argues that the essence of money is that it is a tool. Rather than being an end in itself, money is a universal means to whatever ends are available in the market. As should be clear to this point, it is not a tool that humans have intentionally created, but rather one we have stumbled across in our efforts to improve our place in the world. Simmel argues that social institutions in general fit this description: "The most typical instances of this kind of tool are perhaps social institutions, by means of which the individual can attain ends for which his personal abilities would never suffice" (1978, p. 209). Simmel then turns to money's role as such an institution:

Money is the purest form of the tool, in the category mentioned above; it is an institution through which the individual concentrates his activity and possessions in order to attain the goals he could not attain directly. The fact that everyone works with it makes its character as a tool more evident . . . Money in its perfected forms is an absolute means . . . [and] is perhaps the clearest expression and demonstration of the fact that man is a 'tool-making' animal, which, however, is itself connected with the fact that man is a 'purposive' animal (1978, pp. 210-11).

As we will see below, the analogy of the tool is not quite right, mainly because we have not really "made" money — or language — in the same way we have "made" other kinds of tools. Even so, Simmel has captured the extent to which money is a tool, and shown how that role derives from our attempts to act purposively.

Simmel also offers another social institution, language, as an analogy to money's role as a tool that allows us to access the more remote regions of social life:

Just as my thoughts must take the form of a universally understood language so that I can attain my practical ends in this roundabout way, so must my activities and possessions take the form of money value in order to serve my more remote purposes (1978, p. 210).

At another point, Simmel compares the abstract nature of money's value as money to its value as a commodity by a similar analogy:

In this sense, money has been defined as 'abstract value.' As a visible object, money is the substance that embodies abstract economic value, in a similar fashion to the sound of words which is an acoustic-physiological occurrence but has significance for us only through the representation that it bears or symbolizes (1978, p. 120).

Though the correspondence between money and language has been noted by Simmel and others, very little, if anything, has been done in extending and elaborating it.

Language, Thought and the Process of Understanding

To those within the subjectivist tradition in political economy, the notion of language as a spontaneous social institution is a familiar one.¹³ In his most recent work, Hayek argues that:

We learn to classify objects chiefly through language, with which we not merely label known kinds of objects but specify what *we are to regard as objects or events of the same or different kinds* (1989, p. 15, emphasis in original).

Hayek continues:

More importantly, all usage of language is laden with interpretations or theories about our surroundings. As Goethe recognised, all that we imagine to be factual is already theory: what we 'know' of our surroundings is our interpretation of them (p. 106).

Mises also notes the role of language as a preformer of, and a medium for, the exchange of thoughts:

Community of language is at first the consequence of an ethnic or social community, independently of its origin, however, it itself now becomes a new bond that creates definite social relations. In learning the language, the child absorbs a way of thinking and expressing his thoughts that is pre-determined by the language, and so he receives a stamp that he can scarcely remove from his life. The language opens up the way for a person of exchanging thoughts with all those who use it; he can influence them and

¹³See, among others, Hayek (1973, 1977, 1979), Menger (1985), and Lavoie (1987). See also Warneryd (1990), who stresses the money and language comparison.

receive influence from them . . . [C]onsider what immense significance language has for thinking, and for the expression of thought, for social relations, and for all activities of life (1983, p. 13).

Further exploration of just how language functions in this manner, and what that implies for human understanding and other issues in philosophy and the social sciences has come from the modern descendents of the *verstehen* tradition in the social sciences.¹⁴ Of particular importance is Gadamer's (1985) theory of "language as the medium of experience."

As is frequently noted, the important aspect of a language is that it represents shared understandings — a coherence — between its users. The evolution of word usage and the rules of grammar are analogous to evolutionary processes in other institutions. Gadamer says that, "the use and development of language is a process which has no single knowing and choosing consciousness standing over it" (1985, p. 421). Like other institutions, language extends the scope of our understanding beyond the limits of our senses. Language is one way in which we make our personal knowledge available socially.

