On Certainty and Uncertainty, Or: How Rational Can Our Expectations Be?

Hans-Hermann Hoppe

> The honest historicist would have to say: Nothing can be asserted about the future.
>
> Ludwig von Mises[1]
>
> The future is to all of us unknowable.
>
> Ludwig Lachmann[2]

I

It is possible to imagine a world characterized by complete certainty. All future events and changes would be known in advance and could be predicted precisely. There would be no errors and no surprises. We would know all of our future actions and their exact outcomes. In such a world, nothing could be learned, and accordingly, nothing would be *worth knowing.* Indeed, the possession of consciousness and knowledge would be useless. For why would anyone want to know anything if all future actions and events were completely predetermined and it would not make any difference for the future course of events whether or not one possessed this or any knowledge? Our actions would be like those of an automaton—and an automaton has no need of any knowledge. Thus, rather than representing a state of perfect knowledge, complete certainty actually eliminates the value of all knowledge.

Obviously, we do not inhabit a world of complete certainty. We cannot predict all of our future actions and their outcome. There are in our world surprises. Our knowledge of future events and outcomes is less than perfect. We make errors, can distinguish between failure and success, and are capable of learning. Unlike for an automaton, for us knowledge is valuable. To know something

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[1] Ludwig von Mises, *Theory and History* (Auburn, Ala.: Ludwig von Mises Institute, 1985), p. 203.

[2] Ludwig Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature* 14 (1976): 55–59.

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or not makes a difference. Knowledge is not of predetermined events and states of affairs, but knowledge of how to *interfere with* and *divert* the natural course of events so as to *improve* our *subjective well-being.* Knowledge does not help us predict an unalterable course of events but is a tool of purposefully *changing* and hopefully *bettering* future outcomes and events. Our actions, unlike the operations of an automaton, are not a series of predetermined events which the knower cannot influence and with respect to whose outcome he is indifferent. Rather, our actions are sequences of decisions (choices) of altering the predetermined course of events to our advantage. We are never neutral or indifferent toward the course of future events. Instead, we always *prefer* one course of events over another, and we use our knowledge to bring about our preferences. For us, knowledge is practical and effective, and while it is imperfect and subject to error, it is the only means of achieving human betterment.

II

From the recognition of the fact that perfect foresight eliminates the very need of knowing and knowers, and that such a need only arises if, as in our world, foresight is less than perfect, and insofar as knowledge is a means of bringing about preferences, it does not follow that everything is uncertain. Quite to the contrary. In a world where everything is certain, the idea of certainty would not even come into existence. The idea of certain knowledge requires, as its logical counterpart, the idea of uncertainty. Certainty is defined in contrast to uncertainty, and not everything can be certain. Likewise, uncertainty cannot be defined without reference to certainty, and not all knowledge can be uncertain. It is this latter part of one and the same conclusion which critics of the model of perfect foresight, such as Ludwig Lachmann, have failed to recognize. From the correct insight that we do not inhabit a world of perfect knowledge it does not follow that we live in a world of perfect uncertainty; i.e., in a world with no certainty at all, and from the fact that I cannot predict all of my and others' future actions it does not follow that I can say nothing at all about them. In fact, even if I do not know everything about my future actions, for instance, I do know something to be true about each and every one of them: that I will, as long as I act, employ my knowledge to interfere in the natural course of events so as to—hopefully—bring about a more preferable state of affairs.

Later on, more will be said about the importance of this insight. But it is worth emphasizing from the outset that the idea of perfect or radical uncertainty (or ignorance) is either openly contradictory insofar as it is meant to say "everything about the future is uncertain except that there will be uncertainty—about this we are certain," or it entails an implicit contradiction if it is meant to say

"everything is uncertain and that there is nothing but uncertainty, is uncertain, too." (I do know such and such to be the case, and I do not know whether such and such is the case or not.) Only a middle-of-the-road position between the two extremes of perfect knowledge and perfect ignorance is consistently defensible[3]: There exists uncertainty but this we know for certain. Hence, also certainty exists, and the boundary between certain and uncertain knowledge is certain (based on certain knowledge).

III

Nothing about the external, physical world is or can be known with certainty—except for those rather abstract but universal and real things that are already implied in the certain knowledge of acting and action: that this must be a world of objects and object-qualities (predicates), of countable units, physical magnitudes, and quantitative determinateness (causality). Without objects and object-qualities there can be no such thing as propositions; without countable units there can be no arithmetic; and without quantitative determinateness—the fact that definite quantities of causes only bring about definite (limited) effects—there can be no ends and means (goods); i.e., no active interference in the course of external events with the purpose of bringing about a more highly-valued end (preferred effect). Apart from the laws of propositional logic, arithmetic, and causality, however, all other knowledge about the external world is uncertain (*a posteriori*). We do not and cannot know with certainty (*a priori*) what kinds of objects and object-qualities exist, how many units of what physical dimensions there are, and what quantitative cause-and-effect relationships exist (or do not exist) between various magnitudes of various objects. All of this must be learned from experience. Moreover, experience is invariably past experience, that of past events. It cannot reveal whether or not the facts and relationships of the past will also hold in the future. We cannot but assume that this will be the case, by and large. But it cannot be ruled out categorically that we might be mistaken, and that the future will be so different from the past that all of our past knowledge will be entirely useless. It is possible that none of our instruments or machines will work anymore tomorrow, that our houses will collapse on top of us, that the earth will open up, and that all of us will perish. It

[3]See Oskar Morgenstern, "Perfect Foresight and Economic Equilibrium," in *Selected Economic Writings of Oskar Morgenstern*, A. Schotter, ed. (New York: New York University Press, 1976), esp. p. 175; Roger W. Garrison, "Austrian Economics as Middle Ground," in *Method, Process, and Austrian Economics*, Israel Kirzner, ed. (Lexington, Mass.: Lexington Books, 1982); idem, "From Lachmann to Lucas: On Institutions, Expectations, and Equilibrating Tendencies," in *Subjectivism, Intelligibility and Economic Understanding: Essays in Honor of Ludwig M. Lachmann* (New York: New York University Press, 1986).

is in this sense that our knowledge of the external physical world must be ultimately regarded as uncertain.

Notwithstanding this ultimate uncertainty of our knowledge concerning the external world, however, as a result of contingent circumstances, the relative stability and regularity in the concatenation of external objects and events, it has been possible for mankind to accumulate a vast and expanding body of practically certain knowledge. This knowledge does not render the future predictable, but it helps us predict the effects to be produced by definite actions. Even though we do not know *why* things work the way they do, and whether or not they *must* always work in this way, we do know with complete practical certitude *that* and *how* certain things will operate now and tomorrow. One would never know it from the writings of the apostles of radical uncertainty, but an innumerable and growing number of events (outcomes) can be produced literally at will and predicted with almost perfect exactitude. My toaster will toast, my key will open the door, my computer, telephone, and fax will work as they are supposed to, my house will protect me from the weather, cars will drive, airplanes will fly, cups will still hold water, hammers will still hammer, and nails will still nail. Much of our future is, practically speaking, perfectly certain. Every product, tool, instrument or machine represents a piece of practical certainty. To claim, instead, that we are faced with radical uncertainty and that the future is to all of us unknowable is not only self-contradictory but also appears to be a position devoid of common sense.

IV

Our practical certainty concerning future outcomes and events extends even further. There are many future events about whose outcome we are practically certain because we literally know how to *produce* them (the outcome is under our complete practical control). We can also predict with practical certainty a great and growing number of outcomes outside and beyond anyone's control. Sometimes my tools, machines, and products are defective. My toaster does not toast, my telephone is silent, a hurricane or an earthquake has destroyed my house, my airplane crashes, or my cup is broken. I had no knowledge that this would happen to me here and now, and hence I could not have acted differently from the way I did. I am thus taken by surprise. But my surprise and my uncertainty must not be complete. For while I may know absolutely nothing about the single event—this cup will now break, this airplane will now crash, my house will be destroyed in an earthquake two years from now—and thus cannot possibly predict and alter any such event, I may know practically everything with respect to the whole class of events (broken cups, crashing airplanes, earthquakes) of which this single event is a member. I may know, based on the observation of

long-run frequency distributions, that airplanes of a certain type crash every so often, that one in ten thousand cups produced is defective, that machines of such and such a type function on the average for ten years, and that an earthquake strikes a certain region on the average twice a year and destroys, in the long run, one percent of the existing housing stock per year. Then, although the single event still comes as a surprise, I do know with practical certainty that surprises such as these exist and how frequent they are. I am surprised neither by the type of surprise nor its long-run frequency. My surprise is only relative. I am surprised that such and such happens here and now rather than elsewhere or later. But I am not surprised that it happens at all, here, there, now, or later. In thus delineating the range and frequency of possible surprises, my uncertainty concerning the future, while not eliminated, is systematically reduced.

