THE DEVELOPMENT AND PRESENT STATE OF THE THEORY OF ENTREPRENEURSHIP IN PRODUCT AND ASSET MARKETS BY KNIGHT, HAYEK, SCHUMPETER, MISES, KIRZNER, SHACKLE, AND LACHMANN

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ABSTRACT

During the twentieth century, various economists have clarified the process of **entrepreneurship** to aid our understanding of the market process—entrepreneurship is the animating force of the market process, initiating each alteration of the existing pattern of values, plans, and expectations in the market, and carrying through the physical actions which bring about new values, plans, and expectations. The economists I shall consider herein are Frank H. Knight, F. A. Hayek, Joseph A. Schumpeter, Ludwig Mises, Israel M. Kirzner, G.L. S. Shackle, and Ludwig M. Lachmann. **Each has emphasized some different aspects of entrepreneurship and contributed a furthering of the understanding of what entrepreneurship is and how entrepreneurship functions in the two different kinds of markets: the flow market for goods and services, and the stock market for both real and financial assets, and each has emphasized the peculiar psychological process of the entrepreneurial mind in its perception of "risk"**. This paper will trace the developments of the theory of entrepreneurship from one economist to the next, up to the present day, and will give my understanding of the current state of the theory of entrepreneurship as developed by Israel M. Kirzner, the most comprehensive thinker about entrepreneurship in the **product market, the flow market for goods and services**, who stands on the shoulders of the prior thinkers discussed herein; and by G.L.S. Shackle and Ludwig M. Lachmann, who set out the differences of entrepreneurship in the **asset market, the stock market for real and financial assets**.

Entrepreneurship in Two Types of Market: 1) Flow-of-Goods; 2) Assets

We must analyze entrepreneurship in the context of two types of markets: 1) the flow market for goods, such as bananas, refrigerators, Chevrolet Tahoes, and so forth; and 2) the stock market for assets such as real capital assets like refineries, metal pressing machines, aircraft, and such as financial assets like bonds, shares of ownership of a corporation, contracts to trade forward, future, and options values, and the like. The asset market for theme parks such as Walt Disney World and Jazzland is complex. The two types of market are different in the way prices are formed within them and in the details of the entrepreneurial forecast and activity.

It is necessary to consider that the economy is composed of **two types of market: the flow market for goods and the stock market for assets**. The two markets are not isolated from each other, nor are they completely different; but the differences must be understood. The economics literature has generally focused on the product market and neglected the asset market, and the peculiarities of the asset market have not been understood. The decision-making processes in the two markets are somewhat different, and they have a different time scale and different degrees of inherent volatility. The more common stock market is that for previously-issued equity securities. A business firm functions in both markets: it produces goods and services which are sold in the product market, and it purchases capital assets in the stock market and may issue securities in the stock market for financial assets. In the flow market for goods, which includes the production process of consumers' and producers' goods, the time scale of production and trade is longer than in the stock market for assets where capital and financial assets are sold; and so the volatility of prices in a goods market is smaller than the volatility of prices in an asset market. In the flow market for goods, it is the future valuations of goods by consumers and the values of capital assets used in this production which are forecasted by the entrepreneurs; **in the stock market for assets, it is the expectations of other market participants regarding the future actions of other market participants which determine prices**, which are forecasted by the entrepreneurs. This differs slightly from the situation in the product market, where the market participants directly form the relative valuations of consumable goods which determine prices: there is more volatility in the formation and change of an expectation for the future stream of benefits which an asset may produce than in the formation of a relative valuation of the benefits from a consumable good. The entrepreneurial processes in the two markets bring about a dovetailing of plans and values, but in an asset market, these are built on the expectations of future cash flows and prices, while in a product market, these are directly formed by consumers. The entrepreneurial process in a goods market is therefore somewhat different from the entrepreneurial process in an asset market, and it is necessary to analyze the differences.

The asset market in which financial assets are traded has a much shorter characteristic time scale for transactions than does the goods market in which physical products are produced by various capital-intensive means. This is because the valuation of financial assets is based on the expectations of market participants regarding unknowable future benefits which each asset may provide. Individuals' expectations and the pattern of expectations which influences prices can change instantaneously for no observable reason, and it is this volatility of expectations that causes the characteristic time scale of the asset markets to be much shorter than the time scale of the goods market. Sudden changes occur in the goods market rarely, generally resulting from some natural catastrophe. But sudden changes occur frequently in asset markets. It is entrepreneurial activity which begins again the process of co-ordination of any market following a sudden disruption, just as it is entrepreneurial activity which animates the ordinary pattern of greater and greater daily co-ordination of the market in the absence of a sudden interruption. We must consider both types of market and both types of entrepreneurial processes: the ordinary entrepreneurial process which functions as a continual process, and the resurgent entrepreneurial process which takes up after a sudden jolt and co-ordinates once more.