However, there is something more fundamental about language than other institutions. Though language co-evolves with other social institutions, to the extent those other institutions rely on articulation, they also depend upon the contemporaneous existence of language. Again, this is not to say that language is a sufficient condition for the evolution of other social institutions, but it is a necessary one. As Gadamer argues: "Language is not just one of man's possessions in the world, but on it depends the fact that man has a world at all." And, "In language the reality beyond every individual consciousness becomes visible" (1985, p. 401 and p. 407, respectively). For Gadamer there is no reality outside that which is understood through language:

[L]anguage is the universal medium in which understanding is itself realised . . . All understanding is interpretation, and all interpretation takes place in the medium of a language which would allow the object to come into words and yet is at the same time the interpreter's own language (1985, p. 350).

¹⁴In addition to the authors mentioned in footnote 1, the reader may also want to consult the work of Max Scheler (1954, especially pp. 247-8) on the way environment helps to form our understanding of self and society.

The search for truth and understanding is a social process of communication, and that communication must take place in language. The implication is that we cannot distinguish what we call truth from the words and linguistic perspective in which we understand it.¹⁵

What Gadamer is presenting here is a spontaneous order theory of truth, with language as the means by which the elements of the order interact, communicate and coordinate. Rather than defining truth as a relationship between the present state of affairs and some extra-human ideal, Gadamer is arguing that truth is much more of an internal relationship between parts of human understanding. This is also analogous to the idea of economic order. For many in the subjectivist economic tradition the value of a particular state of affairs in the market is not a matter of a comparison to some extra-market ideal (e.g., general equilibrium/Pareto-optimality criteria), but rather a comparison to what we would have if markets were prohibited.¹⁶ For Gadamer, truth is not a matter of corresponding to some extra-linguistic "set of facts" but rather an appreciation of what we can actually understand compared to a world where language is non-existent.

What Gadamer's theory of truth implies is a more tempered concept of reason and a recognition of its limits:¹⁷

The fact that it is in the midst of a linguistic world and through the mediation of an experience pre-formed by language that we grow up in our world, does

¹⁵See Polanyi, "All human thought comes into existence by grasping the meaning and mastering the use of language. Little of our mind lives in our natural body; a truly human intellect dwells in us only when our lips shape words and our eyes read print" (1969, p. 160).

¹⁶Austrian criticisms of Paretian welfare economics can be found in Rothbard (1956), Hayek (1978), O'Driscoll and Rizzo (1985), Cordato (1986), and Kirzer (1989a).

¹⁷Many critics of both Hayek and Gadamer have hurled the charge of abandoning reason at them. In his most recent (1989, p. 8) work *The Fatal Conceit*, Hayek argues, "my argument is in no way directed against reason properly used . . . reason that recognizes its own limitation and, itself taught by reason, faces the implications of the astonishing fact, revealed by economics and biology, that order generated without design can far outstrip plans men consciously contrive" (1989, p. 8). Gadamer too does not want to give up reason, only temper it: "Reason is aware that human knowledge is limited and will remain limited, even if it is conscious of its own limit" (1976, p. 94). See Warnke (1987) for an excellent attempt to delineate a Gadamerian conception of reason in order to defend him against charges of relativism.

not remove the possibilities of critique. On the contrary, the possibility of going beyond our conventions and beyond all those experiences that are schematised in advance, opens up before us once we find ourselves, in our conversation with others, faced with opposing thinkers, with new critical problems, with new experiences . . . In reality, we owe this to the linguistic virtuality of our reason and language does not, therefore, present an obstacle to reason (1985, pp. 495-96).

We can still use reason to understand and critique elements of the world around us, especially when we recognize the limits of reason and open ourselves up to non-Cartesian ways of knowing. These prejudices and structures of understanding become embodied in social traditions. While much of the Enlightenment attempted to roll back the claims of tradition through science, Gadamer argues that the inability of scientific method to capture all that is true provides a justification for the truth claims embodied in those very traditions. What has worked and what has been important in the past become passed down to us through traditions.