Cases of limited surprises or reduced uncertainty are, of course, what Frank Knight first classified as "risk" (as opposed to "uncertainty"), and what Ludwig von Mises, building on Knight and the work on the foundations of probability theory of his mathematician brother, Richard von Mises, would later define as "class probability" (as opposed to "case probability")[4]: "Class probability means: We know or assume to know, with regard to the problem concerned, everything about the behavior of a whole class of events or phenomena; but about the actual singular events or phenomena we know nothing but that they are elements of this class."[5] I know nothing about whether this or that cup will be broken, and I know nothing about whether my house or your house will be destroyed by a tornado within the next year, but I do know from the observation of long-run frequency distributions regarding cups and tornadoes, for instance, that no more than one in ten thousand cups is defective and that of a thousand houses in a given territory, no more than one per year on the average will be destroyed. If, based on this knowledge, I adopted a strategy of always predicting that the next cup will not be broken, and that my house will not be destroyed next year, I would commit errors. But in the long run, the strategy would assure more successes than errors: my errors would be 'correct' errors. On the other hand, if I adopted the strategy of predicting always that the next cup will be broken and my house destroyed, I might well be correct. But in the long run this strategy would assuredly fail: I would be erroneously correct. Whenever the conditions of class probability are met and we do not know enough to avoid mistakes altogether but enough to make

[4]See Frank Knight, *Risk, Uncertainty, and Profit* (Chicago: University of Chicago Press, 1971), esp. chap. 7; Richard von Mises, *Probability, Statistics, and Truth* (London: George Allen and Unwin, 1957), esp. chaps. 1 and 3; Ludwig von Mises, *Human Action: A Treatise on Economics* (Chicago: Henry Regnery, 1966), esp. chap. 6.

[5]Ibid., p. 109.

only correct mistakes, it is possible to take out insurance. As a producer of cups, for instance, I know that on the average I will have to produce 10,001 cups in order to have 10,000. I cannot avoid broken cups, but I can insure myself against the risk of broken cups by including it, as a regularly-occuring loss, in my cost-accounting, and by thus associating a correspondingly-higher cost with my production of cups. Similarly, I cannot avoid tornadoes, but I can insure myself against them. Because tornado losses are large and infrequent in relation to the size and operations of my household, it would be difficult (although not impossible) to provide insurance internally (within my household). But it is possible to pool my tornado risk with yours and that of other households or firms in a given region. Not one of us knows who will be affected by the risk in question, but based on the knowledge of the objective long-run frequency of tornadoes and tornado damage for the entire region, it is possible to calculate a premium against payment of which each one of us can be insured for this hazard.

It is not only the knowledge incorporated in our tools, instruments, and machines, then, which provides practical certain information about our future: in this case, knowledge of how we will generate various singular events. Also, the knowledge incorporated in any form of insurance, whether internally practiced or by method of pooling, represents practical certain knowledge: in this case, knowledge of how to be prepared for various classes of events whose individual occurrence is beyond anyone's control. To be sure, while the conditions of class probability and insurability can be stated exactly, with certainty, the question of whether or not there exist insurable events, which ones, and the various expenses of insuring against them, cannot be answered with certainty. On the one hand, the knowledge of objective probability distributions must be acquired through observational experience, and as is the case for all knowledge based on such experience, we can never know whether or not past regularities will also hold in the future. We may have to make revisions. On the other hand, even in order to collect such information, it is necessary that various singular events be classified from the outset as falling into one and the same class (of events). This cup or tornado and that cup or tornado are both members of the same class of cup or tornado. Yet any such classification is tainted with uncertainty. The joint classification of a series of singular events is only correct (for the purpose of insurance) if it holds that I do not know more about any of the single class members than that each one of them is a member of the same class. If I learned, however, that one cup was made of clay A and another from clay B, for instance, and that this fact makes a difference for the long-run frequency of defects, my initial classification would become faulty. Similarly, I might learn from experience that tornado damage on the eastside of a given valley is systematically higher than on its

western side. In this case, too, my original classification would have to be changed, new and revised classes and subclasses of insurable events would have to be formed, and new and different insurance premiums would have to be calculated. These uncertainties notwithstanding, however, it deserves to be pointed out that as a contingent fact of human life, the actual range of insurance, and hence of relatively certain information about future events and outcomes, is vast and growing: We know how many ships will likely sink, how many airplanes crash, how often it will rain or shine, how many people of a given age will die, how many hot water-boilers will explode, how many people will be struck by cancer, that more women than men will be affected by breast cancer, that smokers will die earlier than non-smokers, that Jews suffer more frequently from Tay-Sachs disease than Gentiles, and Blacks more from sickle cell anemia than Whites, that tornadoes, earthquakes, and floods occur here but not there, etc. Our future is most definitely *not* unknowable.

V

Little of this ever attracts the attention of theoreticians of radical uncertainty. The existence of a practical working technology and of a vast and flourishing insurance industry constitutes an embarrassment for any theory of radical uncertainty. If pressed sufficiently hard, of course, Lachmann and his followers would probably admit the undeniable and, as if all of this did not matter, quickly move onto another problem. So far, it might be pointed out with some justification, attention has been directed almost exclusively either to the technological rather than the economic aspect of action—to accidents rather than to actions. The phenomenon of radical uncertainty, however, arises in a different arena. While it may be possible to predict the physical outcomes *if* such and such an action is taken, and while it may be possible also to predict the pattern of various physical events entirely outside of human control, matters are completely different when it comes to predicting our own future actions. I can predict that my toaster will toast if I employ it in a certain way, and I can predict that toasters generally do not work longer than ten years, but presumedly I cannot predict whether or not I will actually employ my toaster in the future, nor could I have predicted before it actually happened that I ever wanted—and constructed or bought—a toaster in the first place. It is here, in the arena of human choices and preferences, where supposedly radical uncertainty reigns.

Lachmann and his followers are correct in emphasizing that the problem of predicting my and others' future actions is categorically different from that of predicting the physical outcomes of *given* actions or of *natural* events. In fact, the destructive part of Lachmann's argument is largely correct even though it is

hardly new (and entirely insufficient to establish his constructive thesis of radical uncertainty).[6] This is the proof that not only the idea of perfect foresight, underlying general equilibrium theory, is mistaken, but likewise the idea, advanced by rational expectations theorists, that all human uncertainty can be subsumed under the heading of insurable risks: that the uncertainty concerning our future actions in particular is no different from that regarding the future of natural events, such that we can, based on our observation of long-run frequency distributions, predict their general pattern in the same way as we can predict the pattern of earthquakes, tornadoes, cancer, or car accidents, for example.

As Lachmann points out, and as Frank Knight and Ludwig von Mises explained long before, the new theory of rational expectations suffers from essentially the same deficiency as the old general equilibrium model of perfect foresight: it cannot account for the phenomenon of learning and hence, of knowledge and consciousness. Rational expectation theorists only replace the model of man as a never-failing automaton with that of a machine subject to random errors and breakdowns of known types and characteristics. Rather than possessing perfect knowledge of all singular (individual) actions, man is assumed to possess merely perfect knowledge of the probability distribution of all future classes of actions. He is assumed to commit forecasting errors, but his errors are always correct errors. False predictions never require a revision of a person's given stock of knowledge. There is no learning from success or failure and, hence, there is no change, or only predictable change, in the future pattern of human actions. Such a model of man, Knight, Mises, and Lachmann agree, is no less faulty than the one it is supposed to replace. It not only stands in manifest contradiction to the facts, but any proponent of this model is also inevitably caught up in logical contradictions.

