

**AUSTRIAN ECONOMICS AND AUSTRIAN
PHILOSOPHY**

Barry Smith

from *Austrian Economics: Historical and Philosophical
Background*, Wolfgang Grassl & Barry Smith (eds.),
Croom Helm / 1986, reprinted Routledge Revivals, 2010

1. Positivism and the Methodology of Economics

Contemporary neoclassical economics has increasingly adopted the methodology of the natural sciences. The fundamental postulates of economics are regarded by the proponents of neoclassicism as hypotheses whose scientific value is measured, exclusively or predominantly, by their assumed predictive success.² The workings of an economy are, it is accepted, highly complex, and may rest on interconnections and interdependencies not foreseeable by the economic theorist. But this is taken by the neoclassicist to imply that it would be mistaken to restrict the hypotheses of economic science to those displaying the character of intuitive validity: such hypotheses should rather include, precisely as in physics, bold—that is to say superficially counter-intuitive—conjectures, the specific propositions derivable from which are yet amenable to testing.

Unfortunately the positivistic methodology of hypothesis, deduction and testing is, when applied to the domain of economic formations and of social phenomena in general, confronted by obstacles not encountered in the domain of physical phenomena. The large-scale social structures which confront the economist when he makes the attempt to apply his theories to reality are, first of all, typically more complex and less determinately delineated than the more or less cleanly isolable segments of material reality which are at the disposal of the physicist in his laboratory.³ But the crucial difference between the object-worlds of the economist and of the physicist consists in the fact that the individual economic agent who constitutes the most important element in the domain of economic theory exhibits one trait, consciousness, entirely absent from the realm of physics.⁴ It is of course possible for the positivist to advance hypotheses concerning what he thinks may be the theoretically relevant aspects of the conscious behaviour of the economic subject. It is possible, that is to say, for him to develop mathematically precise models of conscious economic action and to integrate these models into the structure of his theory. But unfortunately it is not only the systematic or rule-governed aspects of economic action— aspects which have traditionally been grouped around the notion of the rationality of the economic agent—which are of relevance to the workings of an economy. Economic agents may also act irrationally (or, better, arationally). Economic agents may change their minds, may initiate or

abandon projects for no apparent reason, and may, above all, act *creatively*—which is to say, in such a way as to depart from hitherto accepted systems of rules without descending into merely deviant behaviour. Economic agents may differ still more radically from the constituents of the object-world of physics also by virtue of the fact that they may more or less consciously or deliberately take account, in their actions, of the actions of the economic theorist himself. They may allow their actions to be guided by what they take to be the prevailing orthodoxy amongst economists, in ways which may serve, in cumulation, to subvert the fundamental premises of that orthodoxy.

The idea that counter-intuitive postulates relating to economic phenomena may come to be established as scientifically valid or invalid as a result of a process of empirical testing is, then, at least dubious. This is first of all because the necessary test conditions are incapable of being laid down: we should never know which hypothesis had been established as valid. But it is secondly, and more importantly, because the objects of economic science are distinct in their nature from the objects of the natural sciences.

2. Economics and the A Priori

The economics of the Austrian school has sought to offer a methodological alternative to economic positivism and empiricism, by taking as its starting point this heterogeneity of the objects of natural and social science: Austrian economics acknowledges in its fundamental axioms the methodological and ontological centrality of the economic agent. Now there is one sense in which this centrality is capable of being established empirically: the economic significance of human action, deliberation and choice (and of such complementary notions as gratuitous behaviour and forgetfulness) is repeatedly verified in observation. But the proponent of Austrian economics goes further in arguing that there is also a certain a priori or essentialistic aspect to this empirically established fact.⁵ An isolated system of purported exchanges between automata, between entities entirely lacking in consciousness, would not and could not be an economy, however many superficial similarities its operations might bear to the transactions undertaken between men. And this proposition is something of which we can have evident knowledge without the need for, or indeed the possibility of, empirical investigation.

The proposition that an economy presupposes consciousness has a degree of intuitive or evident validity which it shares with the propositions of mathematics. And because he takes seriously the problems involved in the empirical verification of economic propositions, the proponent of Austrian economics insists that this character of intuitive or evident validity should mark all the basic postulates of his discipline. Anyone, he argues, who has familiarity with economic phenomena (be they actions, choices, money, prices, contracts or debts) will acknowledge, independently of empirical testing, the truth of certain necessary propositions relating to these phenomena, and it is these propositions which must form the axioms of the science of economics.

Economics becomes, therefore, an entirely aprioristic discipline. And should it follow as a consequence of this conception that certain large claims of traditional economic science (for example the notion that economic theory has a predictive capacity) have to be abandoned, then the Austrian will take this in his stride. These claims would be held to derive from an ill-thought-out analogy with physics.⁶

Menger's own formulation of the aprioristic dimension of Austrian economics has distinctly Aristotelian overtones.⁷ In a letter to Walras of 1884, he wrote that economists

do not simply study quantitative relationships but also the *nature (das Wesen)* of economic phenomena. How can we attain to the knowledge of the latter [e.g., the nature of *value, rent, profit*, the division of labour, bimetallism, etc.] by mathematical methods?⁸

The idea seems to be that *value, rent, profit, etc.*, are intrinsically intelligible natural kinds,⁹ types or (to use an Aristotelian term) species; and that necessary laws concerning these species, and specifically concerning their interrelations, can be grasped as evident by anyone who makes it his business to understand the structure of the underlying phenomena (the *instances* of the given species). These laws are not, therefore, empirically established. But neither are they conjured out of nothing. They presuppose a familiarity with the workings of the economic sphere and a capacity to exploit this familiarity in a way which can serve as the basis of a consistent and coherent theory. The given laws are, then, a priori; but only in the precise sense that they can be grasped as evident by virtue of the intrinsic intelligibility of the underlying phenomena. They are not, for example, innate to human consciousness; nor are they 'laws of thought'.¹⁰

Necessary laws concerning economic kinds are, for the Aristotelian, no more problematic than necessary laws concerning natural kinds in other spheres. A mere articulation of the words 'I promise to pay you \$1,000,000 tomorrow' uttered, for example, whilst asleep, would not and could not be a promise. An underlying substratum of intentions appropriate to a promise is, as a matter of necessity, indispensable. This is an example of an a priori law concerning the social act of promising. Other examples of such laws are familiar in the field of colours and colour-relations (for example, that nothing can be both red and green all over, or that blue and green are more similar than blue and scarlet). They are familiar also in the field of mental acts and states (that jealousy and hatred are distinct emotions which can, however, of their nature, coexist in a single consciousness; that an individual cannot remember an event unless he has himself experienced that event). Each one of these laws is necessary, and its necessity is evident—in a perfectly commonplace sense of the word 'evident'—to anyone who has grasped the nature of the phenomena in question.

Yet however commonplace Menger's conception of the objects and laws of economics may appear on this aprioristic, Aristotelian interpretation, it

nevertheless stands in radical conflict with one methodological principle which has come to prevail as orthodoxy amongst philosophers and methodologists of science, a principle which may be formulated as follows: scientific propositions are either contingent or necessary. Contingent propositions lack any character of evident validity; they are capable of being established as true (if at all) only by empirical testing. Necessary propositions, on the other hand, which are capable of being grasped as evident, are true purely in virtue of the meanings of their constituent terms or of relations amongst the concepts expressed.

It is a consequence of this principle, which forms the basis of contemporary positivism, that all necessary propositions are capable of being established as true purely by armchair methods—by direct inspection of the meanings they involve (supplemented, if necessary, by mathematical calculation). Candidate necessary propositions which do not stand up to this test—for example, many of the propositions of traditional metaphysics—are either to be dismissed as nonsensical or, alternatively, they are to be unmasked as contingent.

If, however, all necessary propositions are capable of being established as true simply by an inspection of meanings, then such propositions can tell us nothing about the world itself. This consequence is indeed accepted by the defenders of positivism, who point out that we do not cast aspersions upon the propositions of logic simply because they tell us nothing of the world. The positivists argue, indeed, that necessary propositions should as far as possible approximate to the condition of the logical tautology: a necessary proposition is properly to be accepted as being meaningful if and only if it is capable of being reduced to the status of a tautology by successive elimination of its defined terms.

The three traditional dichotomies of necessary/contingent, a priori/a posteriori, and analytic/synthetic prove, on this account, to be co-extensive. A proposition is necessarily true if and only if its truth is capable of being grasped as evident; a true proposition is capable of being grasped as evident if and only if it is true purely by virtue of relations amongst meanings, and therefore also if and only if it lacks cognitive value (makes no substantive contributions to our knowledge of the world).

The implications of this principle for the Aristotelian conception of economic laws are serious. If these laws are necessary, as Menger believed, then they must be true by definition. But from this it would follow that they

could have no substantial contribution to make to our knowledge of the economic world. If, on the other hand, we wish to hold on to the idea that economic laws are not mere tautologies, that they picture independently existing configurations of economic reality, then we must reject the view that they are necessary and that they exhibit any character of intuitive or evident validity.

The first of these two alternatives has indeed been adopted by many post-war Austrian economists under the influence of the methodological writings of Ludwig von Mises.¹¹ The second alternative we have already seen reason to reject as dubious: it implies the methodology of economic positivism.

3. Hume and Kant

An impasse has been reached. But are we to accept it as inevitable? Before answering this question it will be instructive to investigate something of the background of the debate on analytic and a priori propositions. This will not only help to establish the origins of the positivist principle in eighteenth- and nineteenth-century philosophy, but will also point us in the direction of an alternative to Mises' conclusion that commitment to the conception of economic laws as necessary and evident carries with it a view of such laws as merely analytic.

The theory of natural kinds as entities given in reality and the associated doctrines of a priori knowledge were first expounded by Aristotle and by his followers in the scholastic period. It was from this source that Menger himself almost certainly derived at least some elements of his aprioristic methodology. Classical and medieval philosophers had still been able to take for granted the existence of a whole class of propositions about reality whose truth is evident yet which are not derivable logically from empirically established truths. Propositions expressing causal relations will constitute for us the most prominent category of such purported synthetic a priori truths.

It was only with the beginnings of modern philosophy that this assumption began gradually to be called into question; and only then did philosophers begin seriously to investigate the nature of the presuppositions on which it rests. Thus Locke, in his *Essay*, isolated a class of what he called 'trifling' propositions—propositions which are true of necessity, but which do not serve to increase our knowledge. These include identical propositions of the form '*A* is *A*' and propositions such as 'Lead is metal' predicating part of some complex idea by a name of the whole.¹² Trifling propositions serve simply to elucidate the meanings of words. But not all necessary propositions are trifling in Locke's view. He discriminates a further class of non-contingent propositions which are characterised by the fact that something is affirmed of an idea which is not *contained in* a given complex idea, but is rather a *necessary consequence* of it.¹³ Locke's example is: the external angle of a triangle is bigger than either of the opposite internal angles. The relation of the outward angle to either of the internal opposite

angles is no part of the idea signified by the name ‘triangle’, so ‘this is a real Truth, and conveys with it instructive *real Knowledge*’.¹⁴

Unfortunately, Locke did not apply his trichotomy in his efforts to produce a coherent account of the status of propositions expressing causal relations. His reflections on cause and effect, and on what he calls ‘powers’, do not add up to a consistent theory. Causal relations are held to involve both an a priori element, residing in the notion of efficaciousness, and a contingent element, where Locke runs together the idea of efficacious cause with the notion of regular sequence.¹⁵

It was Hume who first convincingly broke the spell of the idea that an adequate account of causality can be built up only on the basis of the assumption that causal relations exhibit features of evident necessity. The compulsion we feel in passing from the idea of a given cause to that of a given effect could be explained, Hume argued, by appealing to the notion of mental habits acquired through repetition. He was thereby able to eliminate the a priori element from a large segment of our knowledge of material reality. Nowhere, however, does Hume suggest that similar considerations can be brought forward in every sphere of material knowledge in such a way that it would be possible to eliminate entirely the a priori element from our knowledge of reality. He did, certainly, embrace a dichotomy between what he called *relations of ideas* and *matters of fact*. Knowledge of the former he conceived to be necessary, knowledge of the latter to be contingent. It is therefore tempting to read back into his writings a more modern view, according to which relations of ideas would be identified as mere connections among meanings or concepts, reflecting no corresponding connections between entities in the world.