Gadamer's elaboration of tradition is almost identical to Hayek's discussion of rules.¹⁸ Rules and traditions are beyond both our rational choice and our instincts; they are socially communicated through successful action. Gadamer argues:

It seems to me, however, that there is no such unconditional antithesis between tradition and reason . . . [T]he romantic faith in the 'growth of tradition', before which all reason must remain silent, is just as prejudiced as and is fundamentally like the enlightenment . . . Even the most genuine and solid tradition does not persist by nature because of the inertia of what once existed. It needs to be affirmed, embraced, cultivated . . . But preservation is an act of reason, though an inconspicuous one. For this reason, only what is new, or what is planned, appears as the result of reason. But . . . preservation is as much a freely-chosen action as revolution and renewal. That is why both the enlightenment's critique of tradition and its romantic rehabilitation are less than their true historical being (1985, p. 250).

This Gadamerian view of the linguistic foundation of our thought and understanding does not preclude the use of reason.¹⁹ It only

¹⁸See Hayek (1989, chapter 1 and 1967) for a more in depth discussion of his concept of rules.

¹⁹See Johnson: "The interpretive nature of intentionality does not impede the uncovering of the world. Quite the reverse. Interpretation is the means by which we uncover the world" (1990, p. 184).

acknowledges that reason has limits in the face of the truth claims of tradition and the social institutions that embody it. For Gadamer, it is language that makes reason possible. How is it possible to theorize and criticize that which exists outside of the language that provides knowledge of that existence?

Money as the Language of the Market Process

The point of departure for the analogy between money and language is to recognize that both mediate social processes; money is the “medium of exchange” for Menger and many others, while language is the “medium of experience” for Gadamer and others in the Continental philosophical tradition. Just as language allows us to understand, through our own frameworks, the linguistically-constituted thoughts of others, so does money allow us to draw out and interpret the tastes, preferences, and values of others. Both language and money are ways of extending our perceptual apparatus beyond the immediate; the difference lies in to what each allows us access. The advantage that a monetarily-extended language has over language alone, (and why the modern socio-economic order is equally dependent on money, as it is on language, for its emergence and evolution), is that money allows us to utilize the contextual knowledge of others that cannot be put in language.

Both language and money allow human actors to make contextual knowledge socially available. However, this mediation process is not a simple copying — or mapping — of the mind onto words or prices which then are unambiguously received by others. Language and money do not *reveal* some pre-existing mental constructs or preferences, rather they *constitute* the way in which we express those constructs and preferences.²⁰ Just as we cannot help but think in terms of the words that language provides us, we cannot help but act in the market in terms of the money prices of what we want to exchange. Mises argues that:

The whole structure of the calculations of the entrepreneur and the consumer rests on the process of valuing commodities in money. Money has thus become an aid that the human mind is no longer able to dispense with in making economic calculations (1980, p. 62).

²⁰Merleau-Ponty, in his *Phenomenology of Perception*, argues that “language does not express thought, it is the subject’s taking up of a position in the world of his meanings” (cited in Polanyi, 1969, p. 222).

As there are no real communicated thoughts outside of language, so there are no real market-relevant wants outside of their expression in terms of money.²¹ Just as a thought that cannot be expressed in words is difficult to communicate in a conversation or text, so an economic want not expressed in money is difficult to communicate in the market process.²²

It is here where we can appropriate Gadamer to advance on Menger and Simmel. For Gadamer, language is most emphatically not a tool:

Language is by no means simply an instrument, a tool. For it is in the nature of the tool that we master its use, which is to say we take it in hand and lay it aside when it has done its service. That is not the same as when we take the words of a language . . . such an analogy is false because we never find ourselves as consciousness over and against the world and, as it were [sic], grasp after a tool of understanding in a wordless condition . . . we are always encompassed by the language that is our own (1976, pp. 62-63).