First off, if our expectations (predictions) concerning our future actions were indeed as rational as rational expectation theorists believe them to be, this would imply that it would be possible to give an exhaustive classification of all possible actions (just as one could list all possible outcomes of a game of roulette or all possible locations of a physical body in space). For without a complete enumeration of all possible types of actions there can be no knowledge of their relative frequencies. Obviously, no such list of all possible human actions exists, however. We know of a great number of types of action performed then or now, but this list is always open and incomplete. Indeed, actions are designed to alter the natural course of events in order to bring about something as yet non-existent. They are the result of creative imagination. New and different actions are

[6]See Ludwig Lachmann, *The Market as an Economic Process* (Oxford: Basil Blackwell, 1986), chap. 2, esp. pp. 27–29; also Gerald P. O'Driscoll, Jr., and Mario J. Rizzo, *The Economics of Time and Ignorance* (Oxford: Basil Blackwell, 1985), chap. 2, esp. pp. 24–26.

constantly added to the list, and old ones dropped. For instance, new or different products and services are constantly added to the pre-existing list of products and services, while others disappear from the list. However, something as yet non-existent—a new product—cannot appear on any list until after it has been imagined and produced by someone. Even the producer of a new product X does not know—and could not have predicted—anything regarding the relative frequency of actions such as the supply of or the demand for X before he had actually had the new idea of X—yet any new product idea and any new product must necessarily upset (alter) the entire pre-existing pattern of the relative frequency of various forms of action (and of relative prices).

Moreover, if we could indeed predict our future actions, either perfectly or subject only to random errors, then it would have to be implicitly assumed as well that every actor must possess the same (identical) knowledge as everyone else. I must know what you know, and you must know what I know. Otherwise, if our knowledge were somehow different, it would be impossible that both our predictions could be equally correct or else equally correctly wrong. Instead, either my predictions would have to be correct and yours would have to be wrong, or vice versa, and either my predictions or yours then would have to be wrongly wrong. The error (mine or yours) would not be random but systematic, for it could have been avoided had I (or you) known what you (or I) knew. This precisely is the case, however: our knowledge is not identical. You and I may know some things in common, but I also know things (about myself, for instance) that you do not know, and vice versa. Our knowledge, and hence our predictions and expectations concerning future actions, are in fact different. Yet if different actors possess different knowledge, the likelihood (frequency) of their predicting correctly or incorrectly will be different as well. Hence, neither the success nor the failure of our predictions can be considered purely random but will have to be ascribed instead, at least partially, to a person's more-and-better or less-and-worse individual knowledge.

Most importantly, however, the rational expectations' model of man as a machine which is endowed with perfect knowledge of the relative frequency distribution of all of its possible future classes of actions (but that knows nothing about any particular action falling into any one of these classes except that it is a member of such and such a class and that this class of action has such and such a relative frequency) is fraught with inescapable internal contradictions. On the one hand, as far as the assumption that all actors possess identical knowledge is concerned, any proponent of this view is caught in a performative contradiction: his words are belied by the very fact of uttering them. For there would be no need to say what he is saying if everyone else already knew what he knows. Indeed, if everyone's knowledge were

identical to everyone else's, no one would have to communicate at all. That men *do* communicate demonstrates that they must assume instead, contrary to the stated assumption, that their knowledge is not identical. Rational expectations theorists, too, by virtue of presenting their ideas to the reading public, must obviously assume that the public does not yet know what *they* already know, and hence, that the public's predictions concerning the future course of actions—in contrast to their own predictions—will be systematically flawed until it has successfully absorbed the lesson of rational expectations.

Similarly, anyone proposing the assumption of a given list of all possible forms of human actions, with its implied denial of all learning, is caught up in contradictions. For one, if his knowledge was indeed given, this would imply assuming that he already knows everything that he will ever know (otherwise, if he could learn something tomorrow that is not already known today, his list of possible classes of actions could no longer be assumed to be complete). Yet if this were the case, then inevitably the question arises how he ever came to know *this*. If he cannot learn, it would appear that he also could not possibly have *learned* to know that there is no human learning. Rather, this knowledge must have always been there, as part of his initial natural endowment, like his hands and fingers. But this idea—that our knowledge is given as our hands and fingers are given—is absurd. Knowledge is always the knowledge *of* something: the knowledge of hands and fingers, for instance, and it cannot possibly be conceived of as anything but sequentially (in time) *acquired* knowledge (as something based upon and learned about some logically and temporarily prior facts). Moreover, the denial of the possibility of learning is again belied by the proponent's action. In proposing his thesis, he cannot but assume that others can understand and possibly learn from him something that they do not yet know. And in waiting for and listening to the response of others to his proposition—by engaging in any form of argumentation—he cannot but also assume that he himself can possibly learn from what others have to say. Otherwise, if he already knew what they would respond and how he would respond to their responses, and so on, there would simply be no purpose to the whole enterprise of communication and argumentation. Indeed, if he knew in advance all of his arguments (propositions) and all possible replies and counterreplies (or at least their relative frequency distribution), it would also be senseless to even engage in any form of internal, intra-personal argumentation, because his knowledge would already be complete, and he would already possess the answers to all questions. Of course, the rational expectation theorists do engage in argumentation—and no one could argue that he cannot argue without thereby falling into a contradiction—and they do conduct research (which no one would do if he already knew everything there is to know). Hence, they demonstrate through

their own actions that their model of man must be considered systematically flawed, and that man must think of himself as capable of learning something as yet unknown (unpredictable).

VI

What are the consequences as regards the nature of the social sciences that follow from the recognition of man as a learning actor? It is in the answer to this question that Knight and Mises on the one hand, and Lachmann on the other, ultimately part company. They would agree only on one consequence: that there exists a categorical difference between the logic of the natural sciences and that of the social sciences. Indeed, it follows from the recognition of man as a learning actor that the (still) dominating positivist (or falsificationist) philosophy, which assumes that all (empirical) sciences follow the same method—a uniform logic of science—is self-contradictory.[7]

It is one thing to predict the physical outcomes resulting from a given action (technology) or to predict the future pattern of a given class of natural events outside an actor's physical control (insurance). It is an entirely different matter to predict what action an actor will actually perform or against which classes of natural events he will actually want to insure himself. As far as the former problem is concerned, there is no need to dispute what positivism has to say: An actor wants to produce a certain physical result and he has an idea about what type of interference of his is capable of bringing about such a change. His idea is a hypothetical one. The actor never can be ultimately certain that his action will lead to the desired result. He can only try and see what happens. If his action is successful and the anticipated outcome is achieved, his idea is confirmed. However, even then the actor cannot be sure that the same interference will always bring about the same result. All that a confirmation adds to his previous knowledge is the certitude that his hypothesis so far has not yet been shown to be faulty. On the other hand, if his action fails, his idea is falsified and a new, revised or amended hypothesis will have to be formed. Thus, even if certainty is out of human reach, it is still possible, through a process of trial and error, that an actor may continuously improve his technological know-how. Likewise, as regards natural events outside one's control, insofar as an actor is not indifferent (unconcerned) about such events but prefers the presence of any such event over its absence, or vice versa, he may form an idea concerning the relative frequency distribution of the entire class of the particular event in question. This idea, based

[7]See Hans-Hermann Hoppe, *Kritik der kausalwissenschaftlichen Sozialforschung* (Opladen: Westdeutscher Verlag, 1983); idem, *The Economics and Ethics of Private Property* (Boston: Kluwer, 1993), chap. 7.

as it is on the joint classification of singular events and the observation of long-run frequencies, is hypothetical, too. In this case, however, the occurrence of a single favorable or unfavorable event does not constitute a confirmation or a falsification of one's hypothesis. Rather, because the hypothesis refers to an entire class of favorable or unfavorable events and does not state anything regarding any singular event except that it is a member of this class, the question whether or not the course of future events confirms or falsifies one's idea can only be decided based on the observation of a large number of cases. This fact, although seemingly less than completely satisfying, does not imply that the experiences of confirmation and falsification, of success and failure, and of scientific progress proceeding through trial and error are any less real, however. In this case, whether or not one's hypothesis is confirmed or falsified can be decided based on the 'hard' and objective fact that an insurer—whether a single individual who insures himself over time through personal savings or an agency that insures a class of individuals across time against payment of a premium—either has, or has not, saved or collected premiums sufficient to cover the cost resulting from the occurrence of each and all unfavorable singular events. If he has, his hypothesis is temporarily confirmed, and if he has not, his hypothesis is falsified, and he will either have to change his frequency estimate and increase his savings or premiums, or he will have to revise his classification of singular events and introduce a new, further differentiated-system of classes and subclasses. Thus, even if certainty is again unattainable, continuous scientific progress is possible also with respect to man's ability to forecast accidents (natural events outside of his control).