Such an interpretation would however conflict with the details of Hume’s doctrine of ideas. Consider, for example, his account of the interrelations among our ideas of colour:

It is evident, that even different simple ideas may have similarity or resemblance to each other; nor is it necessary that the point or circumstance of resemblance should be distinct or separable from that in which they differ. *Blue* and *green* are different simple ideas, but are more resembling than *blue* and *scarlet*; though their perfect simplicity excludes all possibility of separation or distinction.¹⁶

It is, in other words, impossible to establish the truth of propositions expressing relations of this kind by any *analysis* of the constituent ideas, since the latter are absolutely simple: ‘No point of view is conceivable from which one could say that two colours and their dissimilarity contradict each other in the logical sense.’¹⁷ And nor, either, is there any suggestion that our

acceptance of the evident truth of colour propositions is merely a matter of acquired habits of thinking. Rather, such propositions are seen by Hume as reflecting objectively existing interrelations among the phenomena themselves; they are true, in his words, from the 'very nature' of the ideas in question. Similar interrelations are recognised by Hume also in other spheres: sounds, tastes and smells, like colours, 'admit of infinite resemblances upon the general appearance and comparison, without having any circumstance the same'.¹⁸ He also applies the same account to the propositions of mathematics.

Hume's category of non-analytic propositions expressing necessary relations of ideas has, however, as a result of the influence of Kant's erroneous estimation of the significance of Hume's work, been almost completely ignored by successive generations of commentators, who have identified Hume's *ideas* with the quite different category of the Kantian *concept*. What is characteristic of the latter is that it is purely epistemological: it belongs to a sphere which is, in the framework of Kant's dualist metaphysic, entirely separated from the ontological sphere of the so-called things in themselves. Within his dualist framework Kant was able to develop a conception of all relations amongst concepts as falling into two exhaustive classes: either they are merely analytic, or—if synthetic—they are a matter of epistemological structure imposed upon the world of experience by the operations of the mind. From this it follows that we can know a priori only what is analytic or what we ourselves read into our knowledge.

Hume's philosophy does not, however, embrace a dualistic metaphysic of this kind. His non-analytic propositions rather straddle the boundary between the two spheres of what would normally be called the epistemological and the ontological. And neither sphere can meaningfully be held to have priority over the other. The proponents of positivist doctrines may therefore rightfully adopt Hume as an ancestor only by imposing upon his philosophy an alien metaphysic. Freed from its ballast of Kantianism, Hume's doctrine of ideas offers a much more sympathetic prospect for those who would take seriously the idea of an a priori component in our knowledge of reality.

4. Foundations of Austrian Apriorism

It is interesting to note that this non-Kantian interpretation of Hume's doctrine of ideas was first coherently expounded within the Austrian tradition of philosophy.²⁰ Not, however, by the logical positivists of the Vienna Circle who, along with Mises, fell under the sway of the Kantian conception of a priori knowledge, but by members of an earlier generation of philosophers influenced by Brentano.²¹ The affinities between Menger's economic and Brentanian philosophies of value have been discussed in detail by Fabian and Simons and by Grassl in their papers in this volume. Here I wish to show that the theory of the a priori developed by Brentano and his successors (above all by the early phenomenologists) throws significant light upon the significance and practicability of Menger's general methodology.

We have already pointed out the Aristotelian flavour of some of Menger's writings. This Aristotelianism was not an isolated phenomenon in Austria in the second half of the nineteenth century. The Austrian school and university system had succeeded in keeping alive a general spirit of Aristotelian realism during the period in which intellectuals in Germany had fallen under the influence of the idealism, historicism and methodological collectivism that had followed in the wake of Kant and Hegel. This isolation of Austria from German philosophical currents was part of a deliberate policy pursued by the Imperial authorities, a policy designed to seal off the Empire from what were conceived as pernicious liberal and cosmopolitan influences from the outside world.²² In philosophy, in particular, the institutes of learning in the Empire had imposed upon them a rigid and uniform syllabus, constructed around watered-down versions of the Aristotelian and scholastic philosophies, with the result that creative innovation was almost stifled.²³ With the rise of liberalism in Austria in the nineteenth century, intellectuals were gradually encouraged to experiment with new ideas; but these experiments inevitably took place against a philosophical background alien to, and in part also critical of, the principal intellectual currents prevailing in Germany. Menger's *Grundsätze der Volkswirtschaftslehre* was among the first of such experiments, and the aprioristic, anti-historicist, individualistic methodology which it expounds would at that time have been possible only

in Austria.²⁴ I shall seek to show that it forms the counterpart, in the social sciences, of the aprioristic methodology inspired by Brentano and his followers in the field of psychology.

Brentano himself grew up in (Catholic) southern Germany where, as a young priest, he studied theology and philosophy in the scholastic tradition. When he came to Vienna in 1874 he had already published a dissertation on the ontology of Aristotle,²⁵ a book on Aristotle's psychology,²⁶ and a long essay on Aristotelian epistemology.²⁷ Brentano continued to be affected by Aristotle's thought throughout his life, and it is significant that he found in Austria a receptive audience for the philosophical doctrines which he had begun to develop against this background.²⁸

Central to these doctrines is the notion of an a priori discipline of what Brentano called descriptive psychology.²⁹ The first task of descriptive psychology is to establish the characteristics of and the principal subdivisions among mental phenomena (to isolate, in the mental sphere, what we called natural kinds or species). It might be thought that we could attain to this knowledge by experimental methods. But experimental observation and measurement, if they are to be scientifically valuable at all, can properly begin only when it has been established what precisely the experimenter is seeking to observe and measure. Brentano therefore argued that experiment must be preceded by a prior determination of the fundamental kinds of mental phenomena on the basis of what he calls their 'natural affinities'.³⁰

Mental phenomena may be relatively elementary or relatively complex. The second task of descriptive psychology is to determine the laws governing the interconnections of phenomena, and specifically governing the ways in which complex phenomena may be built up out of or on the basis of more simple phenomena.³¹ Brentano shows, for example, that it is impossible that phenomena of preference (love, hate, desire, aversion, and so on) be built up directly on the basis of immediate sensory impressions. Such phenomena can arise only where sensory impressions are accompanied by phenomena of judgement.

Such laws have their origins in psychology, but they are not without more general significance. The laws governing the sphere of phenomena of preference, for example, are seen by Brentano as providing objective principles for the science of ethics.³² The laws governing the sphere of

phenomena of judgement (laws relating specifically to the opposition between correct and incorrect judgement) are similarly held to provide objective principles for the science of logic.³³

Now Brentano's descriptive psychological laws, like the propositions expressing necessary relations of ideas in Hume's philosophy, do not express purely epistemological interconnections amongst concepts. Rather, they capture structural interconnections amongst the objectively existing elements and complexes of the psychological sphere itself, interconnections which are reflected in our knowledge of the natural affinities obtaining in this sphere. They are not imposed upon the phenomena in any Kantian sense. And the given laws are synthetic, not analytic. It does not follow axiomatically from our *concepts* of love, hate, feeling, desire, and so on, that these phenomena cannot arise directly on the basis of sensory presentations. Yet this structural property of the phenomena of preference is nevertheless capable of being evidently grasped by anyone who is familiar with experiences of the kinds in question.

The parallels with Menger, in the above, will by now be obvious. In a famous passage from the *Untersuchungen über die Methode der Sozialwissenschaften* Menger wrote:

Theoretical economics has the task of investigating the *general nature* and *the general connection* of economic phenomena, not of analysing economic *concepts* and of drawing the logical consequences resulting from this analysis. The phenomena, or certain aspects of them, and not concepts, their linguistic image, are the object of theoretical research in the field of economy. The analysis of the concepts may in an individual case have a certain significance for the *presentation* of theoretical knowledge of economy, but the goal of research in the field of theoretical economics can only be the determination of the general nature and the general connection of economic *phenomena*. It is a sign of the slight understanding which individual representatives of the historical school have for the aims of theoretical research, when they see only *analyses of concepts* in investigations into the *nature* of commodity, into the *nature* of economy, the *nature* of value, price and similar things, and when they see 'the setting up of a system of concepts and judgements' in the striving after an exact theory of economic phenomena.³⁴

5. Husseil's Theory of the A Priori

It is not enough, however, to show that Brentano and Menger share a common methodology or that their methodologies share a number of crucial common traits. It is necessary to determine the precise nature of this methodology and to provide a coherent account of the theory of essences and kinds on which it rests. Only then will we be in a position to counter the positivist's arguments against the possibility of a non-tautologous a priori. Such an account of essences or kinds and of the a priori interconnections between them is not provided by Brentano, whose methodological writings, like those of Menger, are concerned with the applications of the doctrine of a priori kinds in a specific field. And it is not provided either, in a form which would meet contemporary standards of philosophical rigour, in the writings of Aristotle and the scholastics. The outlines of a suitable account are, however, to be found in the early, pre-phenomenological works of Brentano's most important student, Edmund Husserl. Husserl began his intellectual career as a mathematician but became increasingly interested in philosophical issues relating to the foundations of logic and mathematics. His decision to become a philosopher was primarily influenced by Brentano, whose lectures he attended in Vienna in 1884–6. From 1887 to 1901 Husserl was *Privatdozent* in Halle. In 1891 he published a book entitled *The Philosophy of Arithmetic. Psychological and Logical Studies*,³⁵ a work which still falls within the scope of Brentano's project of an a priori discipline of descriptive psychology. In the years which followed he published a series of articles on the foundations of psychology and on the philosophy of logic and mathematics in which he began to work out the principles of the more general theory of the a priori which the Brentanian enterprise, or any similar enterprise, would presuppose.³⁶ He sought especially to take account of an extension of Brentano's ideas which had been worked out by his colleague in Halle, Carl Stumpf, also a fellow student of Brentano. This general theory was presented, alongside contributions to philosophical psychology, to logical theory and to the philosophy of language, in the two volumes of his *Logical Investigations*, published in 1900–1.³⁷ The theory is, as we shall see, consistent in many respects with the theory underlying Brentanian descriptive psychology, but Husserl goes far beyond Brentano in the generality of his method.