The view of language as a tool is a remnant of scientific rationalism in that it views social institutions as mirrors of subjective mental processes. For this rationalism, there is some ultimately knowable set of facts, values, tastes, etc. that are hidden behind the veil of social institutions such as language or money. The purpose of such institutions is to reveal the ultimate constituents of these mental processes. On Gadamer’s more post-modern view, however, there are no such “ultimate constituents,” rather language and thought co-evolve

²¹See Marx’s discussion in the *1844 Manuscripts*: “No doubt *demand* also exists for him who has no money, but his demand is a mere thing of the imagination without effect or existence for me, for a third party, for the others, and which therefore remains for me *unreal* and *objectless*. The difference between effective demand based on money and ineffective demand based on my need, my passion, my wish, etc., is the difference between *being* and *thinking*, between that which *exists* merely within me as imagination and the imagined as it exists as a *real object* outside of me” (1964, p. 168, emphasis in original).

²²In an otherwise excellent book, Hodgson (1989) frequently appears to argue that recognizing that social institutions play a role in forming preferences and influencing decisions implies that classical liberal policy conclusions are suspect. While some classical liberals may hold to such an ultra-rationalist perspective, Hodgson’s charge that this is also true of Austrian economists is itself rendered suspect by Mises’s and Hayek’s understanding of the roles played by money and language as shapers of our perceptions of the world.

in such a way that the idea of “thoughts without language” is a contradiction in terms. Communication in language is not a veil for reality; it *is* reality.

Humans have not made or chosen money and language as we might make or choose a tool. Both are traditions that have been passed down to us through the cultural evolutionary process. Hayek and Gadamer both emphasize how rules and traditions are neither rationally chosen nor instinctual, but rather emerge during social evolution. Both also argue that those rules and traditions pre-form the ways in which we act and understand in the world. For both, this is not a disadvantage of rules and traditions, because there is nothing to compare them to by which they fall short. To the contrary, this is the great power of rules and traditions; it is they that make all other reason and knowledge possible.

For Gadamer, we cannot judge the appropriateness of words by seeing how they correspond to something “else,” because there is nothing “else” we can know outside of the word-systems we use to identify and understand things. If money is the analog to language, then price is the analog to word. A market price embodies knowledge made available by exchanges through the medium of money, just as a word is knowledge made available by speaking or writing in a language. Therefore, just as a word does not correspond to some objective thought or meaning, so does a price not correspond to some objective quality of the object being bought or sold, or some objectively measurable cost. Prices are the socially constructed unintended consequences of our attempts to act purposively within the context of monetary exchange. Words and prices both evolve through their use as “aids to the mind.” Note the way in which Gadamer’s description of the meaning of a word fits this understanding of price:

[T]he universal concept that is meant by the meaning of the word is enriched by the particular view of an object, so that what emerges is a new, more specific word formation which does more justice to the particular features of the object. Just as speech implies the use of pre-established words which have their universal meaning, there is at the same time a constant process of concept formation by means of which the life of a language develops (1985, p. 388).

In the market, actors must rely on “pre-established” prices to inform their actions, but the results of those actions are changes in the array of prices — “enriched by the[ir] particular view of an object.” Prices both

inform human action and are informed by it.²³ Just as word meanings continually evolve to reflect changes in human thoughts and actions, so do prices in a market evolve to reflect similar changes. This is simply the linguistic analog of Hayek’s discussion of the semiotic role of prices.

The “accuracy” of a specific price then is not a matter of corresponding to qualities in a good — or the non-monetarily expressed wants of humans — but simply a matter of finding itself in an orderly relationship with the complex of other prices that constitute a market. To say a price is “right” is to say only that it carries meaning when seen in the context of other prices. Paying two dollars for a hamburger is only meaningful when one knows what the other prices of goods are. Again, the analogy to words can be seen through Gadamer’s argument that words and meanings are not like a copy and an original:

The ‘truth’ of a word does not depend on its correctness, its correct adequation to the object In [one] sense all words are ‘true’, i.e. their being is wholly absorbed by their meaning, whereas copies are only more or less good likenesses and thus, when measured by the appearance of the object, only more or less correct Precisely because the truth contained in [an act of speech] is not that of mere perception, not just in letting being appear, but rather always places being in a relationship. . . .’ (1985, pp. 372-73).