Granted that this is so, however, the question arises if it is also true, as positivists maintain, that man can be thought of as following the same logic—of hypothetical conjecture, confirmation or falsification, and of scientific progress proceeding through a process of trial and error—when it comes to the problem of predicting his own future actions. But this must be categorically denied. For in proceeding in the way he does regarding the world of physical events inside or outside his control, an actor must necessarily conceive of himself as capable of learning (otherwise, why conduct any research at all?). Yet if man can learn and possibly improve his predictive mastery over nature, it must be assumed that he can not only alter his knowledge, and hence his actions, in the course of time, but also that these possible changes must be regarded by him as in principle unpredictable (such that any progress in his ability to predict these changes must be considered systematically impossible). Or putting things somewhat differently, if man proceeds, as positivists say he does, to interpret a predictive success as a confirmation of his hypothesis such that he would, given the same circumstance, employ the same knowledge in the future, and if he interprets a predictive failure

as a falsification such that he would not employ the same but a different hypothesis in the future, he can only do so if he assumes—even if only implicitly—that the behavior of the objects under consideration does not change over the course of time. Otherwise, if their behavior were not assumed to be time-invariant—if the same objects were to behave sometimes this way and at other times in a different way—no conclusion as to what to make of a predictive success or failure would follow. A success would not imply that one's hypothesis had been temporarily confirmed, and hence, that the same knowledge should be employed again in the future. Nor would any predictive failure imply that one should *not* employ the same hypothesis again under the same circumstances. But this assumption—that the objects of one's research do not alter their behavior in the course of time—*cannot* be made with respect to the very subject engaging in research without thereby falling into a self-contradiction. For in interpreting his successful predictions as confirmations and his failed predictions as falsifications, the researcher must necessarily assume *himself* to be a learning subject—someone who can learn about the behavior of objects conceived by him as non-learning objects. Thus, even if everything else may be assumed to have a constant nature, the researcher cannot make the same assumption with respect to himself. *He* must be a different person after each confirmation or falsification than he was before, and it is then *his* nature to be able to change his personality over the course of time.[8]

But if the positivist-falsificationist view of a uniform logic of science is rejected and the logic of the social sciences considered categorically different from that applying to the natural sciences, as Knight, Mises, and Lachmann would agree, then what is the method appropriate for the study of human action? It is here that Knight and Mises would fundamentally disagree with Lachmann. Knight and Mises argue—correctly, as will be seen—that it does not follow from the recognition of man as a learning actor that everything concerning the future of human actions must be considered unknowable—indeed, they would consider such a view self-contradictory—but rather only that one must admit the existence of two categorically-different branches within the social sciences: of *apodictic* (*aprioristic*) theory (economics) on the one hand and of history and

[8]Likewise, it would be self-contradictory for me to state about my actions performed over the course of time what would have to be assumed if I wanted to consider them instances of insurable events (class probability): that I know nothing about any one of my actions except that they are *my* actions (in the same way as one may legitimately say, for instance, that I know nothing about any singular outcome of a game of roulette except that each one is the outcome of the same roulette). In fact, I do know more about each of them. I know that each action is influenced by my knowledge, and that my knowledge will be changed dependent on the outcome of each action, such that each action will be performed by a *different me* and must be considered a *unique* event (forming an entire class by itself).

entrepreneurship on the other.[9] Lachmann and his followers conclude precisely this: (1) that there can be no such thing as economic theory capable of prediction at all, that all of the social sciences are nothing but history and "economists must confine their generalizations to the knowable past"[10]; and (2), that all of our predictions concerning human actions, which we must venture day in and day out, are nothing but haphazard guesses, that "man in his true humanity," as Lachmann approvingly cites Shackle, "can neither predict nor be predicted."[11]

VII

Regarding the first of Lachmann's two contentions—the impossibility of economic theory—it should be noted from the outset that this thesis—contrary to Lachmann's own claim, and in particular the self-congratulatory attitude found among some of his younger disciples—is anything but new and original, but represents instead a return to Lachmann's intellectual beginnings as a student of Werner Sombart and the "historicist" teachings of the German *Kathedersozialisten* (and thus most definitely has nothing whatsoever to do with Austrian Economics).[12]

Ludwig von Mises, the twentieth century's foremost Austrian economist and life-long critic of historicism, has thus characterized its doctrine: "The fundamental thesis of historicism is the proposition that . . . there is no knowledge but that provided by history. . . . The honest historicist would have to say: Nothing can be asserted about the future. Nobody can know how a definite policy will work in the future. All we believe to know is how similar policies worked in the past. Provided all relevant conditions remain unchanged, we may expect that the future effects will not widely differ from those of the past. But we do not know whether or not these relevant conditions will remain unchanged. Hence we cannot make any prognostication about the—necessarily future—effects of any measure considered. We are dealing with the history of the past, not with the history of the future."[13] That this is also an accurate description of Lachmann's position is made perfectly clear by Lachmann's following comment on the so-called Austrian theory of the trade cycle: "Here we have a body of analytical thought designed to meet the requirements set out above: to depict a recurrent pattern

[9] On the methodological views of Frank Knight in particular, see his *The Ethics of Competition and Other Essays* (New York: Harper Bros., 1935), and, idem, *On the History and Method of Economics* (Chicago: University of Chicago Press, 1956).

[10] Lachmann, *The Market as an Economic Process*, p. 32.

[11] Ibid., quoted in G.L.S. Shackle, *Time in Economics* (Amsterdam: North Holland, 1958), p. 105.

[12] Austrians from Carl Menger onward considered the German historicists as anti-economists and their intellectual foes. The historicists, in particular their leader Gustav Schmoller and his successor Werner Sombart, amply reciprocated this animosity.

[13] Mises, *Theory and History*, pp. 199, 203–4.

of events with booms and depressions following each other in ceaseless succession. But can we really believe that agents witnessing these events will learn nothing from them and act in successive cycles in identical fashion? Is it not more likely that their action in each cycle will be affected by the lessons they have learnt from its predecessors, even though, as always happens, different people learn different lessons from the same events? Once we admit that people learn from experience, the cycle cannot be reproduced time after time. These considerations suggest that it may be better to give up the doubtful quest for a model of *the* business cycle and to regard phenomena such as cyclical fluctuations in output and prices simply as phenomena of history in the explanation of which changes in human knowledge will naturally play a part, with the events of each successive cycle requiring different, although often enough similar, explanations."[14]

While in and of itself this does not yet prove Lachmann wrong, it is a first step in the direction of a rigorous refutation that the position taken by Lachmann involves nothing less than an all-out social relativism—indeed: nihilism—that cannot but immediately strike one as entirely counter-intuitive. The relativistic consequences of historicism are hinted at clearly in the just quoted passage from Mises, while they may appear somewhat obscured by Lachmann in restricting his remarks to but one theory, the theory of the trade cycle (incidentally without bothering to explain, even if only briefly, what the theory actually states). However, there can be no doubt whatsoever that the trade cycle theory is cited by Lachmann as an *example* and that he actually believes his argument to be equally applicable to all other economic theorems. In the same way and for the same reason that there can be no such thing as *the* theory of the trade cycle, according to Lachmann, there also can be no such thing as *the* theory of exchange, *the* theory of prices, *the* theory of money, *the* theory of interest, *the* theory of wages, *the* theory of socialism, *the* theory of taxation, *the* theory of wage and price controls, or *the* theory of interventionism. What holds for the phenomenon of cyclical fluctuations supposedly also holds for all other phenomena: that they must be regarded as phenomena of history in the explanation of which changes in human knowledge will naturally play a part, with each successive exchange, price, use of money, interest, wage, socialism, tax, wage and price control, and government intervention requiring different, although often enough similar, explanations. But can we really believe *this*? Can we really believe, as Lachmann does, that we cannot say anything "applying equally to future and past" exchanges, prices, monies, or taxes? Can we really believe that, due to the possibility of learning, it may no longer be true in the future that every voluntary exchange will—*ex ante*—be