It is the third Logical Investigation, ‘On the Theory of Wholes and Parts’, a work which bears further traces of the Aristotelianism characteristic of nineteenth century Austrian philosophy, which is most important for us here. Brentano, as we have seen, conceived the theory of descriptive psychology in terms of laws specifying the various possible interconnections and combinations of mental phenomena into complexes of various kinds. Menger, too, employed such a ‘compositive’ method. The objects of the social sciences he conceived as wholes or complexes which are structurally connected, which we learn to single out from the totality of observed phenomena only as a result of our systematic fitting together of the elements with familiar properties, and which we build up or reconstruct from the known properties of the elements.³⁸

For Menger, as for Brentano, these ‘elements’ can hardly be conceived by analogy with absolutely simple atoms. ‘Composition’ is not aggregation of disconnected and mutually independent atoms into heaps. The complexes which we learn to recognise are, rather, structured or integrated wholes of interdependent elements which themselves exhibit various structural properties and relations and are capable of being grouped, like the wholes they constitute, into types or species.

These structural interconnections are intrinsically intelligible: they are capable of being grasped as evident by anyone who has familiarity with the domain in question—at least to the extent that what Menger calls exact knowledge, in psychology or in the social sciences, is possible at all.³⁹ They are, that is to say, a priori connections. It was the contribution of Husserl in the *Logical Investigations* to have stated precisely the nature of these a priori connections in a way which enables us to determine the detailed formal geography of the synthetic a priori domain. Where his aprioristic predecessors had offered little more than lists of examples of purported synthetic a priori propositions, Husserl offers a non-trivial explication of what it is for a proposition to *be* synthetic and a priori, in terms of a general theory of a priori or intelligible connections between objects *in the world*.

His ideas grew out of a distinction introduced by Stumpf between dependent and independent contents of mental experience.⁴⁰ An independent content is any part or element of a complex experience which can be thought or imagined as existing in separation from the remaining elements of the given complex. A dependent content is any part or element which cannot be thought or imagined in isolation from its surrounding complex. That part of a mental image of a horse which is an image of the

head of the horse is, in Stumpf's terms, independent. An image of the shape or colour of the horse is, in contrast, dependent: it is impossible to imagine the specific colour-array of this specific individual horse except as the colour-array *of* the horse: *this* colour-array cannot be presented in separation (though of course a qualitatively exactly similar array may be capable of being so presented).

Husserl pointed out, first of all, that Stumpf's distinction can be recognised not merely in the sphere of mental contents but also in other dimensions of reality.⁴¹ He then saw that it was possible to eliminate from Stumpf's definitions the reference to contingently existing capacities for thinking and imagining in such a way as to produce an objective, ontological distinction between two kinds of part or element, which he called, respectively, *pieces* and *moments*.⁴² A piece is simply any element of a whole which, of its nature, can be removed or isolated from its surrounding whole and still continue to exist. A moment is any element which, of its nature, cannot exist except in the context of its surrounding whole.

The words 'can' and 'cannot', in the above, carry the force of modal possibility and necessity: it is in principle possible of any arbitrarily demarcated slice-shaped segment of an apple that it be extracted from, and that it should continue to exist independently of, the remaining segments. It is however impossible of the specific individual *shape* of the apple that it should similarly exist independently of the apple as a whole.

The qualifier 'of its nature' signifies that we are dealing here with *de re* possibility and necessity, with possibility and necessity which is intrinsic to, or rooted in, the kinds or natures of the objects and object-parts in question.⁴³ Relations between objects and their pieces and moments of the types here considered are therefore intelligible only to the extent that there are natural divisions between kinds of objects and object-parts. Thus there is a natural division between the promise and social acts of other kinds. And it is in principle impossible that an utterance of the form 'I promise to do such-and-such', *of its nature as a promise*, should exist except as part of a larger whole which includes also an appropriate intention (a psychological moment of the promiser), and an appropriate tendency to realise the given content. (It is, conversely, equally impossible that this specific intention should exist except as bound up with an utterance of the given form.)⁴⁴

Husserl now advances a further generalisation of Stumpf's initial theory of dependent contents. He points out that relations of necessary dependence of

the types distinguished by Stumpf obtain not only between the parts of a single whole, but also between objects not comprehended within any independently recognisable surrounding complex object.⁴⁵ A husband, for example, by his nature as a husband, cannot exist without a wife. This wider sense of moment or ‘dependent object’ may be defined—without any reference to the relations of part and whole—as follows: *a* is a moment of *b* if and only if *a* is necessarily such that, by its nature, it cannot exist unless *b* also exists.

A commodity or economic good is a dependent object in this generalised sense. A commodity cannot, of necessity, exist, unless there exist also appropriately directed valuing acts which depend in their turn upon specific subjective beliefs and intentions of individual subjects. A medium of exchange cannot, by its nature, exist, unless there exist also economic value, economic transactions, and a generally dispersed readiness to accept. Dependence relations between moments in this generalised sense, or between moments and independent objects, may be *one-sided* (where *a* cannot exist unless *b* also exists, but not conversely). But they may also be reciprocal (two—or *n*-sided, for any $n > 1$). Husband and wife are in this sense two-sidedly dependent on each other.⁴⁶

Moments may, by their nature, depend either upon one single independent object, or they may depend upon a manifold of dependent and/or independent objects of a more or less precisely determinate structure. A *debt*, for example, is a moment of a two-object manifold made up of debtor or creditor. A debt, by its nature, cannot exist unless debtor and creditor also exist.

Moments may be *mediate* or *immediate*: *a* is an immediate moment of *b* if and only if *a* is a moment of *b* and there is no *c* such that *a* is a moment of *c* and *c* a moment of *a*. Otherwise *a* is a mediate moment.⁴⁷

Moments may be *extended*, for example in space and/or time. But they may also be non-extended. A debt, for example, endures through some time interval, however short; payment of a debt may, in contrast, be of instantaneous duration. Extensive moments may, like individual material objects, be *pieced*, either actually or in thought; a claim, for example, may be subdivided into constituent claims; a productive process may be subdivided into constituent operations, and so on.

The distinctions between one-sided and reciprocal moments, between moments dependent on a single object and (relational) moments dependent

on an object-manifold, between mediate and immediate moments, and between extensive and non-extensive moments, distinctions capable of being recognised in every sphere of reality, were first rigorously isolated by Husserl in his third Logical Investigation. They enable us to construct a highly elaborate taxonomical theory of the different possible forms of objects and dependence relations existing in the world, a theory which turns out to have a mathematical elegance and precision of its own.⁴⁸

Husserl now advances a twofold claim to the effect that: firstly, all synthetic a priori connections (all intelligible connections between objects in the world) are mediate or immediate relations of necessary dependence between dependent and independent objects;⁴⁹ and secondly, all synthetic a priori propositions, in whatever sphere, are capable of being derived from propositions expressing such dependence relations.⁵⁰

6. Against Positivism

This account of the a priori connections existing in reality can be used to elucidate, in a simple and immediate manner, the nature of aprioristic claims such as those made by Brentano and Menger on behalf of their respective disciplines.⁵¹ But its principal importance from our present point of view is that it provides not, as in earlier discussions, a mere list of examples of purported synthetic a priori truths, but a stable and coherent demarcation of the entire realm of the synthetic a priori which can be exploited to meet the various arguments put forward by positivist and analytic philosophers against the very idea of an intelligible structure of reality.

The most powerful of these arguments originated in work in the philosophy of mathematics around the turn of the century, and specifically in the so-called logicist programme.⁵² The logicists were able to demonstrate that certain classes of purportedly synthetic propositions of mathematics were in fact capable of being established as theorems of formal logic. This they achieved effectively by eliminating each defined term (substituting *definiens* for *definiendum*) from the given propositions, and exhibiting the resultants as logical tautologies. The success of this method for certain restricted classes of a priori propositions led certain philosophers—particularly philosophers influenced by Wittgenstein's *Tractatus Logico-Philosophicus*—to advance the working hypothesis that all candidate synthetic a priori propositions could similarly be exhibited as logical tautologies.⁵³ This working hypothesis became entrenched as a philosophical dogma, first of all because it eliminated in one stroke so many niggling mysteries surrounding the old-fashioned view of the a priori, and secondly because, where its advocates were confronted only with lists of disconnected examples of purported synthetic a priori truths, even isolated cases of successful application of the method could sustain the belief that it could, in principle, be made to work in the general case. Propositions which proved recalcitrant to the method could either be dismissed as meaningless, or reassigned to the category of a posteriori truths.⁵⁴ It was therefore possible to ignore or camouflage the fact that those philosophers who persisted in their efforts to apply the method to new classes of propositions lying outside the mathematical sphere had consistently failed to produce

detailed resolutions of the appropriate kind, even for the simplest examples of purported synthetic a priori propositions. No resolutions enjoying general acceptance amongst philosophers have been forthcoming even for propositions expressing simple colour relations. Yet these propositions are neither meaningless, nor—by the arguments in sections 2 and 3 above—are they a posteriori.

Wittgenstein himself began slowly to recognise the inadequacy of the original hypothesis, and in his later writings he moved away from the idea that those truths hitherto commonly accepted as synthetic and a priori—whether in the psychological sphere or in the spheres of language and other social phenomena—can be exhibited as logical tautologies. He developed instead a conception of the given truths as ‘truths of grammar’, and whilst the immediate connotations of this talk of grammar may sustain the assumption that we are still dealing with propositions true purely by virtue of the ways we talk and think, the details of Wittgenstein’s exposition sometimes carry the implication that the given propositions are made true also, or in part, by objectively existing determinations of reality.⁵⁵

The positivist-analytic programme for the elimination of the synthetic a priori can by now, in fact, be said to have failed. Only the memory of its initial successes, and the convenience of the idea that it has succeeded, sustain it as a (never too closely examined) presupposition of the older generation of analytic philosophers and of those writers on scientific methodology who have fallen under their influence.⁵⁶ Already in 1910–11, however, Husserl had provided the means for the construction of an argument why the programme must necessarily fail. This is provided in an unjustly neglected essay, first published as an appendix to his *Formal and Transcendental Logic* of 1929, entitled ‘Syntactical Forms and Syntactical Matters: Core Forms and Core Matters’. Let us assume that we have in fact satisfactorily eliminated all the defined (logically complex) terms from the a priori propositions of some given theory—for example, from the theory of economics. The resultant propositions will consist entirely of what Husserl calls ‘core terms’, some of which will be formal (‘object’, ‘property’, ‘and’, ‘not’, and so on), some of which will be material (‘subject’, ‘action’, ‘end’, ‘exchange’, ‘desire’, or still more primitive terms relating to the ultimate subject-matter of economics). In some cases the resultant proposition will be analytic: a desire to exchange is, analytically, a desire; an action of a subject is, analytically, an action.⁵⁷ But some, at least, of the resultant

propositions must, if the initial theory is to be coherent at all, express non-trivial relations holding between core matters (for example that an exchange is an exchange between subjects; that an exchange is an action performed by subjects; that an exchange is necessarily compatible with a desire to exchange on the part of the exchanging subjects, and so on). Now these latter propositions, or propositions like them but containing still more primitive economic terms, because they contain no trivially eliminable core matters, can be exhibited as analytic only if some at least of their constituent material expressions can be defined, logically, in terms of others. But this is to contradict the hypothesis that, on the level of core forms and matters, *all* defined terms have been eliminated.