The general economy contains and includes both types of market, so its overall behavior is governed by the processes in both markets together. It is a mistake to neglect the processes of the asset market in considerations of the equilibrating processes of entrepreneurship in the general market and concentrate only on the processes in the goods market. Interruption events—that is, events which interrupt the movement of the market toward equilibrium--occur more frequently in the asset market than they do in the goods market. But market participants' behavior in the goods market is changed by their participation in the asset market. The asset market behaves differently from the goods market because of the difference in the way market participants form values within it and because of the shorter time scale of interruptive events within it, compared with the longer time scale of interruptive events in the goods market.

Expectations Govern in Asset Markets

Inasmuch as entrepreneurship involves the formation and adjustment of plans and **expectations regarding the future**, some of these ideas will be traced through writings about expectations. To understand the stock market for previously-issued equity shares, the changes in the pattern of expectations are the process which determine prices, and entrepreneurship in this market consists in the alteration of the pattern of expectations. It has been Shackle and Lachmann who have most ardently considered the importance of the pattern of expectations and the changes to that pattern wrought by entrepreneurs in both the product and asset markets; and it was Shackle who first taught that expectations, like tastes and valuations, are entirely subjective.[1] Lachmann, in his writings about the heterogeneity of capital goods, emphasized the importance of expectations in the stock market for existing capital goods, and Lachmann also taught the importance of changing patterns of subjective expectations in the stock market for shares.

The formation of expectations is a "psychological" process: often there can be seen no "basis" for a change in expectations: no new information received, no new product on the horizon, etc., only a change in the way a market participant thinks, and such changes often appear entirely spontaneous—they are acts of choice. We will see in the writings of these economists—beginning with Frank Knight--that there is a psychological process occurring in the mind of the entrepreneur, of which the economist must be aware, which guides the actions of the successful entrepreneur, so that the economist must not restrict his vision only to the "economic" or "productive events" which are visible in the world, but must also consider the psychological or "spiritual" events which go on in the mind of the entrepreneur and which cause these events. In the event that one entrepreneur's psychological events are inferior in character to those of another entrepreneur, the entrepreneurial success of the first entrepreneur will be limited and constrained by reality, compared with the entrepreneurial success of the entrepreneur possessing the superior psychological tools. Praxeology is not psychology; but the praxeologist must evaluate the character of thought of the entrepreneur to understand the reason for his success or failure: valuation cannot be accepted as a mere "given" because the character of thought of the entrepreneur contributes to, if it does not completely determine, the values he chooses. Entrepreneurs who create new products can be said to create new values in the minds of the consumers. Such creative changes in the subjective expectations of stock market participants are also brought about by actions of entrepreneurs and others in the stock market.

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[1] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), p. 58.

The Entrepreneur Bears No "Risk": the Entrepreneur Chooses a Course of Action

Mises and Kirzner have sketched one dimension (risk perception) of this peculiar entrepreneurial psychology and its impact on the actions of entrepreneurs. It was G. L. S. Shackle who most thoroughly explored the mental processes of decision of the entrepreneur, in which the entrepreneur first imagines a set of alternative future states of differing characteristics and differing likelihoods of success and then chooses from that set what plan to pursue and achieve on the basis of its appeal and its likelihood of achievement. It was Lachmann who emphasized the importance of entrepreneurial actions in asset markets.

An important part of this peculiar entrepreneurial psychological process is the entrepreneur's view of the uncertainty of the future: **the entrepreneur does not bear risk**, as do others. The entrepreneur is confident of his superior ability to forecast correctly, so he is confident in the accuracy of his forecast. He therefor behaves as does a person in a situation involving only certainty, one in which the outcome is not subject to doubt. It is like Beethoven composing the *Fifth Symphony*: he imagines different melodies for a particular portion, and then chooses one. There is no "probability distribution" of similar alternatives. There is no weighing of alternative expected values. There is only choice of the best way to proceed.

INTRODUCTION:

The market is a *process* of creation, discovery, competition, and adjustment.[2] The market is not merely a "dynamic entrepreneurial-competitive discovery process"[3], in which "what is out there" is first "discovered" by the alert entrepreneur after having been missed by previous others who failed to see it. Rather, the alert entrepreneur first *creates* that which will be discovered, and *chooses* from the multiple alternative not-yet-existing possibilities (all of which he created in his own mind) the one which he will pursue: the one-among-many-alternatives which is both the best attainable and the one most likely to succeed in the world which presently exists. This multiple-stage mental process which precedes and is integral with action seeking to achieve a new future state, is the entrepreneurial process, which I shall investigate in this paper.