[14]Lachmann, *The Market as an Economic Process*, pp. 30–31.

beneficial to both exchangers, and that every coercive exchange such as a tax will benefit one (the taxman) at the expense of the other (the taxed)? Can we really believe that each successive socialist experiment requires a different explanation, and that it is impossible to say anything applicable to *each and every* form of socialism, so that as long as there exists no private ownership of the means of production, and hence no factor prices, economic calculation (cost-accounting) will be impossible and permanent misallocation (waste) will have to result? Can we really believe that, *as long as socialism is not actually abolished*, this proposition may no longer hold true, because agents can learn from experience and may no longer act in an identical fashion? Can we really believe that if a central bank were to double the paper money supply overnight, this would not, now and forever, lead to a drop in the purchasing power of money as well as a systematic income redistribution in favor of the central bank and the early receivers of the newly-created money at the expense of those receiving it later or not at all? Can we really believe that if the minimum wage were fixed today at one million dollars per hour and if this decree were strictly enforced and no increase in the money supply were to take place, this measure might not lead to mass unemployment and a breakdown of the division of labor because people can learn from experience? To be sure, *Lachmann* believes all of this, and it is easy to understand why some other people—taxmen, socialists, central bankers, and minimum wage legislators—would like us to believe as he does. But it is difficult to imagine how anyone but Lachmann—including even those who would personally benefit from us believing that the future effects of various policies can never be known in advance—can actually consider any of this seriously.

As already indicated in section II above, the fundamental logical error involved in Lachmann's reasoning consists in the fact that it does not follow from the proposition that human actors face an uncertain future that everything regarding our future must be considered uncertain.[15] Nor does it follow from the fact that humans can learn, and hence their actions may change in the course of time, that everything concerning the future of human actions may possibly change in the course of time. Quite to the contrary. To draw these conclusions, as Lachmann does, is self-contradictory, for evidently, Lachmann claims to know for certain the unknowability of future knowledge and, by logical extension, of actions. Yet then he does know something about future knowledge and action. He must assume to know something about knowledge and action as such. Likewise, in claiming to know that humans are capable of learning and altering their actions in accordance with what they may learn, Lachmann must admit knowing something about man as such.

[15]See also Hoppe, *Kritik der kausalwissenschaftlichen Sozialforschung*, chap. 3, esp. p. 47.

He must assume to know not only that man may change his future behavior, but also that these changes are the result of a process of *learning*; that is, that they are the result of man being able to distinguish between success and failure, between confirmation and falsification, and draw *conclusions* dependent upon such categorically distinct experiences; and hence, that all possible changes in the behavior of man, unpredictable as their specific content may be, follow a predictable pattern—a uniform and constant logic of human action and learning. To use a perfect analogy, while it is true that I am unable to predict *everything* that I will say or write in the future, this does not imply that I cannot predict *anything* about my future speaking and writing. I can predict, and indeed I can predict with perfect certainty, and regardless of whether I will speak or write in English or German, that, as long as I will speak or write at all, in any language whatsoever, all of my speaking and writing will have a constant and invariable logical (propositional) structure: that I must use identifying expressions, such as proper names, and predicators to assert or deny some specific property of the identified or named object, for instance.[16] In the same way it holds that even though I cannot predict what goals I may pursue in the future, what means I will deem appropriate to reach these goals, and what other conceivable courses of action I will choose to reject in order to do what I will actually do (my opportunity cost), I can still predict that as long as I act at all, there will be goals, means, choices, and costs; that is, I can predict the general, logical structure of each and every one of my actions, whether past, present or future. And this is precisely what economic theory or, as Mises has termed it, *praxeology*, is all about: providing knowledge regarding actions as such and knowledge about the structure which any future knowledge and learning must have by virtue of the fact that it invariably must be the knowledge and learning of actors.

To be sure, the knowledge of the invariant logical structure of acting and learning is acquired knowledge, too, as is all human knowledge. Man is not endowed with it. However, once learned, the knowledge conveyed by praxeology as well as that conveyed by propositional logic can be recognized as necessarily true—*a priori* valid—knowledge, such that no future learning from experience could possibly falsify it. While all of my knowledge regarding the external world

[16]See Paul Lorenzen, *Normative Logic and Ethics* (Mannheim: Bibliographisches Institut, 1969), chap. 1. Lorenzen explains (p. 16): "I call a usage a convention if I know of another usage which I could accept instead. . . . However, I do not know of another behavior which could replace the use of elementary sentences. If I did not accept proper names and predicators, I would not know how to speak at all. . . . Each proper name is a convention, . . . but to use proper names at all is not a convention: it is a unique pattern of linguistic behavior. Therefore, I am going to call it 'logical'. The same is true with predicators. Each predicator is a convention. This is shown by the existence of more than one natural language. But all languages use predicators." See also Wilhelm Kamlah and Paul Lorenzen, *Logische Propaedeutik* (Mannheim: Bibliographisches Institut, 1968), chap. 1.

is, and forever will be tainted by uncertainty (it is not inconceivable that the law of gravitation may no longer hold in the future or that the sun will not rise tomorrow), my knowledge concerning the structure of my future action and learning is and forever will be non-hypothetically true: it is inconceivable that, as long as I am alive, I will not act and reach or not reach my goal and revise or not revise my knowledge depending on the outcome of my actions. Learning is the learning from success and failure, and there can be no learning of the fact that there is no success or failure. Thus, writes Mises, "man as he exists on this planet in the present period of cosmic history may one day disappear. But as long as there are beings of the species Homo sapiens there will be human action of the categorical kind praxeology deals with. In this restricted sense praxeology provides exact knowledge of future conditions. . . . The predictions of praxeology are, within their range of applicability, absolutely certain."[17]

How is it possible, then, especially in light of the fact that Lachmann was familiar with Mises and his writings, that he could have committed an elementary logical blunder such as not to recognize that it does not follow from the fact that we are capable of learning that *everything* about the future of human actions is unknowable? How could he not recognize that only those aspects of our actions which may actually be affected by learning can be considered unpredictable, while those aspects that are a necessary part of any action and learning and thus cannot be altered by future learning—the underlying logical structure of action and learning itself—cannot? The answer to this riddle lies in the fact that although he considered himself a staunch opponent of the positivist philosophy, Lachmann still fell prey to one of its fundamental misconceptions. Like Friedrich A. Hayek, his second teacher, Lachmann, whether wittingly or not, accepted the view of Hayek's friend and protégé Karl R. Popper that all scientific knowledge must be such that, in principle, it is falsifiable by experience, and that all knowledge that is not falsifiable is not genuine knowledge at all but represents merely empirically empty tautologies, i.e., arbitrary definitions (formalisms). It is thus that Lachmann can write in response to the challenge posed to his thesis of an unknowable future by Mises and his idea of a logic of action that "precisely by virtue of the logical necessity inherent in it, it is impotent to engender empirical generalizations. Its truth is purely abstract and formal truth. The means and ends it connects are abstract entities. In the real world the concrete means used and ends sought are ever-changing as knowledge changes and what seemed worthwhile yesterday no longer seems so today. We appeal in vain to the

[17]Ludwig von Mises, *The Ultimate Foundation of Economic Science* (Kansas City: Sheed Andrews and McMeel, 1978), pp. 84–85.

logic of means and ends to provide us with support for empirical generalizations."[18]

But surely, as popular as this view of regarding all non-hypothetically true propositions—such as the laws of propositional logic, for instance—as empirically-empty formalisms has become in the wake of the rise of the positivist philosophy, it is completely fallacious.[19] In referring to highly-abstract entities such as objects and properties, rather than concrete ones such as my cactus and its red blossoms, I am still speaking about *real* phenomena. The term "tree" is more abstract than the term "pine tree," but the former has no less an empirical content than the latter. In the same vein, in saying something about ends, means, exchange, money, or interest—rather than about my desire to please my wife with flowers, a trade of two oranges against three apples, US dollars, or my exchange of two present socks for four socks three months hence—I am still stating something about real phenomena with an empirical content. Notes Mises, "if one accepts the terminology of logical positivism and especially also that of Popper, a theory or hypothesis is 'unscientific' if *in principle* it cannot be refuted by experience. Consequently, all *a priori* theories, including mathematics and praxeology, are 'unscientific.' This is merely a verbal quibble. No serious man wastes his time in discussing such a terminological question. Praxeology and economics will retain their paramount significance for human life and action however people may classify and describe them."[20]

In light of Lachmann's multiple logical errors, one can now turn back to our rhetorical questions raised in response to his claim of the impossibility of any and all economic theory and prediction. The reason it appeared absurd that one should be unable to predict anything regarding each and every voluntary exchange, tax, socialism, money supply increase, and minimum wage law, is that while man may learn many things and alter his behavior in many ways, he is unable to experience and

[18]Lachmann, *The Market as an Economic Process*, p. 31; for the similar views of Hayek see his "Economics and Knowledge," in Friedrich A. Hayek, *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948).