This is to present only the skeleton of Husserl's theory of syntactic forms and matters. The theory itself implies also a detailed account of the nature of the relations between formal and material terms on the one hand, and the corresponding formal and material moments of objects existing in the world on the other. Even in this condensed version, however, the argument has important lessons for our understanding of the ways in which an aprioristic methodology may be applied in the construction of scientific theories. It tells us, most importantly, that an a priori scientific theory can be coherently constructed out of propositions which are uniformly analytic only if the theory is committed to at most *one* core matter: propositions expressing non-trivial interrelations between several core matters are, by definition, synthetic. It is the recognition of this fact which lies at the bottom of efforts in the foundations of mathematics to establish that all mathematical propositions can be expressed without remainder in terms of the single not purely logical notion of *set*. And it underlies also von Mises's insistence, against the background of his view that all a priori propositions of economics are analytic 'laws of thought', that the a priori element in economic theory can be constructed entirely in terms of the single material notion of *action*. The Misesian vision of economics as an edifice generated entirely by conceptual (logical) analysis of this single notion, with its apparent implication that the resultant theory must either be trivial (able to tell us nothing about reality), or magical (consisting of truths spun out of nowhere), has done much to inhibit the acceptance of the more general aprioristic claims made on behalf of Austrian economics. The suspicion has remained—in spite of von Mises's own claims for his method—that other core notions, in addition to the concept of action, have been smuggled into

his theory on the way, and that the theory is therefore not purely analytic. It is the most important lesson of Husserl's work that Austrian economists, armed with the conception of synthetic a priori (intelligible) connections between parts and moments in the world, can properly abandon the official Misesian conception of their discipline as a part of the analytic theory of human action and conceive it instead precisely in Menger's terms: as a synthetic a priori theory of the whole family of kinds and connections manifested in the phenomena of economic life.

7. Perception Knowledge and Entrepreneurship

We shall conclude this essay with an application of the Husserlian method to one problem fundamental to contemporary research in Austrian economics, the problem of entrepreneurship. We shall consider, in particular, the theory of the entrepreneurial role recently advanced by Israel Kirzner on the basis of the work of Mises and Hayek.⁵⁸ Kirzner conceives the role of the entrepreneur as residing essentially in his ability to *see* economic opportunities which have for one reason or another been overlooked by other economic agents. One consequence of this conception is that there is an important sense in which the entrepreneur, unlike other participants in the economy, *does no work*. For the opportunities which he sees—the economic ends and the means for realising these ends—are already there, on the face of economic reality, even though no other economic agent has as yet perceived them. The role of the entrepreneur is thus sharply to be distinguished from, for example, that of the manager, whose function consists in the material organisation of the factors of production for an already predetermined end.⁵⁹ It is of course clear that both roles, perhaps along with others, may be invested in a single person. And it is also clear that, because the entrepreneurial function may be exercised in such a way that it is dispersed amongst slices of managerial activity, it may not always be possible to distinguish in practice where entrepreneurship ends and organisation begins. But it seems nevertheless true that managerial activity presupposes entrepreneurial activity; economic organisation directed towards some end cannot exist unless this end has been determined.

It is one principal virtue of Kirzner's analysis that it enables us to see the precise sense in which entrepreneurship, unlike managerial activity, is not a *factor* (input) of production, but rather a *presupposition* of production. The entrepreneur does not *do* anything, and therefore—in contrast to the manager—he can receive no wage.⁶⁰ He receives, rather, the residue, not calculable in advance, of the process of production which he sets in train, and it is the possibility of this pure or entrepreneurial profit which sustains the entrepreneur in his state of alertness.

But what, now, is the status of these propositions concerning the nature of the entrepreneurial role? Are the differences between entrepreneurial,

managerial, and other kinds of economically relevant activity analytic differences only; are they imposed upon the underlying phenomena as part of the conceptual framework of economic theory? Or are they differences of *kind*, discovered in the world? Kirzner himself seems to adopt the former view. He sees his theory as having the capacity to provide non-trivial knowledge of economic phenomena as a result of the fact that it contains an empirical element: the extent to which the purely conceptual propositions of the theory correspond to reality Kirzner, like Hayek, sees as a matter of empirical inquiry.⁶¹ The substance of his account is however by no means alien to the original Mengerian conception of economics as an a priori theory of kinds and connections in the world. We can indeed translate the purportedly analytic propositions of his theory into the Aristotelian-Husserlian vocabulary in a way in which will make manifest the sense in which these propositions may properly be said to relate not to the relations between our concepts, but to connections between specific kinds of dependent and independent objects *in the world*.

Instances of entrepreneurial activity constitute, from the Husserlian perspective, a species or natural kind (and this is true even if, in particular cases, the entrepreneurial nature of an action is unclear or unrecognised).⁶² The dependence-structure of this kind may be described as follows. Entrepreneurial activity is dependent, first of all, on the perception of a certain kind of structural moment of material reality as this is, at some given time, articulated by the existing economic relations. It is dependent further on the knowledge or belief engendered by the given perception that this structural moment *is* an economic opportunity (will generate a stream of profits). And it is dependent also, like the given moments of perception and knowledge, upon a specific individual—the entrepreneur—who is endowed with an appropriate background knowledge of the economic articulation of the relevant area of material reality. (It is essential to entrepreneurial activity that the associated perception and knowledge should be invested in a single subject.) Now perception and knowledge of an economic opportunity can be said to serve as the basis for properly entrepreneurial activity only if they give rise, in subsequent actions of economic subjects, to a tendency to realise the given opportunity: the activities of an individual who constantly perceives opportunities overlooked by other economic agents are entrepreneurial only to the extent that they are dedicated, in a substantive manner, to the exploitation of these

opportunities. Entrepreneurial activity is therefore dependent also upon a tendency to realise appropriate changes in the economic articulation of that segment of reality towards which entrepreneurial perception and knowledge are directed.⁶³

These relations are represented in [Figure 1.1](#).⁶⁴

Each frame designates a particular moment or independent object bound, mediately or immediately, into a single complex structure by relations of dependence. Links connecting broken to solid walls of the constituent frames signify that the object pictured by the broken frame is one-sidedly dependent upon the object pictured by the associated frame.⁶⁵ Propositions expressing these relations, or propositions logically derivable from these, are synthetic (they picture objectively existing determinations of reality) and a priori (their truth is evident to anyone who is familiar with the domain in question). It is a synthetic a

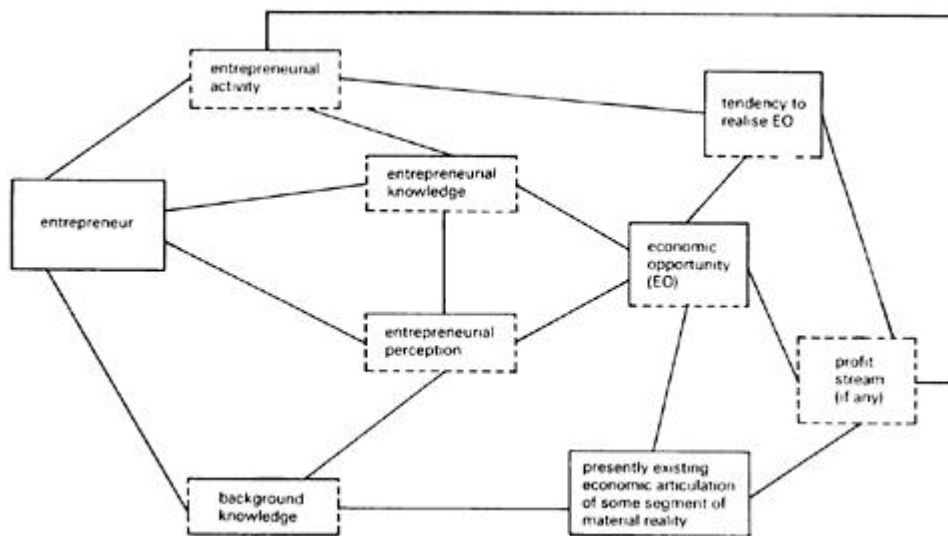


Figure 1.1: The Dependence Structure of Entrepreneurship

priori truth, for example, that a stream of pure entrepreneurial profits can by its nature exist, only if there exist also both entrepreneurial activity and a tendency to realise some associated economic opportunity. (There are, of course, no dependence relations in the opposite direction: entrepreneurial activity need not in every case generate profits.) This and other a priori truths may be read off immediately from the diagram. The absence of mediate or immediate dependence relations between certain elements in the

diagram signifies that, as a matter of a priori necessity, the existence of the given elements is *compatible* with the non-existence of the remainder.⁶⁶

One important difficulty confronting Kirzner's theory relates to the specification of the precise nature of the two moments of background knowledge and entrepreneurial perception. Entrepreneurial perception amounts, we will remember, to seeing *what is already there*. The entrepreneur does not create new objects or relations, but merely recognises what has been overlooked. But how can this notion serve as the basis of an adequate account of entrepreneurial activity, when processes of production are necessarily directed towards the future (the more ramified the productive network which is set in train, the further forward in the future will be the appearance of the ultimate endproduct)? It is surely clear that the entrepreneur, in determining what are the worthy (profit-worthy) ends of economic activity, must of necessity anticipate the *future* needs of ultimate consumers; but future needs or desires are precisely not 'already there' in the sense which would seem to be required by Kirzner's theory.

How, then, are we to make sense of Kirzner's account of knowledge and perception in such a way as to preserve the insights of his theory?

It must be stressed, first of all, that the background knowledge which is principally relevant in the economic sphere is not what philosophers have called propositional or discursive knowledge.⁶⁷ Relevant background knowledge may be gleaned, certainly, from the reading of, say, stock-market reports, technical specifications, catalogues, market surveys, and so on. But then, in so far as the knowledge which is thereby acquired might serve as the seed-bed for entrepreneurial activity it is not knowledge in the form of propositions (knowledge which might serve as the basis for *calculation* in the Robbinsian sense⁶⁸) which is acquired. It is, rather, a specific kind of *practical* knowledge which forms the background of entrepreneurial activity.

Practical knowledge has been brought to the attention of philosophers in recent times, on the one hand by Ryle, with his distinction between *knowing how* and *knowing that*,⁶⁹ and on the other hand by Heidegger, whose philosophy rests centrally on a view of the structure of our ordinary experience as determined primarily by the hierarchies of interdependent *objects for use* (tools, equipment) with which we are continually bound up in our everyday activities.⁷⁰ Propositional knowledge is simply that part of our knowledge which we are capable, at any given stage, of articulating into

sentences. Practical knowledge is knowledge of how to *do* certain things, knowledge of a kind normally acquired by training and by experience (for example the knowledge of how to sit at table, of how to speak one's native language, how to use a pair of scissors, drive a car, or read a stock-market report). A given body of practical knowledge may or may not be capable of being converted into propositional knowledge, and it seems clear that individuals differ in their capacity to effect this kind of conversion (in either direction). People differ, for example, in their capacities to acquire practical knowledge through instruction (through the medium of sentences) rather than through example.

The practical knowledge which is the presupposition of entrepreneurial activity is of two kinds. On the one hand it is general knowledge of the various ways in which, in a given social and institutional environment, an economic opportunity may be brought to realisation. On the other hand it is specific *area* knowledge of a given segment of reality. Our use of the geographical term 'area' here is not entirely metaphorical.⁷¹ An individual (again to differing degrees) is familiarly said to know his way around the area in which he lives. This knowledge is capable of being converted, in part, into propositions—for example, where we are called upon to direct a stranger on his way. But it is primarily practical: knowing one's way about signifies knowing *how* to get where one wants to be, knowing *how* to satisfy one's everyday needs; and this knowledge is normally not propositionally mediated. We do not need to think out our route to the bathroom, or to the railway station, each morning, any more than a skilled carpenter needs to think out the everyday operations which he performs with a chisel.