Economists have long stressed that it is relative prices that matter for economic coordination, not the absolute level of those prices. In much the same way that a word is always “true” if allowed to evolve over time, so is a market price “right” if it is allowed to represent the ever-evolving preferences of consumers and producers.

This does not imply, however, that there is no standard by which to judge the market process. What we cannot do is make such a judgment by comparing the existing state of affairs to some ideal state. Gadamer’s theory of language and understanding provides a way to talk about the welfare aspects of a social institution that does not rely on the notion of a correspondence to objective, extra-human ideal. To say that there is no objective standard that is “out there,” to which we can

²³Boettke (1990, pp. 130-1) distinguishes three ways in which prices provide knowledge. The *ex ante* function of prices is to guide our choices by providing us with knowledge of relative scarcities. Their *ex post* function is to indicate the success of those choices through measures of revenues and costs. Finally, the discovery function of prices is that discrepancies between market prices may alert us to discover heretofore unnoticed possibilities for entrepreneurial profit.

compare actual market phenomena is not to abandon the idea of making welfare judgments of market processes. Instead, it redirects the source of those judgments toward the idea of internal orderliness and the desirability of the results that follow from the use of particular social institutions. Whether or not free market policy conclusions can be drawn from this epistemological perspective will rest not only on theoretical concerns, but on broadly empirical considerations of just how well markets meet these criteria of orderliness.

Monetary Exchange and the Model of the Text

The preceding argument has a number of methodological implications. In a fascinating paper, Paul Ricoeur argued that the concept of a text could serve as a model for all human action and social institutions. What social actors, and social scientists, do is to interpret the texts — visible traces — of society. What we do when we act is to create a text from our actions, much like an author does when writing. Ricoeur tries to show that, “the human sciences may be said to display some of the features constitutive of a text and . . . their methodology develops the same kind of procedures as those of . . . text-interpretation” (1977, p. 316).

For Ricoeur, “the meaning of human action is also something which is *addressed* to an indefinite range of possible ‘readers’ ” (1977, p. 326, emphasis in original). Much as exchange in a monetary economy is addressed to the anonymous ideal type of “money-user,” so is action in general open to those who can understand the language that such action becomes “textualized” in. The role of social communication for Ricoeur is that it “frees us from the visibility and limitation of situations by opening up a world for us, that is, new dimensions of our being-in-the-world” (1977, p. 321). What language gives us is the ability to access the actions and thoughts of another in a form that transcends the individual subjectivity of those actions and thoughts. When we have a conversation or write a text, it is our way of aiming our thoughts at another and asserting their *intersubjective* validity by crystallizing them in words. Ricoeur concludes:

[L]ike a text, human action is an open work, the meaning of which is “in suspense.” It is because it “opens up” new references and receives fresh relevance from them, that human deeds are also waiting for fresh interpretations which decide their meaning. All significant events and deeds are, in this way, opened to this kind of practical interpretation through present

praxis. Human action, too, is opened to anybody who *can read*. In the same way that the meaning of an event is the sense of its forthcoming interpretations, the interpretation by the contemporaries has no particular privilege in this process (1977, p. 327, emphasis in original).

The text of human action is both the result of previous interpretations and a cause of future ones, and no existing interpretation has automatic superiority over future ones.

The analogy to the market is that the market is a text too, but one developed additionally from the language of money and monetary exchange, rather than only the spoken or written word. Participation in a market requires not necessarily the ability to read or speak a language, but the possession of money.²⁴ The market process is a process of dialogue, and, it can be added, money is the language from which that dialogue is formed.²⁵ What happens day-to-day in the market is more like a spoken text, while accountancy and other interpretations of the market are more like written text. Viewing money as a language reinforces the notion of the market as a dialogic text.