[19]See Arthur Pap, *Semantics and Necessary Truth* (New Haven, Conn.: Yale University Press, 1958); Brand Blanshard, *Reason and Analysis* (LaSalle, Ill.: Open Court, 1962); Friedrich Kambartel, *Erfahrung und Struktur* (Frankfurt/M.: Suhrkamp, 1968); Hoppe, *The Economics and Ethics of Private Property*, chap. 6.

[20]Mises, *The Ultimate Foundation of Economic Science*, p. 70. Equally incomprehensible as the charge that praxeology is empirically empty because its propositions are non-falsifiable is the charge brought against Mises and Menger by O'Driscoll and Rizzo (*The Economics of Time and Ignorance*, p. 23), that the belief in the existence of "apodictic praxeological theorems" and "exact economic laws" implies the assumption of some sort of "rigid determinism!" And would one also have to give up the belief in the existence of universal and unchanging laws of logic if one were to adopt O'Driscoll's and Rizzo's indeterministic "dynamic subjectivism"?

learn anything that is at variance with the laws of logic and the nature of man as an actor. I may not be able to predict that I will engage in voluntary exchanges, when, what it is that will be exchanged, or the exchange ratio at which the goods or services in question will be traded, etc., because all of this may indeed be affected by my and others' knowledge and change as this knowledge changes. But I can predict with perfect certitude that *if* a voluntary exchange takes place, regardless of where, when, what, and at what exchange ratio, both exchange partners must have had opposite preference orderings and must have expected to benefit from the exchange. No possible learning can ever change *this*. Likewise, I may not be able to predict that or when a socialist experiment will be undertaken or discontinued. Nor will I ever be able to predict such an experiment's many specific features. All of this may be affected by learning. But regardless of whatever people may learn and how their learning may shape the peculiar shape of socialism, I can still predict with absolute certainty that as long as one is in fact dealing with *socialism*, any and all economic calculation will be impossible and permanent misallocations of production factors must result because *this* consequence is already logically implied in what socialism *is*. Similarly, I may not be able to forecast that a money will actually come into existence, and it is certainly possible that mankind may one day revert back to barter. Nor can I predict with certainty what specific *kind* of money will be employed in the future. But I can predict with perfect certitude that if there is any money in use at all, an increase in its supply must lead to a reduction in its purchasing power below what it otherwise would have been. This follows simply from the definition of money as a *medium of exchange*. Lastly, Lachmann also errs regarding the example of the Austrian theory of the trade cycle. He claims that due to the fact that businessmen can learn—they may hear of or read about Mises's theory—they may possibly alter their future behavior in such a way that the effects predicted by the theory will no longer ensue.[21] But such a claim simply involves a misunderstanding of what the theory actually states. True enough, people can learn from Mises, and this may actually prevent business cycles from occurring at all, just as people may learn from Mises never to engage in a socialist experiment in the first place. However, this is entirely beside the point, for the theory states that *if* a bank creates additional paper-money credit, above and beyond the credit made available by the public's voluntary savings, and *if* this additional credit is in fact placed into the hands of borrowers and the interest rate is thus lowered below what it otherwise would have been, i.e., the natural rate of interest, then,

[21]Ludwig Lachmann, "The Role of Expectations in Economics as a Social Science," in idem, *Capital, Expectations, and the Market Process* (Kansas City: Sheed Andrews and McMeel, 1977).

and only then, will there be first a boom—over-investment—and consequently a bust—the systematic liquidation of some of the investments as malinvestment. Whatever businessmen may learn after a credit expansion has actually taken place cannot possibly affect this predicted outcome in the slightest, because an intertemporal discoordination is already logically implied in the stated premises. And if the if-clause is not fulfilled, then the theory of the trade cycle is not refuted, of course. It simply does not apply.[22]

VIII

Having rejected Lachmann's first contention of the impossibility of economic theory applicable to past and future alike, and having argued the case of Knight's and in particular Mises's instead, not only of the possibility of such theory but, even more strongly, of *a priori* theory and *apodictic* (non-hypothetical) prediction, in this final section Lachmann's second contention—the "kaleidic" nature of the social world and the haphazardous character of entrepreneurial prediction—will have to be examined.

Even if the existence of a logic of action—praxeology—is admitted, as it must be, it does not follow that the knowledge provided by it can render our future certain. Praxeology allows us to predict with certainty *some* future events and aspects of the world of human actions, but its range of applicability is strictly limited. There are many events and aspects, and indeed far more of far greater practical significance, about which praxeology has nothing to say. As Mises explains, "there is, but for Robinson Crusoe before he met his man Friday, no action that could be planned or executed without paying full attention to what the actor's fellow men will do. Action implies understanding other men's reactions."[23] "The task with which acting man, that is, everybody, is faced in all relations with his fellows does not refer to the past; it refers to the future. To know the future reactions of other people is the first task of acting man. . . . It is obvious that this knowledge which provides a man with the ability to anticipate to some degree other people's future attitudes is not *a priori* knowledge. The *a priori* discipline of human action, praxeology, does not deal with the actual content of value judgments; it deals only with the fact that men value and then act according to their valuations. What we know about the actual content of judgments of value can be derived only from experience."[24] Quite apart from

[22]See Ludwig von Mises, "'Elastic Expectations' and the Austrian Theory of the Trade Cycle," *Economica* 10 (1943): 251–52; also George Selgin, "Praxeology and Understanding," *Review of Austrian Economics* 2 (1988): 54.

[23]Mises, *The Ultimate Foundation of Economic Science*, p. 49.

[24]Mises, *Theory and History*, p. 311.

whatever praxeology, technology, and insurance can possibly teach us about the future, then, Mises (as well as Knight) would agree with Lachmann that there remains as one of mankind's most pressing problems the need to predict our fellow men's concrete value judgments, the specific means they will choose to bring their valued ends about, and their evaluations once the results of their actions are in. And as has already been explained, they would also agree with Lachmann that because humans are capable of learning and their learning may affect their values, choices of means, and evaluations of outcomes, the positivist-falsificationist prescriptions of how to deal with this problem are logically inappropriate and impotent. But what else can we do? Or can nothing be done to deal with this aspect of uncertainty?

While it may appear that Lachmann's answer to these questions is similar to Mises's—both refer throughout their writings to the same group of philosophers of the *Geisteswissenschaften* and the social sciences, most notably Max Weber and Alfred Schuetz, and both mention the method of understanding (*Verstehen*)—this impression is mistaken (although due to Lachmann's generally less-than-clear writing and a considerable amount of hedging on his part, this issue is admittedly somewhat difficult to decide).[25] For whereas Mises's answer to the above questions is an unambiguous yes, there exists a method of dealing with the ineradicable uncertainty of future human choices, and even though this method is not, and never can be, perfect, by not availing ourselves of it we would rob ourselves of the very intellectual tool of successful action and encounter more frequent disappointments than otherwise would be the case. Lachmann seems to hold precisely this: that regardless of what we do, our successes or failures in predicting our fellow men's future actions are purely random.