The practical knowledge which we have of our immediate neighbourhood consists, then, not merely of geographical knowledge (knowledge of the ground-plan of the streets and buildings). It consists also of a knowledge of the mesh of interrelations between these streets and buildings and the array of activities which take place in and around them. But now this kind of non-propositionally articulated area knowledge may clearly apply also to areas or segments of reality not purely geographical. Any individual who has *worked himself into* a given field, or discipline, or into a culture or language, has thereby acquired a corresponding area knowledge, has acquired what might be called a cultural physiology,⁷² which forms the cognitive background of his thoughts and actions. A horticulturalist, for

example, may be said to know his onions: he has acquired a body of area knowledge relating to onions and to the cultivation of onions, which enables him to classify onions of different strains on the basis of physiognomical properties which he may never find it possible to put into words. A poet may, on the basis of his area knowledge of poetic devices and intentions and of the structure of the language in which he writes, find himself deleting a line or a whole poem simply because it strikes him as being, in a not further specifiable way, somehow wrong.

But now certain kinds of practical area knowledge of presently existing reality are, unlike the knowledge of the horticulturalist and the poet, in a certain sense future-directed. A doctor, for example, will sense the future course of a disease as an integral part of his coming to understand its presently existing symptoms. And it will now be clear how, on this basis, we can make a sense of the Kirznerian account of entrepreneurial activity: the cognitive background of entrepreneurial perception is precisely one species of such future-directed area knowledge. It relates not merely to the presently existing state of things, but also to those possible future states of reality which are signalled, more or less inchoately, in the present.

The implications of these reflections on Kirzner's theory are not entirely trivial. They help us to explain, for example, how it is that economic agents may differ so radically in their entrepreneurial success. An individual may of course stumble by accident on a profit opportunity, that is, upon a mismatch between what the resource market has to offer and what consumers will prove to be prepared to pay: profit opportunities are, after all, on Kirzner's account, already in full view to anyone who cares, or is able, to cast his gaze in the appropriate direction. The opportunity has only once to be revealed in order for it to be manifest to other economic agents, who are then able to recognise that it had been there all along. But it would be impossible, by appeal solely to this notion of accidental recognition, to explain how it is that certain individuals seem to be in a position to score *repeated* successes in their entrepreneurial activities. Such individuals, it may now be asserted, are individuals who exhibit a peculiarly strong capacity for the acquisition of future-directed area knowledge of the appropriate kind.⁷³

This account suggests also one possible explanation of the fact that certain kinds of immigrants seem to exhibit a disproportionately high degree of entrepreneurial success. The immigrant, in working himself into the culture

and environment which is to be his new home, will bring with him assumptions and capacities, capacities for *seeing*, will bring an alien cultural physiology, derived from his native background. This will imply, in suitably propitious circumstances, that the new area knowledge which he acquires on the basis of the old will be free of certain habitual blind spots which have characterised the perceptions of members of the already entrenched society.⁷⁴

These are, however, little more than loose remarks. A complete a priori theory of entrepreneurship would have to take account of the essential differences between entrepreneurial activity itself, which depends necessarily upon a future-directed area knowledge of an appropriate kind, and those forms of quasi-entrepreneurial activity which, because they rest on accident or error, exist independently of such knowledge.⁷⁵ It would have to take account of the differences between entrepreneurial perception which issues forth in appropriately directed economic activity, and quasi-entrepreneurial perception which stops short at the point where the knowledge gained might be put into practice.⁷⁶ It would have to be supplemented by a priori theories of non-entrepreneurial economic activity and of the types of non-future-directed knowledge on which it rests.⁷⁷ And these, in turn, would require as their basis a general a priori theory of action and of the consciousness of time, some elements of which, at least, are to be found in the writings in which Husserl applied his own a priori methodology to problems in psychology and in the philosophy of action.⁷⁸

Notes

1. I should like to thank Israel Kirzner, Jeremy Shearmur, Peter Simons, and other participants in the Liberty Fund Seminar on Austrian Economics and its Philosophical and Historical Background held in Graz on 27–31 July 1980, for their assistance in the working out of the ideas put forward in this paper.
2. See Friedman (1953) for the definitive statement of this position.
3. In this respect the social sciences may resemble cosmology, or meteorology: see Hayek (1964).
4. See the methodological writings of Ludwig von Mises (especially Mises 1962 and the early chapters of Mises 1949). Rothbard (1979) is a survey of the Austrian criticisms of methodological positivism. See also Shand (1984, Chapters 1 and 2).
5. It may initially appear that there is some confusion involved in the idea that one and the same proposition can be established both empirically and by a priori means. A moment's reflection reveals, however, that this must be the case for every a priori truth. The proposition $2+2=4$, for example, can be recognised as true, a priori, by anyone who is familiar with the objects (2, 4, addition, equality) in question. But it can also be empirically established, e.g. by a mechanical process of counting out coins (though then of course other, more deep-seated a priori truths will serve as presuppositions).
6. It is Ludwig Lachmann who has most relentlessly criticised the predictive claims customarily made on behalf of economic theory—see especially Lachmann (1977, part 2). Compare also Shackle (1972).
7. Only comparatively recently has the nature of the *Methodenstreit* between Menger and the German historical school of economics come to be understood as a philosophical dispute between Aristotelianism on the one hand, and the crude empiricism/inductivism of Schmoller on the other. See Kauder (1965); Hansen (1968); Hutchison (1973); Bostaph (1978).
8. Walras (1965, p. 3).
9. The expression 'natural kind' has recently established itself as a technical term of analytic philosophy where it connotes, for example, biological species (horse, cyprus tree, orange, caddis-fly, and so on: see for example, Wiggins (1980, Chapter 3). Natural kinds in the analytic-philosophical literature are, however, normally treated as one or other variety of logical fiction. Here we shall adopt a realist perspective, that is to say we shall take the view that an adequate description of any segment of material reality must involve reference not only to the individual objects to be found within it but also to the kinds which these objects exemplify. It is a distinguishing mark of natural kinds that they exhibit both *norm instances* and various—more or less natural—deviant instances. On norm kinds see Wolterstorff (1980) and the remarks in Smith (1986). On kinds in general, especially in relation to Aristotelian metaphysics, see Loux (1976).
10. The idea that propositions of the given kind are laws of thought has grown up as a result of the fact that the familiarity we have of the basic kinds is so basic to our thinking about the associated phenomena that we cannot *think round them*.
11. To be more precise, Mises (1949, Chapters 1, 2, 7, *passim*) holds economics to be founded on one single a priori axiom, the so-called 'fundamental axiom of action', together with a small number of additional empirical postulates such as: leisure is a consumer good.
12. J.Locke, *Essay Concerning Human Understanding*, Book IV, Ch. VIII.
13. *Ibid.*, § 8.
14. *Ibid.*
15. *Ibid.*, Book II, Ch. XXI.
16. D.Hume, *A Treatise of Human Nature*, Book I, Part I, section 7, footnote.
17. Reinach (1911, p. 176) (cited according to the English translation).

18. D.Hume, *Treatise*, Book I, Part I, section 7, footnote. Simple ideas in general, Hume goes on, resemble each other in their simplicity: ‘And of this we may be certain, even from the very abstract terms *simple idea*. They comprehend all simple ideas under them.... And yet from their very nature, which excludes all composition, this circumstance in which they resemble, is not distinguishable or separable from the rest. It is the same case with all the degrees in any quality. They are all resembling, and yet the quality, in any individual, is not distinct from the degree.’
19. See A.Reinach (1911, p. 169) and the arguments there given.
20. On Austrian philosophy, see Haller (1979; 1981); Nyíri (1981); Smith (1978 1981).
21. Most important for us here is the 1911 paper by one of Husserl’s most important students, Adolf Reinach. But see also Meinong (1882); Linke (1901); Salmon (1929); Davie (1977); Murphy (1980); and Willard (1984). That Hayek, too, fell under the sway of Kantian influences has been forcefully argued by John Gray (1984).
22. See Mises (1969). Only one philosophical or scientific work of importance was produced within the Empire in the first half of the nineteenth century. This was the *Wissenschaftslehre (Theory of Science)*, of Bernard Bolzano.
23. Of the principal German philosophers only Leibniz and Herbart, both of whom exhibit realist, syncretist elements in their philosophies, were officially recognised in Austria.
24. See Mises (1969); Smith (1981); and the extremely useful piece by Rothbard (1975) on the scholastic background to Austrian economics.
25. Brentano (1862).
26. Brentano (1867).
27. Brentano (1872).
28. Brentano’s influence after his move to Austria was no longer confined to a narrow circle of priests and theologians. Among those who attended his lectures in Vienna were, besides Husserl, also Meinong, Ehrenfels, Masaryk, Twardowski and Freud; see Haller (1981).
29. See Brentano (1924). Brentano characterised his methodology as empirical, but by this he meant simply that ‘experience alone is my teacher’ (Foreword); and he held the empirical method to be entirely compatible with a certain ideal or aprioristic point of view. ‘Empirical’, for Brentano, connotes something different from ‘experimental’.
30. Brentano (1924, p. 63 (Eng. trans. p. 44)).
31. *Ibid.*, p. 64 ff. (Eng. trans. p. 45ff).
32. See Brentano (1889).
33. Brentano was not, in this, guilty of psychologism, the view that logic is a branch of empirical psychology as normally conceived (see the ‘Prolegomena’ to Husserl’s *Logical Investigations*), since the laws of (descriptive) psychology are, for Brentano, necessary, evident laws. See Mulligan and Smith (1985).
34. Menger (1883, p. 6n. (Eng. trans. p. 37n.)).
35. Husserl (1891).
36. These essays have been reprinted in Husserl (1979). See especially Husserl (1894).
37. The second edition of the work, published in 1913–22, contains revisions introduced by Husserl to bring the work into closer conformity with his later, properly phenomenological philosophy. Nowhere in his later writings, however, does Husserl abandon the logical and methodological standpoint set forth in this work. See Smith and Mulligan (1982).
38. Hayek (1952, p. 67) and Hayek (1943). See also Lachmann (1969, pp. 152ff).
39. See Menger (1883); Hutchison (1973); Bostaph, (1978); Back (1929) offers a detailed statement of Menger’s methodology in the *Untersuchungen* which makes clear the similarities to Husserl’s methodology of synthetic a priori laws.
40. See Stumpf (1873), especially section 5, ‘The Theory of Psychological Parts’ and section 6, ‘On the Nature of Psychological Parts’. Stumpf’s work is a critique of psychological atomism and

specifically of atomistic theories of spatial perception. It is discussed in more detail in Smith and Mulligan (1982, section 2).

41. Husserl (1900–1, Investigation 3, section 5).

42. Ibid., sections 1ff. See also Smith and Mulligan (1982); Smith (1981b); Sokolowski (1967–8; 1971; 1974); Simons (1982); and Mulligan, Simons and Smith (1984).

43. See Husserl (1900–1, section 14). *De re* necessity and possibility is contrasted with *de dicto* necessity and possibility. A proposition is *de re* necessary if and only if it is necessary in virtue of the essences or natures of the object(s) in question; a proposition is *de dicto* necessary if and only if it is necessary by virtue of the meanings of the terms which it contains.