Economics is the study of *human action*[4]; economics is about *people*[5], not physical products—in particular, the present actions of people to achieve their purposes in the future. Successful entrepreneurship is the essence of the market process; successful entrepreneurship not only *brings about* all of the adjustments of existing to future plans, valuations, and expectations, but successful entrepreneurship *consists in* the process of discovery and creation of new future states which are superior to existing alternatives, and the actual adjusting of production plans to each other and to the

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[2] With thanks to Israel M. Kirzner, *Market Theory and the Price System*, D. Van Nostrand Company, Inc., 1963.
[3] Israel M. Kirzner, "The economic calculation debate: lessons for Austrians," Chapter 6 in *The Meaning of Market Process: Essays in the development of modern Austrian economics*, Routledge, 1992, p. 105.
[4] Ludwig von Mises, *Human Action, : A Treatise on Economics*, Third Revised Edition, Henry Regnery Company, 1963, page
[5] Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Henry Regnery Company, 1963, page 92.

future. When the entrepreneur is considered, it is usually as a middleman: the entrepreneur spots the opportunity of gain between two unconnected market participants, the initiation of the necessary action of buying from the seller and selling to the buyer, and if successful (the entrepreneur's selling price exceeds his buying price) the capturing of entrepreneurial profit. But there are other entrepreneurial functions—beginning with the process of alertly noticing the presence of the opportunity before anyone else has--and finer detail to be considered, and time passes.

We will see in the writings of these economists that there is a psychological process occurring in the mind of the entrepreneur, of which the economist must be aware, which guides the actions of the successful entrepreneur, so that the economist must not restrict his vision only to the "economic" or "productive events" which are visible in the world, but must also consider the psychological or "spiritual" events which go on in the mind of the entrepreneur and which cause these physical events. In the event that one entrepreneur's psychological events are inferior in character to those of another entrepreneur, the entrepreneurial success of the first entrepreneur will be limited and constrained by reality, compared with the entrepreneurial success of the entrepreneur possessing the superior psychological tools. Praxeology is not psychology; but the praxeologist must evaluate the character of thought of the entrepreneur to understand the reason for his success or failure in the catallactic world: valuation cannot be accepted as a mere "given" because the character of thought of the entrepreneur contributes to, if it does not completely determine, the values he chooses. Because successful entrepreneurship requires the superior forecasting of the unknowable future and the adjustment of present plans to co-ordination with that unknowable future, success is not automatically achieved. It is a miracle of creation that so many entrepreneurial actions—a majority--are successful and bring the market to more-highly-co-ordinated state than it was and than it otherwise would have been. The *reason* for the large success of most entrepreneurial actions in the real world is not understood, or even often considered.

The entrepreneur does not bear risk. The entrepreneur, according to all of the writers we shall consider, is so supremely confident in the correctness of his forecast of the future, that he cannot believe that it will not occur just as he directs it to. It is not that the entrepreneur does not know that the future is uncertain; rather, it is his *confidence in his own ability to forecast correctly*, to pick out the actual future state from the wide spectrum of possibilities, that causes him to *know* that he is correct, despite his knowledge of the uncertainty of the future, while all others in the market are wrong. Mises said, "The entrepreneur sees only profits." Kirzner said, "The entrepreneur shoulders aside uncertainty," and has discovered "something obtainable for nothing at all." The entrepreneur acts as does someone in a state of certainty: *this mental process of the entrepreneur* is what Kirzner meant (not the neglect of the necessary passage of time between production and fruition) by seeing entrepreneurship as an *arbitrage* process, despite its transcendence of time into the future.

Risk is not perceived by human beings as a dispersion of possible alternative future events or states (as argued by Knight); rather, the correct understanding of risk is as a "second-order subjective creation": *the opinion of the decision-maker regarding his ability to forecast the future correctly*, compared with his opinion regarding the ability of others to forecast the future correctly—somewhat like the contest in which an individual predicts which girl will be judged by others to be the prettiest, not which girl the individual himself considers the prettiest.

Because the entrepreneur does not bear risk (because the entrepreneur has supreme confidence in his ability to forecast correctly, and so he *knows* what will occur), he acts in a way in which other market participants, who perceive the uncertainty of the future and do not believe they can correctly foresee what will occur, cannot act. The analysis of many economists of entrepreneurial action is therefore misconceived because the economists think that the entrepreneur engages in some sort of probability calculus to choose the course of action with the highest "expected value"; this is not correct: the entrepreneur *knows* what will occur if he acts as he chooses. To the entrepreneur, *there is no risk*: "The entrepreneur sees only profits," as Mises said.