As for Mises's position, it is essential to recognize that—and why—he rejects the view that the future of human actions may be considered random or haphazard. To entertain such a view can mean one of two things. It can mean that we know literally nothing. But this is clearly false, for we do know something: we know that the future events in question are human actions and will display the structure inherent in each and every action, and hence, that while our knowledge may be deficient, we are still in a position to say more than simply *ignoramus*.[26] Or it can mean that with regard to the problem of future human choices, we know everything about the behavior of the whole class of events, but we do not know anything about any singular choice except that it is an element of the entire class of human choices. The view that human actions may be regarded as instances of "class probability" has already been rejected above. We do not, and

[25]For a similar assessment see Selgin, "Praxeology and Understanding."

[26]See Mises, *Human Action*, p. 107.

never will, know everything about the whole class of human actions. But from this it does not follow that we will have to confess complete ignorance regarding singular human choices (apart from the known fact that they are all choices). In fact, we do know something (more) about each singular event: we know that each singular event is the result of *individual* actors acting based on *individual* knowledge subject to changes by *individual* learning, such that each event as it unfolds in human history, past and future, must be conceived of as a *unique, and non-repeatable* event (with each event being in a class by itself); and we also know that in order to grasp the past or anticipate the future actions of our fellow men, we will have to pay attention and try to understand their individual knowledge, their individual values and personal know-how. It is thus that Mises characterizes the epistemological task faced by man in his dealings with his fellows as one of "case probability." "Case probability (or the specific understanding of the sciences of human action) . . . means: We know, with regard to a particular event, some of the factors which determine its outcome; but there are other determining factors about which we know nothing."[27] Categorically different as this situation of case probability is from that of class probability, it is hardly a situation in which the future is random or haphazard. Indeed, in some respect we are in a *better* (not worse) epistemological position in the field of human history, past and future, than we are in the field of natural events, of technology and insurance. For in the latter field we are categorically precluded from the possibility of understanding. Each singular event must be treated as a member of a class of *homogeneous*, except for their class membership *indistinguishable* singular events. In contrast, in the field of past and future human history, we are capable of distinguishing between every singular event (each event can be treated as *heterogeneous*); and to improve our grasp of the past, and our anticipations of the future actions of our fellows, we know and are capable of learning something about the *individual* causes—the *personal* knowledge—uniquely affecting the outcome of each and every *singular* human event (with each event deserving of its own special attention).

While neither random nor haphazard, then, the task of anticipating our fellows' actions based on an understanding of their individuality is not without its inescapable difficulties and imperfections, for every understanding of an individual is always an understanding of his *past* values and knowledge. However, as Mises was quoted above, our first task in life is to know the *future* reactions of

[27]Mises, *Human Action*, pp. 107–10. Ibid., p. 59, Mises notes, that "historical events have one common feature: they are human action. History comprehends them as human actions; it conceives their meaning by the instrumentality cognition and understands their meaning in looking at their individual and unique features. What counts for history is always the meaning of the men concerned: the meaning that they attach to the state of affairs they want to alter, the meaning they attach to their actions, and the meaning they attach to the effects produced by the actions.

other people. "Knowledge of their past value judgments and actions, although indispensable, is only a means to this end."[28] Thus, in all of our attempts of anticipating the future, in addition to an understanding of the past actions of a given individual, we must also necessarily make a judgment regarding the relative stability or instability of the various parts of his system of values and knowledge as displayed in the past; that is, we must form an opinion about his *personality* or *character*. As Mises explains, we must "assume that, by and large, the future conduct of people will, other things being equal, not deviate without special reason from their past conduct, because we assume that what determined their past conduct will also determine their future conduct. However different we may know ourselves to be from other people, we try to guess how they will react to changes in their environment. Out of what we know about a man's past behavior, we construct a scheme about what we call his character. We assume that this character will not change if no special reasons interfere, and, going a step farther, we even try to foretell how definite changes in conditions will affect his reactions."[29] Likewise, if we are concerned about the future behavior of groups of individuals (rather than only a single one), we cannot but classify individuals according to the similarity or dissimilarity of their character or personality; that is, we cannot but form ideas of group characters—ideal types—and sort individuals according to their membership in such types. "If an ideal type refers to people," explains Mises, "it implies that in some respect these men are valuing and acting in a uniform or similar way. When it refers to institutions, it implies that these institutions are products of uniform or similar ways of valuing and acting or that they influence valuing and acting in a uniform or similar way."[30]

Our anticipations, based on an understanding of the past, and the construction of character and ideal types and the classification of individuals and groups into such types, are necessarily hypothetical, or rather, tentative predictions. In ascribing a certain character to an actor, we attempt to reduce the uncertainty surrounding his future behavior. We form a tentative judgment concerning more or less stable parts of his personality and predict that the future changes in his behavior, whatever they may be, will be changes in line with his character, i.e., changes which follow a general—predictable—pattern. Our prediction may turn out to be successful or not. We may have misclassified the actor(s). Or,

[28]Mises, *Theory and History*, p. 311.

[29]Mises, *The Ultimate Foundation of Economic Science*, pp. 49–50; and he continues then to say: "Compared with the seemingly absolute certainty provided by some of the natural sciences, these assumptions and all the conclusions derived from them appear as rather shaky; the postivists may ridicule them as unscientific. Yet they are the only available approach to the problems concerned and indispensable for any action to be accomplished in a social environment."

[30]Mises, *Theory and History*, p. 316.

contrary to our judgment, the actor(s) may change their very character; and indeed, over the course of time some character types may die out and new ones may emerge, requiring the development of a different and changing system of classification. Or our character constructs may turn out too abstract or too specific; that is, even though they may yield correct predictions, we may find, in retrospect, that what they predict is of lesser importance than anticipated. The prediction may turn out to say too little of much importance, or too much of little importance, requiring further typological revisions. Moreover, whether we evaluate our predictions as successful or not, the meaning of success and failure is necessarily ambiguous. In the natural sciences, success means that so far your hypothesis has not been falsified; apply it again; and failure means that your hypothesis as it stands is wrong; change it. In our dealings with our fellow men, the implications are not, and never can be, as clear-cut. Maybe our prediction was wrong because some people, as can happen sometimes, acted out of character—in this case we would want to use our hypothesis again even though it had been apparently falsified. Or maybe our prediction was successful, but the individual in question has meanwhile undergone a change in his character—in this case we would not want to use our hypothesis again even though it had just been seemingly confirmed. Or maybe the actor in question knew our prediction and deliberately acted so as to confirm or falsify our hypothesis, in which case we might or might not want to change our future prediction. Every success and every failure, then, bears only inconclusive results and necessitates another tentative judgment, a new and updated understanding of the actors concerned and a renewed assessment of their characters in light of their most recent actions, and so on. Thus, in contrast to the situation in the natural sciences, where success and failure have an unambiguous meaning, where we are allowed to conclude that what was false in the past will also be so in the future and what worked once will likely work again, and where we may thus successively acquire a growing stock of knowledge, in dealing with the problem of anticipating our fellow men's actions, we can never rest on our past laurels but must always start again fresh and judge the applicability of our past knowledge anew, we can never possess a stock of knowledge that we may blindly rely upon in the future.

Nothing in this—Mises's—view regarding the nature of human history, past and future, is likely to strike anyone as new or revolutionary. Indeed, if it were not for the fact of the very different positivistic view of the matter, it would appear almost trivial and a self-evident truism. As Mises notes, "the methods of scientific inquiry [in the social sciences] are categorically not different from the procedures applied by everybody in his daily mundane comportment. They are merely more refined and as far as possible purified of inconsistencies and contradictions. Under-

standing is not a method of procedure peculiar only to historians. It is practiced by infants as soon as they outgrow the merely vegetative stage of their first days and weeks. There is not conscious response of man to any stimuli that is not direct by understanding.[31] It is not entirely surprising, then, that Lachmann, too, while his methodological considerations (in distinct contrast to Mises's) are largely unsystematic and marred by an abundance of metaphorical expression and a lack of analytical rigor, should at times appear to be in essential agreement with this commonsensical view as embraced by Mises. Lachmann, too, makes frequent reference to understanding, ideal types, and institutions.[32] Yet despite such apparent similarities, Mises and Lachmann reach completely different conclusions as regards the nature of human—entrepreneurial—uncertainty. Whereas for Mises the result of the method of understanding is moderate uncertainty, for Lachmann it is radical uncertainty. How is this to be explained?