44. On the a priori laws relating to the natural kind *promise* (and to other, related social act-kinds) see Reinach (1913), where Reinach also sketches a theory of what we have called ‘a priori tendencies’. Karl Duncker (1941, section 13) has pointed out that such a tendency is a necessary accompaniment also of states of desire. On Reinach’s work in general see Smith (1982a) and also the papers collected in Mulligan (1986).

45. Husserl (1900–1, sections 14ff).

46. Ibid., section 16.

47. More precisely: *a* is a mediate moment of *b* if and only if *a* is a moment of *b* and there is some *c* such that *a* is a moment of *c* and *c* a moment of *b* (see *ibid.*, sections 14 and 16). A mediate moment *a* of an object *b* may also be immediately dependent on *b*, where there are two or more systems of dependence relations between *a* and *b*.

48. See the recent work by Kit Fine (1985) on dependence and the theory of closure algebras.

49. Husserl did not advance the converse thesis, that all dependence relations between moments are synthetic. Some, he held, were analytic, for example, the relation between a husband and a wife, between a master and his servant, or between a king and his subjects (*ibid.*, section 11f.). It would however take us too far afield to discuss here the demarcation criterion between analytic and synthetic dependence relations advanced by Husserl.

50. The class of synthetic a priori propositions thus includes all those propositions logically entailed by propositions expressing dependence relations. But it includes also propositions expressing the *compatibility relations* obtaining between objects of different kinds in virtue of the fact that they may, as a matter of a priori necessity, enter into dependence relations with each other. A speck in the visual field need not be red, but it must have some colour, selected from the continuum of different kinds of moment which are intrinsically compatible with the moment *visual speck* and interchangeable with the moment *red*. Qualitative continua of this kind can be recognised in every sphere of sensory perception. Compatibility relations generate also, however, moment continua articulated not qualitatively, but quantitatively: by the relations of more or less (more intense than, more probable than, more imminent than, more guilty than, more valuable than, and so on). The synthetic a priori laws governing continua of this latter variety are familiar to Austrian economists in, for example, the theory of time preference (see Mises (1949), Chapter 18) and compare Smith (1981b, section 3).

51. On the role of the theory of parts and wholes in Brentano’s philosophy see Chisholm (1978); Smith and Mulligan (1982; 1985) and Brentano (1933 and 1982). The affinities between Husserl’s theory and the work of Menger are evident on almost every page of Menger’s methodological writings. Consider, for example, Appendix VII of the *Untersuchungen*, in which Menger discusses Aristotle’s view that the individual ‘of his nature as a *civilised* man’ is dependent upon the existence of the state; or those passages in the letter to Walras of 1884 in which Menger characterises his own ‘exact’ method as ‘analytic-compositive’ (as involving not only the analysis of complexes into their constituent elements but also—precisely as in Husserl’s theory—the consideration of how elements may become connected into more complex wholes) (Walras (1965, p. 5)). These affinities between Husserl and Menger were evident already to Hayek’s contemporaries, Schütz and Kaufmann, in pre-war Vienna, and Hayek writes that he was often blamed by Schütz ‘for the blind spot which prevented me from seeing how much help I could derive from Husserl for my work’ (personal

communication of Prof. von Hayek). Kaufmann was, like Schütz, a former disciple of Husserl, but became increasingly associated with the Vienna Circle; and his earlier, sympathetic treatment of Husserl's theory of dependence relations in the field of general methodology (Kaufmann 1930, Chapter 1) gave way to a more critical appraisal when he came to consider the possible applications of the theory to the social sciences (1934). In his paper on the synthetic a priori in economics (1937) he defends a more or less orthodox logical positivist position. The dissertation of Otaka (1932), written under Husserl, contains a detailed survey of holistic methodologies in the social sciences. It may be supplemented by the writings on part-whole relations listed in Smith (1982b).

52. This programme was initiated by Frege and Russell, and its most definitive statement is the 3-volume *Principia Mathematica* by Whitehead and Russell (1910–13). The aim of logicism was to establish, in a formally rigorous way, that mathematics is derivable from logic, an aim which was strictly realised only for certain restricted classes of mathematical propositions. Subsequent investigations in the foundations of mathematics have, however, been crucially marked by the logicist thesis and many of its most important results arise precisely from the question why logicism must fail.

53. Thus at *Tractatus* 6.3751, for example, Wittgenstein asserts that 'the simultaneous presence of two colours in the visual field is impossible, in fact logically impossible, since it is ruled out by the logical structure of colour', a thesis which was upheld by the members of the Vienna Circle (see, for example, Schlick (1930–1)), and by analytic philosophers of the post-war generation. (Delius (1963) is the most valuable survey of the relevant literature and includes a sympathetic discussion of Husserl's treatment of the synthetic a priori.)

54. This strategy proved successful only because, given the predominance of the positivistic tendency amongst philosophers in England and America, and the virtually complete annihilation of rigorous philosophy in the German-speaking world, no group or school was in a position to present a coherent case in favour of the synthetic a priori. A climate was created within which it was considered respectable only to produce ever narrower delineations of the class of purported synthetic a priori truths. The peculiarity of Husserl's position is that he defended a view of the synthetic a priori as comprehending more, far more, than even Kant had believed.

55. Thus Wittgenstein writes: 'Essence (*das Wesen*) is expressed by grammar' (1953, p. 371). Later he says: 'It is grammar which says what kind of object anything is' (1953, p. 373). Grammar expresses not empirical properties of objects (feelings, beliefs, images, thoughts, and so on) but essential properties: 'Could someone have a feeling of ardent love or hope for the space of one second—*no matter what* preceded or followed this second?—What is happening now has significance—in these surroundings. The surroundings lend it its significance. And the word 'hope' refers to a phenomenon of human life. (A smiling mouth *smiles* only in a human face.)' (1953, p. 583). 'Could one teach a dog to simulate pain? Perhaps it is possible to teach him to howl on particular occasions as if he were in pain, even when he is not. But for this to be proper simulation there would still be missing the proper surroundings' (1953, p. 250). The simulation of pain, as a certain specific *kind* of phenomenon, can, of necessity, exist, only against a specific *kind* of background. Necessary relations of this kind are also called by Wittgenstein 'internal relations' (see Gier (1981, pp. 83ff.)), as opposed to, for example, causal relations, which Wittgenstein (1975, p. 63f) characterises as 'external'. Wittgenstein's grammar may be described as a theory of the internal relations between language, on the one hand, and action (and all the other phenomena of human life) on the other. It is interesting that Wittgenstein also uses the word 'phenomenology' to describe this kind of investigation, an investigation which is 'midway between science and logic' (1977, p. 15); see also Spiegelberg (1968); Gier (1981, Chapter 5); Smith and Mulligan (1982, section 4).

56. Especially since the publication of Kripke (1972), analytic philosophers have become increasingly more sympathetic to the idea of a synthetic a priori element in scientific theory (or, correlatively, to the idea of material necessity in the world). See for example, Wiggins (1980); Brody (1980); Chisholm (1976); and, from a different perspective, Harré and Madden (1975). Some of the

relations between contemporary essentialism and Husserl's theory of part and whole are discussed in Simons (1982).

57. These propositions are analytic because the modifiers 'to exchange' and 'of a subject' occur only trivially, that is, they can be replaced, in such a way that the truth of the original is preserved by *any* grammatically similar modifier. (See Husserl, 1900–1, third Logical Investigation, sections 11–12) and Smith and Mulligan (1982, n. 77, part 3.)

58. See especially the papers collected in Kirzner (1979, part 3) and also Kirzner (1973; 1985).

59. Decision-making, in the framework of Austrian economics, therefore comprehends two distinct processes. On the one hand it is a matter of 'mechanical computation of the solution to the maximization problem implicit in the configuration of ...given ends and means', and on the other hand is '*the very perception of the ends-means framework* within which allocation and economizing is to take place'. (Kirzner, 1973, p. 33.)

60. The knowledge which is acquired by the entrepreneur in his perception of an economic opportunity is thus radically distinct from those types of knowledge which we may choose to acquire (as a result of a previous entrepreneurial decision), knowledge which may properly be treated as something like an input or a tool. Ignorance is therefore correspondingly ambiguous: it may mean lack of command over a needed tool, or 'the sheer failure to utilize a resource available and ready to hand' which has simply not been noticed (see Kirzner, 1978, p. 130).

61. See Kirzner (1979b).

62. We must stress, once again, that the idea of a natural kind brings with it the possibility of deviant instances (see n. 9 above). It might be thought that this admission robs the theory of its significance: *P* is, as a matter of necessity, true of all instances of kind *K* unless (because the instances in question are deviant instances) it is not. However the ways in which an instance may deviate from the norm are themselves subject to a priori laws. And it is at the point where reflection on the kinds of possible deviations begins (reflection which yields a priori propositions of a higher order of complexity than the relatively simple propositions of the general theory), that the Husserlian methodology reveals its most powerful cutting edge (see n. 64 and n. 75 below).

63. See n. 44 above. A priori tendencies make themselves felt also in economic laws which assert, for example, that there is a tendency for any given good to acquire a single price throughout a given market.

64. Figure 1.1 pictures the ways in which the constituent parts and moments of what might be called *successful* economic activity are (in Wittgenstein's terms) 'internally related' to each other. Entrepreneurial activity may, as a matter of necessity, be unsuccessful (may fail to generate a stream of pure entrepreneurial profits). It would be a simple matter to construct a picture of the more general case, incorporating both successful and unsuccessful entrepreneurship. Even this diagram would however necessarily involve, as a constituent moment of the moment of entrepreneurial knowledge, a *belief* that (with a greater or lesser probability) a profit stream will be generated.

65. Smith (1981) and Smith and Mulligan (1982; 1983) contain a preliminary statement of the formation rules for dependence-diagrams of this kind, together with a discussion of the range of possible applications of the directly depicting language which the diagrams constitute.

66. See n. 50 above.

67. It will already be clear (from, for example, n. 64 above), that 'knowledge' in the present context is to be understood in a sense loose enough to comprehend also beliefs, including false beliefs.

68. See Kirzner (1979), e.g. Chapters 1, 2 and 10.

69. Ryle (1949), Chapter 2.

70. Heidegger (1962). Husserl's work, too, especially in the later period, is consistent with a view of knowledge as centred primarily on action or practice, and not on any storehouse of propositions 'in the mind' (see Føllesdal (1979)).

71. It corresponds to one technical use of the term 'area' in contemporary linguistics, for example by Radden (1978).

72. Our use of the term ‘cultural physiology’ is designed to draw attention to the fact that area knowledge is not principally a matter of the conscious following of rules, but rather of the complex web of skills, habits, and reflexes which, through drilling and practice, becomes part of our make-up as human beings. Both von Hayek and Wittgenstein have exploited the notion of cultural physiology in their writings, but von Hayek unfortunately to some extent confused subliminal regularities with conscious rule-following (see, for example, Hayek (1963) and the criticism in Steele (1981); on Wittgenstein and cultural physiology see Nyíri (1977; 1979; 1982), see also Polanyi (1958); Oakeshott (1962); and the final section of Smith (1985)).