The general economy consists of both **goods markets** and **asset markets**, and equilibration of the economy requires equilibrating changes in both markets. However, the market processes are somewhat different in the two forms of market due to the difference in the time scale of action and changes in valuations, and analytical tools used for the two markets are different. In the flow market for goods, we tend to analyze in the terms of changes from one "market day" to the next as market participants learn during one day and change their behavior in the next to buy new goods which replace the previously-used-up goods of the previous day. In the market for assets, the asset does not change—it still provides a flow of benefits in the future to whoever owns it—so it is not consumed and replaced during the next cycle or "market day". Even if a can of peas was purchased for the "wrong" price, it was still consumed and provided utility, and the next day, our consumer will search for peas at a better price. But if an asset was purchased for the "wrong" price, the next day, the asset-holder still holds this now-unsatisfactory asset and may wish to sell it—but there was no change in the asset at all, merely a change in the expectations of its owner regarding the future benefits which will be provided during the uncertain future.

Entrepreneurs do not merely create new products that people want; they do not merely change the way products are produced; they do not merely organize production in a different way: entrepreneurs perform actions which *change the way people think*; actions which *change the expectations* which market participants have about each other's plans and values; actions which *change the valuations and plans* of each market participant to include different things and act in different ways, and to form a different pattern; actions which *cause us to learn* new information and new modes of thought.

And "entrepreneurs" are not merely the "titans of industry"; *we all are entrepreneurs* in every action we take: we *choose* to think differently. It is our creative forecasting of a different future from the one we expect to occur if we do not act or act differently, our learning, our discovery of hitherto unknown or unnoticed facts or plans of others and our changing of our plans to encompass this new knowledge and appreciation, our creation of a new concept of the future; all of which constitute the entrepreneurial action which causes us to change our thoughts, to change the facts we know, to change our valuations, to change our expectations about events, to change our expectations about what others plan to do, and to change our plans for future action.

Not only is production a "spiritual phenomenon"[6]; *entrepreneurship is a spiritual phenomenon* also, in that it affects our subjective valuations and subjective expectations, and how we choose to live and what we choose to believe. Entrepreneurship is a mental act. Entrepreneurship is the creation of a

[6] Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Henry Regnery Company, 1963, page .

new previously-unthought expectation of the future and the plan of how to bring that newly-conceived future into existence.

During the twentieth century, various economists have clarified the process of entrepreneurship to aid our understanding of the market process; the economists I shall consider here are Frank H. Knight, F. A. Hayek, Joseph A. Schumpeter, Ludwig Mises, Israel M. Kirzner, G.L. S. Shackle, and Ludwig M. Lachmann. Each has contributed a furthering of the understanding of what entrepreneurship is and how entrepreneurship functions in the two different kinds of markets: the flow market for goods and services, and the stock market for both real and financial assets. This paper will trace the developments of the theory of entrepreneurship from one economist to the next, up to the present day, through both the flow market for goods and the stock market for assets, and will give my understanding of the current state of the theory of entrepreneurship as developed by Kirzner and Lachmann, the two most recent and comprehensive thinkers about entrepreneurship.

Since the economy consists of both kinds of market, processes in both kinds of market must ultimately be co-ordinated to pursue the greater equilibration of the entire economy. However, little has been said regarding the interaction of the product and asset markets, and the interactions of these markets will not be discussed in this paper. Rather, the co-ordination processes within each market considered separately will be emphasized, with the analysis of the interaction between the two markets kept in very rudimentary form in this paper.

ENTREPRENEURSHIP

Entrepreneurship is action; but it is action understood from the point of view of the particular outcome which the actor aims at. Action seeks to change the future. Entrepreneurship is contained in Mises' definition of action.

Entrepreneurship *is the comparison of the forecasted future state of the world which the actor expects to occur in the absence of his specific action with the newly-made and previously-unnoticed or unforeseen forecasted future state of the world which the actor expects to result from his specific action, and the taking of the specific action by the entrepreneur to achieve his preferred future state of the world. Entrepreneurship consists in the creation of a previously-unperceived opportunity for profit and the alertness to that previously ungrasped opportunity, and then the taking of action to achieve the opportunity*. **Entrepreneurship is the essence of the market process and entrepreneurship creates market action.** Successful entrepreneurship creates profits, while unsuccessful entrepreneurship creates losses. A "profit" is the excess by which revenues exceed all costs and expenses involved; a "loss" is the excess by which costs and expenses incurred exceed revenues. Successful entrepreneurship is the prediction of the future more accurately than was done by others, so that after the entrepreneur takes action, the opportunities he offers to customers are superior (from the point of view of the customers) to other opportunities the customers are offered by others.