In putting the best possible—because it is the most consistent—face on Lachmann, the disagreement between his and Mises's position may be said to boil down to one regarding a contingent—empirical—fact. There is agreement on the method to be employed; there is disagreement only on how successful this method actually is—remarkably so and most of the time, as Mises would contend, or insignificantly and only occasionally so, as would Lachmann. Instead of disagreeing on principle, on methodology, they only disagree on a matter of fact: whether the social world is, in fact, kaleidic or not. But what of the facts, then? Although the empirical question of whether we inhabit a kaleidic world or not may appear to be of rather minor importance, given the fact that we must deal with it in any case and we have nothing but understanding available to us to do so, and although questions of this nature may easily degenerate into idle semantic quibbles such as whether a glass of water is half empty or half full, empirical questions—disagreements on matters of fact—are accessible to empirical research and can, in principle, be decided upon based on the observation of the facts. In the bright light of empirical facts, however, Lachmann's theory of radical uncertainty fares no better than in the pale light of logic.

So as to generate a radically-uncertain world of kaleidic change, Lachmann must assume, as a matter of empirical fact, that individual actors do not possess any such thing as a character. Understanding, as has been explained, is always understanding of past actions. In order to be able to successfully predict future actions based on an understanding of past actions, it is necessary that one assume that the past and the future are somehow related—not in the sense that the past

[31]Mises, *The Ultimate Foundation of Economic Science*, p. 48.

[32]See Lachmann, *The Market as an Economic Process*, pp. 34–42.

would determine the future, but rather in the sense that the past values and know-how of an individual (which determined his past actions) shape and constrain his future values and know-how (which determine his future actions). Indeed, if this were not assumed to be the case and an individual's past values and actions were viewed as completely unrelated to his future values and actions, the study of history would be entirely useless. We only study an individual's past because we believe that this knowledge is valuable in helping us anticipate something regarding his future conduct. Without this belief, the study of history must be regarded as a sheer waste of time. In Mises's view, the link connecting an individual's past with his future and the empirical reason for our concern for the study of history is the existence of individual characters and personalities. It is the existence of a person's character, changing though it may be over the course of time, that assures the continuity of change: patterned social change instead of kaleidic flux. Accordingly, only if individual actors were assumed to be completely-disjointed personalities, such that my actions tomorrow were always entirely unrelated and unaffected by my actions today or yesterday, could Lachmann's scenario of radical uncertainty ever become reality. While this would indeed be a nightmare if it ever existed, it can safely be said that it has no resemblance whatsoever either to us or to the world we inhabit. Indeed, it is difficult to imagine how a world of disjointed personalities could be reconciled even with human *biology*. Solely on account of our physical bodily nature—which is a contingent fact, but as long as we are alive a relatively stable contingency—we cannot possibly be quite like Lachmann thinks we are, or else we would quickly die out.

As a matter of fact, actors, from the earliest stages of infancy on, display a personal character, they possess a personal identity and conceive of their past and future as forming a whole: their personal life history. We do not start building a house today and then, tomorrow, without any special reason, do something entirely unrelated. Rather, our past actions influence, circumscribe, and constrain our future actions. We do not always begin from scratch, but most of the time we continue what was already begun and planned as a part of a lengthy sequence of actions. And even if we abandon one such integrated plan, we typically adopt another one. Otherwise, if there were no such continuity in our actions, it would be impossible to explain one of the most striking features of human life—the existence and continued employment of a stock of capital goods. To produce a capital good is to begin something stretching into the future, and to employ an existing capital good is to continue something begun in the past. If the future were indeed unrelated to the past, it should be expected that capital goods, insofar as they come into existence at all, will just as quickly be abandoned in the future as they may have been adopted in the past. However,

while there exist some ruins of abandoned capital goods, most of yesterday's capital goods are still employed today and tomorrow—which is empirical proof of the past's continuing influence on the future. As the author of a book on capital, Lachmann of all people should have been able to recognize this, and this alone should have given him reason enough to discard his thesis of kaleidic change and radical uncertainty.

Moreover, equally difficult for Lachmann to explain would be another fundamental feature of human history—the existence of enduring differences among various individuals in their ability to forecast the future; that is, not only the fact that I may be better able to predict the actions of A, B, and C, while you may be better able to predict those of D, E, and F, but also the fact that you and I, confronted with one and the same group of individuals G, H, and J, may display lastingly-different forecasting abilities. From Mises's view these facts pose no problem. Different individuals do not, and cannot possibly know (understand) everyone's past equally well. They know different individuals differently well, and accordingly, their forecasting ability should be expected to be different dependent on whose actions need to be predicted. Likewise, assuming that different individuals are concerned with forecasting the actions of the same individual or group of individuals, it should be expected that there will be systematically—and hence enduringly—different success rates among these forecasters. For in Mises's view, every prediction requires not only an understanding of the past but also a tentative judgment, influenced but not determined by the knowledge of the past, as to the underlying character structure of the individual actors concerned. As an essentially cognitive task involving different and complex intellectual operations, nothing should be less surprising than the fact that different individuals, with strikingly-different talents in all other areas of intellectual endeavor, will also perform differently when it comes to predicting their fellow men. However, if an individual's past and future were indeed unrelated, as Lachmann believes is the case, then everyone should be expected to predict everyone else's behavior equally well (or badly). A person with an understanding of an individual's past actions should not be able to predict his future actions any more successfully than someone else not so acquainted with the individual in question. Because the past is unconnected to the future, not knowing it cannot make a difference in our forecasting abilities. And since without our knowledge of past actions there is nothing left to go on to form a character judgment, we are all equally ignorant and without a rudder; hence, there also should be no lasting difference in our rate of success or failure. Successes and failures should be expected to be randomly distributed among actors and personal fortunes to dissipate as quickly as they are found.

It is almost needless to say that none of this fits historical reality. Based on my long understanding of my wife, for instance, I can anticipate her actions and reactions in almost all foreseeable circumstances; and vice versa, she can predict me almost to perfection. There are few if any surprises, and probably no one else could predict us better than we can predict each other. Likewise, I can predict, with great precision and better than almost everybody else, the behavior of my children, while they have (still) considerably more difficulty understanding me and my character. Similarly, I can anticipate better than almost anybody else the actions and reactions of many of my family and friends under a great variety of circumstances, and they, knowing me, can successfully predict many or even most of my reactions. There is nothing radical or kaleidic about the uncertainty involved. As well, I know quite a bit about the history of men and women, Germans, Austrians, Turks, Americans, Italians, Mexicans, Protestants, Catholics, Jews, Blacks, Asians, university professors, politicians, businessmen, private and public employees, and so on, and in many respects I can predict the behavior of the members of these groups very successfully, and certainly more successfully than the average person. Moreover, as far as predictions about the behavior of one and the same (group of) individual(s) by different predictors are concerned, even if all predictors have equal access to the record of past events and can base their prediction on an understanding of this past, they are most definitely not equally successful in their predictions. Most importantly, in the narrower field of capitalist-entrepreneurship, where forecasters must estimate their present and current production costs and form a judgment regarding future consumer demand in order to successfully complete an anticipated exchange of present money against future money, and where there exists a set of objective criteria for success—profit and loss, continued operation and bankruptcy, and growth, stagnation, or decline of capital values—the degree of success among different individuals is strikingly different. While many of those who try fail and drop from the rank of a capitalist-entrepreneur to become involved in less risky and intellectually-demanding tasks, many others succeed to stay in business year after year, and some have succeeded in accumulating great fortunes during their life, and even to bring up heirs capable of preserving or enhancing their fortune beyond their own lifetime. This empirical fact, too, stands in open contradiction to the idea of kaleidic change and rather confirms the great cognitive value of the method of understanding (even more so in light of the fact that the superior predictive capability of the capitalist-entrepreneurs simultaneously reduces the uncertainty facing all of their employees by providing them with a present income even if they themselves could not have correctly anticipated the future demand for their own line of work).

Certainly all of this—the predictive power of the method of understanding as manifested in the empirical facts of capital formation and maintenance, of successful everyday-life entrepreneurship (forecasting of family, friends, colleagues, and acquaintances), and of enduring business successes—in conjunction with the *apodictic* certitude provided by praxeology and the wide-ranging practical certainty afforded by technology and insurance should be more than sufficient to dispel all talk about radical uncertainty and kaleidic social change as either contradictory and meaningless or patently false.