73. Kirzner himself has recognised at least part of what is involved here: ‘...the ability to learn without deliberate search is a gift individuals enjoy in quite different degrees’. See also Mises (1949), p. 325: ‘Economists must never disregard in their reasoning the fact that the innate and acquired inequality of men differentiates their adjustment to the conditions of their environment.’

74. This proposition will apply particularly to those immigrants whose prior cultural background is stable and well-established. It is erroneous to suppose that entrepreneurial ability, like creative abilities of other kinds, is associated with instability or deviance. Such abilities are rather, to an even greater extent than ordinary human skills and practices, dependent upon the acceptance of established systems of conformity. See Nyíri (1977; 1979). There are, of course, other factors tending to encourage entrepreneurial activity on the part of (certain kinds of) immigrants: immigrants tend, for example, to be closed off from salaried employment to a greater extent than the members of the native community.

75. Such forms of quasi-entrepreneurial activity are examples of essentially possible deviations from the natural kind of entrepreneurship proper, discussed in n. 62 above.

76. The foreclosure of economic activity may be encouraged by certain kinds of institutional practices (of the type which may occur, for example, in the controlled economies of Eastern Europe). But the ways in which institutional measures may generate deviant forms of entrepreneurial activity are themselves governed by a priori laws: see Reinach (1913, Chapter 3), in which Reinach discusses the relation between his a priori laws relating to the various *natural* kinds of legal phenomena and the treatment of such phenomena in actually existing systems of positive law. ‘That a claim expires through being fulfilled is’, Reinach argues, ‘just as self-evident a truth as any logical or mathematical axiom. But if it should prove expedient, why should not a system of positive law introduce a restriction according to which certain claims expire only when their having been fulfilled has been reported at the nearest office of the county court?’ (Reinach, 1913, p. 802). The possibility of a restriction of this kind is, Reinach claims, intrinsic to the structure of a claim, where restrictions such as ‘A claim expires only when the claimant has shot his next of kin’ are incompatible with this structure.

77. See the illuminating discussions of the structure of human work in Rossi-Landi (1975), Chapter 2, section 2.3.2.

78. See Føllesdal (1979); Smith and Mulligan (1982); Hoche (1973).

Bibliography

- Armstrong, D.M. (1978). *Universals and Scientific Realism*, 2 vols, Cambridge: Cambridge University Press.
- Back, J. (1929). *Die Entwicklung der reinen Ökonomie zur nationalökonomischen Wesenswissenschaft*, Jena: Fischer 1929.
- Bostaph, S. (1978). 'The Methodological Debate Between Carl Menger and the German Historicists', *Atlantic Economic Journal*, 6, 3–16.
- Brentano, F. (1862). *Von der mannigfachen Bedeutung des Seienden nach Aristoteles*, Freiburg: Herder, English translation, *On the Several Senses of Being in Aristotle*, by R.George, Berkeley: University of California Press, 1975.
- Brentano, F. (1867). *Die Psychologie des Aristoteles, insbesondere seine Lehre vom Nous Poietikos*, Mainz: Kirchheim; English translation, *The Psychology of Aristotle; in particular his doctrine of the active intellect*, by R.George, Berkeley: University of California Press, 1977.
- Brentano, F. (1872–3). Review of Friedrich Kampe, *Die Erkenntnistheorie des Aristoteles*, in *Zeitschrift für Philosophie und philosophische Kritik*, 59 (1872), 219–38; 60 (1873), 81–127.
- Brentano, F. (1889). *Vom Ursprung sittlicher Erkenntnis*, Leipzig: Duncker and Humblot; English translation, *The Origin of Our Knowledge of Right and Wrong*, by R.M.Chisholm, London: Routledge, 1969.
- Brentano, F. (1924). *Psychologie vom empirischen Standpunkt*, 2nd edn, 2 vols, ed. O.Kraus, Leipzig: Meiner; English translation, *Psychology from an Empirical Standpoint*, ed. L.L.McAlister, London: Routledge, 1973.
- Brentano, F. (1933). *Kategorienlehre*, ed. A.Kastil, Leipzig: Meiner; English translation, *The Theory of Categories*, by R.M.Chisholm and N.Guterman, The Hague: Nijhoff, 1981.
- Brentano, F. (1982). *Deskriptive Psychologie*, ed. R.M.Chisholm and W. Baumgartner, Hamburg: Meiner.
- Brody, B.A. (1980). *Identity and Essence*, Princeton: Princeton University Press.
- Chisholm, R.M. (1976). *Person and Object. A Metaphysical Study*, London: Allen and Unwin.
- Chisholm, R.M. (1978). 'Brentano's Conception of Substance and Accident' in R.M. Chisholm and R.Haller (eds), *Die Philosophie Franz Brentanos*, Amsterdam: Rodopi, 197–210.
- Davie, G. (1977). 'Edmund Husserl and "the as yet, in its most important respect, unrecognised greatness of Hume"' in G.Morice et al. (eds), *David Hume. Bicentenary Papers*, Edinburgh: Edinburgh University Press, 69–76.
- Delius, H. (1963). *Untersuchungen zur Problematik der sogenannten synthetischen Sätze a priori*, Göttingen: Vandenhoeck and Ruprecht.
- Duncker, K. (1941). 'Pleasure, Emotion and Striving', *Philosophy and Phenomenological Research*, 1, 391–430.
- Fabian, R. (ed.) (1985). *Christian von Ehrenfels: Leben und Werk*, Amsterdam: Rodopi.
- Fabian, R. and Simons, P.M. (1986). 'The Second Austrian School of Value Theory' in this volume.
- Fine, K. (1985). 'Husserl's Theory of Dependence', unpublished MS.
- Føllesdal, D. (1979). 'Husserl and Heidegger on the Role of Actions in the Constitution of the World' in E.Saarinen et al. (eds), *Essays in Honour of Jaakko Hintikka*, Dordrecht: Reidel, 365–78.
- Friedman, M. (1953). 'The Methodology of Positive Economics' in M.Friedman, *Essays in Positive Economics*, Chicago: Chicago University Press.
- Gier, N.F. (1981). *Wittgenstein and Phenomenology*, Albany: State University of New York Press.
- Gray, J. (1984). *Hayek on Liberty*, Oxford: Blackwell.
- Haller, R. (1979). *Studien zur österreichischen Philosophie*, Amsterdam: Rodopi.

- Haller, R. (1981). 'Wittgenstein and Austrian Philosophy', English translation of Chapter XII of Haller (1979), in Nyíri (1981, 91–112).
- Hansen, R. (1968). 'Der Methodenstreit in den Sozialwissenschaften zwischen Gustav Schmoller und Karl Menger: seine wissenschaftshistorische und wissenschaftstheoretische Bedeutung' in A. Diemer (ed.), *Beiträge zur Entwicklung der Wissenschaftstheorie in 19. Jahrhundert*, Meisenheim am Glan: Anton Hain.
- Harré, R. and Madden, E.H. (1975). *Causal Powers. A Theory of Natural Necessity*, Oxford: Blackwell.
- Hayek, F.A.von (1937). 'Economics and Knowledge', *Economica*, 4, 33–54; repr. in Hayek (1949, 33–56).
- Hayek, F.A.von (1943). 'The Facts of the Social Sciences', *Ethics*, 54, 1–13; repr. Hayek (1949, 57–76).
- Hayek, F.A.von (1949). *Individualism and Economic Order*, London: Routledge.
- Hayek, F.A.von (1952). *The Counter-Revolution of Science. Studies in the Abuse of Reason*, Glencoe, Ill.: Free Press; repr. by Liberty Press, Indianapolis, 1979.
- Hayek, F.A.von (1962). 'Rules, Perception and Intelligibility', *Proceedings of the British Academy*, 48; repr. in Hayek (1967, 43–65).
- Hayek, F.A.von (1964). 'The Theory of Complex Phenomena' in M. Bunge (ed.), *The Critical Approach to Science and Philosophy*, New York: Free Press; repr. in Hayek (1967, 22–42).
- Hayek, F.A.von (1967). *Studies in Philosophy, Politics and Economics*, London: Routledge.
- Heidegger, M. (1962). *Being and Time*, Oxford: Blackwell, English translation of 7th German edn by J. Macquarrie and E. Robinson.
- Hoche, H.–U. (1973). *Handlung, Bewusstsein und Leib. Vorstudien zu einer rein noematischen Phänomenologie*, Freiburg: Alber.
- Husserl, E. (1891). *Philosophie der Arithmetik. Psychologische und logische Studien*, vol. I (only volume published), Halle: Pfeffer.
- Husserl, E. (1894). 'Psychologische Studien zur elementaren Logik', *Philosophische Monatshefte*, 30, 159–91; repr. in Husserl (1979, 92–113); English translation by D. Willard, *The Personalist*, 58 (1977), 295–320.
- Husserl, E. (1900–1). *Logische Untersuchungen*, 1st edn, 2 vols, Halle: Niemeyer.
- Husserl, E. (1913–22). *Logische Untersuchungen*, 2nd edn, 2 vols, Halle: Niemeyer; English translation, *Logical Investigations*, by J.N. Findlay, London: Routledge, 1970.
- Husserl, E. (1928). 'Vorlesungen zur Phänomenologie des inneren Zeitbewusstseins', ed M. Heidegger, in *Jahrbuch für Philosophie und phänomenologische Forschung*, 9, 367–498; English translation, *The Phenomenology of Internal Time-Consciousness*, by J.S. Churchill, The Hague: Nijhoff, 1964.
- Husserl, E. (1929). 'Syntaktische Formen und syntaktische Stoffe, Kernformen und Kernstoffe', Appendix to 'Formale und transcendente Logik', *Jahrbuch für Philosophie und phänomenologische Forschung*, 10, 269–74; English translation in, *Formal and Transcendental Logic*, The Hague: Nijhoff, 1969, 294–311.
- Husserl, E. (1979). *Aufsätze und Rezensionen (1890–1910)*, ed. B. Rang, The Hague: Nijhoff.
- Hutchison, T.W. (1973). 'Some Themes from *Investigations into Method*' in J.R. Hicks and W. Weber (eds), *Carl Menger and the Austrian School of Economics*, Oxford: Clarendon, 15–37.
- Kauder, E. (1965). *A History of Marginal Utility Theory*, Princeton: Princeton University Press.
- Kaufmann, F. (1930). *Das Unendliche in der Mathematik und seine Ausschaltung. Eine Untersuchung über die Grundlagen der Mathematik*, Leipzig and Vienna: Deuticke; English translation, *The Infinite in Mathematics*, ed. by B.F. McGuinness, Dordrecht: Reidel, 1978.
- Kaufmann, F. (1934). 'Soziale Kollektive', *Zeitschrift für Nationalökonomie*, 1, 294–308.
- Kaufmann, F. (1937). 'Do Synthetic Propositions a Priori Exist in Economics?', *Economica*, 4, 337–42.