This view has a number of implications for the methodology of economics.²⁶ In depth discussion would be beyond the scope of this section, but one aspect of those implications should be pointed out. Foremost, money as a language and the market as a text necessitate a recognition of what might be termed the “interpretive dimension” of economics. What happens in the market is a constant process of interpretation and reinterpretation embodied in the objectified referents of the market — prices, profits and the like. As well, what happens during the economist’s attempts to make sense of the market is a process of interpretation. The theorist is interpreting the texts of the market from the framework of economic theory. Finally, what happens between economists as they engage in conversation over these interpretations of the market is itself an interpretive process. At all three

²⁴Thus immigrants often find economic success long before they begin to climb the social ladder.

²⁵See Prychitko (1988, p. 137): “spontaneously formed market institutions are *not* the result of atomistic individuals responding to a given array of prices, but the result of individuals already involved in truly dialogical relationships.”

²⁶Related contributions on this subject include McCloskey (1985), Lavoie (1987), Klammer, McCloskey, and Solow (1989) and Lavoie, ed. (1991), as well as the implicit message in Ricoeur (1977).

levels, language is crucial: money in the market, the vocabulary of economics in theory construction, and the language of social science between economists. And where there is language, there must be interpretation.

Approaches to economics that ignore or discount these interpretive dimensions — as does most of neoclassical economics — are unlikely to provide much help in rendering the market process, and the scientific process of economics, intelligible to any great degree. More specifically, dismissing these interpretive elements will make understanding the role of money extremely difficult indeed. How can we ever make sense of any kind of language without recognizing that all forms of human communication and interaction require interpretation?

Conclusion

Since Adam Smith's (1976, pp. 15-16) discussion of the uncountable number of hands involved in the production of a simple woolen coat, the proper task of economics can be seen as the explanation of how human actors manage to cooperate socially despite the anonymity inherent in extended social orders. In contexts outside of the market, humans face an analogous problem. Spoken and written language have evolved as ways to overcome the barriers to social communication posed by the limited scope of our physical senses. Though less recognized, money also enables us to go beyond our senses even further — at least in the context of economic decision-making — by enabling us to surpass the limits of language. It provides us with a means of communication that enables us to make our, admittedly fragmentary and uncertain, knowledge of our preferences and abilities available in a form that is socially accessible. In the absence of monetary exchange, we would lack a means of communication necessary — but not sufficient — for our ability to form creative, complex and coordinated social orders. In our attempts to analyze and understand money's role in economic and social action, viewing it as an analogy to, and extension of, linguistic communication can provide us with a deeper appreciation of what money makes possible and where its limits might lie.

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Aggregation Biases and Economies of Scale in the Metropolitan Police Unit Production Function*

By Gary E. Marché
Arkansas State University

I. Introduction

There may be aggregation biases related to scale when police unit size is measured by the jurisdictional population of the metropolitan police unit. Aggregation biases occur when there are different police production functions for different sizes of police units.¹ The real police production function could be nonhomogeneous. Consequently, changes in the measured cost efficiency of police production may be due to changes in technology,² cost may not be continuous or, equivalently, production functions may shift.³ Different size related community characteristics may lead to the use of different police technologies. To address the aggregation bias problem, this analysis provides an empirical test for the existence of different production functions related to changes in the scale of metropolitan police units.

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¹Different production functions may also exist for different crime types as well (see Hellman and Naroff, 1980), but the assumption that the police production function is nonjoint for different crime categories has been shown to be invalid by the results of Darrough and Heineke (1978). Therefore, only aggregation biases related to scale are considered.

²"Technology" is used in a broad sense to include equipment, knowledge, skills, experience, training, and methods.

³Different technologies used by different sized police units will alter or shift the production function and shift its isoquant maps. Neutral technological progress, such as that which is associated with the Cobb-Douglas production function used in this analysis, would shift all isoquants toward the origin. Any output level could then be produced with lower input levels and a lower cost. By affecting cost, technological progress also shifts the cost function. In general, there is a duality between production and cost functions such that, for well-behaved functions such as the Cobb-Douglas, the existence of one implies the unique existence of the other. Therefore, a shift in the production function results in a shift in its corresponding cost function.