- Kirzner, I. (1973). *Competition and Entrepreneurship*, Chicago: University of Chicago Press.
- Kirzner, I. (1978). 'Economics and Error' in L.Spadaro (ed.), *New Directions in Austrian Economics*, Kansas City: Sheed Andrews and McMeel, 57–76, as repr. in Kirzner (1979a, 120–36).
- Kirzner, I. (1979a). *Perception, Opportunity and Profit. Studies in the Theory of Entrepreneurship*, Chicago: University of Chicago Press.
- Kirzner, I. (1979b). 'Hayek, Knowledge and Market Processes' in Kirzner (1979a, 13–33).
- Kirzner, I. (1985). 'Prices, the Communication of Knowledge, and the Discovery Process', in K.R.Leube and R.Zlabinger, *The Political Economy of Freedom. Essays in Honor of F.A.Hayek*, Munich: Philosophia, 193–206.
- Kripke, S. (1972). 'Naming and Necessity' in D.Davidson and G.Harman (eds), *Semantics of Natural Language*, Dordrecht: Reidel, 253–355 and 763–69; 2nd revised edn, *Naming and Necessity*, Oxford: Blackwell, 1980.
- Lachmann, L.M. (1969). 'Methodological Individualism and the Market Economy' in E.Streissler *et al.* (eds), *Roads to Freedom. Essays in Honour of Friedrich A.von Hayek*, London: Routledge, 89–104; as repr. in Lachmann (1977, 149–65).
- Lachmann, L.M. (1977). *Capital, Expectations and the Market Process. Essays on the Theory of the Market Economy*, ed. W.E.Grinder, Kansas City: Sheed Andrews and McMeel.
- Linke, P.F. (1901). *D.Humes Lehre vom Wissen. Ein Beitrag zur Relationstheorie im Anschluss an Locke und Hume*, Leipzig: Engelmann.
- Loux, M.J. (1976). 'The Concept of a Kind', *Philosophical Studies*, 29, 53–61.
- Meinong, A.von (1882). *Hume-Studien II. Zur Relationstheorie*, Vienna: Braumüller, repr. in Meinong's *Gesamtausgabe*, vol. II, Graz: Akademische Druckund Verlagsanstalt, 1971, 1–172.
- Menger, C. (1871) *Grundsätze der Volkswirtschaftslehre*, Vienna: Braumüller, repr. as vol. I of Menger, *Gesammelte Werke*, ed. F.A.von Hayek, Tübingen: Mohr, 1968; English translation, *Principles of Economics*, by J.Dingwall and B.F. Hoselitz, Glencoe, Ill.: Free Press, 1950.
- Menger, C. (1883). *Untersuchungen über die Methode der Socialwissenschaften und der politischen Ökonomie insbesondere*, Leipzig: Duncker and Humblot; repr. in Menger, *Gesammelte Werke*, vol. II (1969); English translation, *Problems of Economics and Sociology*, by F.J.Nock, Urbana: University of Illinois Press, 1963.
- Mises, L.von (1949). *Human Action. A Treatise on Economics*, New Haven: Yale University Press (based on Mises, *Nationalökonomie. Theorie des Handelns und Wirtschaftens*, Geneva: Editions Union, 1940; repr. Munich: Philosophia Verlag, 1980).
- Mises, L.von (1962). *The Ultimate Foundations of Economic Science. An Essay on Method*, Princeton: Van Nostrand.
- Mises, L.von (1969). *The Historical Setting of the Austrian School of Economics*, New Rochelle: Arlington House.
- Mulligan, K. (ed.) (1986). *Speech Act and Sachverhalt: Reinach and the Foundations of Realist Phenomenology*, Dordrecht/Boston/Lancaster: Nijhoff.
- Mulligan, K. and Smith B. (1985). 'Franz Brentano and the Ontology of Mind', *Philosophy and Phenomenological Research*, 45, 629–44.
- Mulligan, K., Simons, P.M. and Smith, B. (1984). 'Truth-Makers', *Philosophy and Phenomenological Research*, 44, 287–321.
- Murphy, R.T. (1980). *Hume and Husserl Towards Radical Subjectivism*, The Hague: Nijhoff.
- Nyíri, J.C. (1977). 'Wittgenstein's New Traditionalism', in *Essays on Wittgenstein in Honour of G.H.von Wright (Acta Philosophia Fennica, 28)*, Amsterdam: North-Holland, 503–12.
- Nyíri, J.C. (1979). 'Wittgenstein's Spätwerk im Kontext des Konservatismus', in H.J. Heringer and M.Nedo (eds), *Wittgensteins geistige Erscheinung (Ludwig Wittgenstein Schriften, Beiheft 3)*, Frankfurt: Suhrkamp, 83–101; English translation, 'Wittgenstein's Later Work in Relation to Conservatism', in Brian McGuinness (ed.), *Wittgenstein and his Times*, Oxford: Blackwell, 1982, 44–68.

- Nyíri, J.C. (1982). 'Wittgenstein 1929–1931: Die Rückkehr', *Kodikas*, 4–5, 115–36. Partial English translation as 'Wittgenstein as a Conservative Philosopher', *Continuity*, 8, 1–23.
- Nyíri, J.C. (ed.) (1981). *Austrian Philosophy: Studies and Texts*, Munich: Philosophia.
- Oakeshott, M. (1962). *Rationalism in Politics and Other Essays*, London: Methuen.
- Otaka, T. (1932). *Grundlagen zur Lehre vom sozialen Verband*, Vienna: Springer.
- Polanyi, M. (1958). *Personal Knowledge. Towards a Post-Critical Philosophy*, London: Routledge.
- Radden, G. (1978). 'Can "Area" be taken out of the Waste-Basket?' in W.Abraham (ed.), *Valence, Semantic Case and Grammatical Relations*, Amsterdam: Benjamins, 327–37.
- Reinach, A. (1911). 'Kants Auffassung des Humeschen Problems'. *Zeitschrift für Philosophie und philosophische Kritik*, 141, 176–209; repr. in Reinach (1921, 1–35). English translation by J.N.Mohanty in *Southwestern Journal of Philosophy*, 7 (1976), 161–88.
- Reinach, A. (1913). 'Die apriorischen Grundlagen des bürgerlichen Rechts', *Jahrbuch für Philosophie und phänomenologische Forschung*, 1, 685–847; repr. in Reinach (1921, 166–350).
- Reinach, A. (1921). *Gesammelte Schriften*, Halle: Niemeyer, new edition forthcoming, Munich: Philosophia Verlag.
- Rossi-Landi, F. (1975). *Linguistics and Economics*, Paris and The Hague: Mouton.
- Rothbard, M.N. (1957). 'In Defense of "Extreme Apriorism"', *Southern Economic Journal* 23, 315–20.
- Rothbard, M.N. (1975). 'New Light on the Prehistory of the Austrian School' in E.G. Dolan (ed.), *The Foundations of Modern Austrian Economics*, Kansas City: Sheed and Ward, 52–74.
- Rothbard, M.N. (1979). *Individualism and the Philosophy of the Social Sciences*, San Francisco: Cato Institute.
- Rug, R. and Mulligan, K. (1985). 'Theorie und Trieb. Bemerkungen zu Ehrenfels' in Fabian (1985), 214–46.
- Ryle, G. (1949). *The Concept of Mind*, London: Hutchinson.
- Salmon, C.V. (1929). 'Central Problems of David Hume's Philosophy', *Jahrbuch für Philosophie und phänomenologische Forschung*, 10, 1929, 299–449.
- Schlick, M. (1930–1). 'Gibt es ein materiales Apriori?' in *Wissenschaftlicher Jahresbericht der philosophischen Gesellschaft an der Universität zu Wien für das Vereinsjahr 1930/31*; repr. in *Gesammelte Aufsätze 1925–36*, Vienna: Gerold, 1938 (repr. Hildesheim: Olms, 1969), 20–30; English translation in *Philosophical Papers*, vol. II, Dordrecht: Reidel, 1979, 161–70.
- Shackle, G.L.S. (1972). *Epistemics and Economics*, Cambridge: Cambridge University Press.
- Simons, P.M. (1982). 'The Formalisation of Husserl's Theory of Wholes and Parts' in B.Smith (1982, 113–59). Vienna: Holder-Pichler-Tempsky.
- Smith, B. (1978). 'Wittgenstein and the Background of Austrian Philosophy' in *Wittgenstein and his Impact on Contemporary Thought*, Dordrecht: Reidel, 31–35.
- Smith, B. (1981a). 'The Production of Ideas: Notes on Austrian Intellectual History' in B.Smith (ed.), *Structure and Gestalt Philosophy and Literature in Austria-Hungary*, Amsterdam: Benjamins, 211–34.
- Smith, B. (1981b). 'Logic, Form and Matter', *Proceedings of the Aristotelian Society*, Supplementary Volume 55, 47–63.
- Smith, B. (ed.) (1982). *Parts and Moments. Studies in Logic and Formal Ontology*, Munich: Philosophia.
- Smith, B. (1982a). 'Introduction to Adolf Reinach, On the Theory of the Negative Judgment' in B.Smith (1982, 289–314).
- Smith, B. (1982b) 'Annotated Bibliography of Writings on Part-Whole Relations since Brentano' in B.Smith (1982, 481–552).
- Smith, B. (1984). 'Acta cum fundamentis in re', *Dialectica*, 38, 157–78.
- Smith, B. (1985). 'The Theory of Value of Christian von Ehrenfels' in Fabian (1985, 150–71).
- Smith, B. (1986). 'On the Cognition of States of Affairs' in Mulligan (1986).

- Smith, B. and Mulligan K. (1982). 'Pieces of a Theory' in Smith (1982, 15–110).
- Smith, B. and Mulligan, K. (1983). 'Framework for Formal Ontology', *Topoi*, 3, 73–85.
- Sokolowski, R. (1967–8). 'The Logic of Parts and Wholes in Husserl's *Investigations*', *Philosophy and Phenomenological Research*, 28, 537–53; repr. in J.N.Mohanty (ed.), *Readings on Husserl's Logical Investigations*, The Hague, Nijhoff, 1977, 94–111.
- Sokolowski, R. (1971). 'The Structure and Content of Husserl's *Logical Investigations*', *Inquiry*, 14, 318–47.
- Sokolowski, R. (1974). 'Parts and Wholes' in R.Sokolowski, *Husserlian Meditations*, Evanston: Northwestern University Press, 9–17.
- Spiegelberg, H. (1968). 'The Puzzle of Wittgenstein's *Phänomenologie* (1929-?)', *American Philosophical Quarterly*, 5, 244–56.
- Steele, D.R. (1981). 'Spontaneous Order and Traditionalism in Hayek', unpublished MS.
- Stumpf, C. (1873). *Über den psychologischen Ursprung der Raumvorstellung*, Leipzig: Hirzel.
- Walras, L. (1965). *Correspondence of Léon Walras and Related Papers*, ed. W. Jaffé, vol. II, Amsterdam: North-Holland.
- Whitehead, A.N. and Russell, B.A.W. (1910–13). *Principia Mathematica*, Cambridge: Cambridge University Press.
- Wiggins, D. (1980). *Sameness and Substance*, Oxford: Blackwell.
- Willard, D. (1984). *Logic and the Objectivity of Knowledge*, Athens, Ohio: Ohio University Press.
- Wittgenstein, L. (1953). *Philosophical Investigations*, Oxford: Blackwell.
- Wittgenstein, L. (1961). *Tractatus Logico-Philosophicus*, with translation by D.F. Pears and B.F.McGuinness, London: Routledge, 1961 (1st German edn, 1921).
- Wittgenstein, L. (1975). *Philosophical Remarks*, English translation by R. Hargreaves and R.White, Oxford: Blackwell.
- Wittgenstein, L. (1977). *Remarks on Colour*, translated by L.L.McAlister and M. Schättle, Oxford: Blackwell, 1977.
- Wolterstorff, N. (1980). *Works and Worlds of Art*, Oxford: Clarendon.