Entrepreneurship does include *taking* the chosen action; entrepreneurship consists in *identifying* the best available action; this *identification involves foresight,* and then, on the basis of

the forecast and identification of the best available action, taking the particular action: entrepreneurship is action, and all action is entrepreneurship.

Using the word "entrepreneurship" focuses on the process of forecasting and imagining the future which will result from alternative action; but forecasting and imagining without taking action is mere daydreaming. Economics is the science of human action; an integral part of that *action* is the forecasting of the future which is expected to result from the action.

In a logical sense, the forecasting of entrepreneurship precedes action. Since all action aims at changing the uncertain and unknowable future, all action involves entrepreneurship, because the forecasting of the future state which will result from a particular proposed action is a subjective creation of the mind.[7, 8] The entrepreneur cannot act before forming an expectation of what will develop in the future if he does not act, and comparing that expectation with his expectation of what will develop if he does act in a particular way. We see that "entrepreneurship" is really the same thing as "forming expectations about alternative states of the future and bringing about the most highly valued of the alternative future states". Taking this action is inevitable, once the appraisal of entrepreneurship has occurred.

In *Human Action*, Mises explicated entrepreneurship with laconic precision, leaving the elaboration of it to others. Mises emphasized that each human action was "speculative" in nature; *i.e.*, aimed at changing the uncertain future.

Entrepreneurship is not merely a specific category of human action with respect to uncertainty, or alertness to a previously-unnoticed profit opportunity; not even merely the crucial role played in the market process[9] which causes the adjustment of production to changes and brings the system closer toward equilibrium; rather, *it is the mental creation of that profit opportunity prior to every action taken*

[7] Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Chicago: Henry Regnery Company, 1966, p. 252: "As action necessarily is directed toward influencing a future state of affairs, even if sometimes only the immediate future of the next instant, it is affected by every incorrectly anticipated change in the data occurring in the period of time between its beginning and the end of the period for which it aimed to provide. Thus the outcome of action is always uncertain. Action is always speculation. This is valid not only with regard to a market economy but no less for Robinson Crusoe, the imaginary isolated actor, and for the conditions of a socialist economy...In any real and living economy every actor is always an entrepreneur and speculator..."

[8] Israel M. Kirzner, *Competition and Entrepreneurship*, Chicago: The University of Chicago Press, 1973, pp 86-87. Kirzner explains: "And of course, it has been Mises's emphasis on *human action* which I have contrasted with Robbinsian economizing. My identification of an entrepreneurial element within human action which is by definition excluded from economizing simply repeats Mises's assertion that the entrepreneurial function—action seen from its *speculative* aspect—is inherent in *every* action. [Here Kirzner refers to Mises *Human Action*, Yale University Press, 1949, pp. 253-254.] (My discussion of entrepreneurial alertness has deliberately avoided emphasizing its speculative character. I have of course recognized [Here Kirzner refers to L.M. Fraser, *Economic Thought and Language*, London: A. and C. Black, 1937, pp. 394-395] that in a world of uncertainty every entrepreneurial decision, no matter how much alertness it reflects, must to some extent constitute a gamble. But it has been my purpose to point out that the entrepreneur's decision—despite its unavoidably speculative character—represents his judgment that an opportunity for profit *does* exist. All human action is speculative; my emphasis on the element of alertness in action has been intended to point out that, far from being numbed by the inescapable uncertainty of our world, men *act upon their judgments* of what opportunities have been left unexploited by others.) "

[9] Israel Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p. 140.

and then the taking of the appropriate action. All other functions flow from this mental act (which was what Kirzner was trying to assert by choosing "alertness" as the defining entrepreneurial category, and which was what Mises was trying to explain.) And since every action seeks a profit, entrepreneurship is an integral part of every action taken by acting man. No action fails first to conceive an improvement from the point of view of the actor as its result; else the actor would not act. But the improvement does not yet exist; it must be forecasted as the result of the action contemplated. Mistakes are possible, and many actions yield results which the actor considers inferior to others which might have been achieved: loss is integral in action, but it cannot be expected beforehand, else, that action would not be taken. Only unsuccessful actions result in losses, and those by mistake. *Prior to action, the actor expects only profits*.[10]

We commonly speak of "entrepreneurship" as the action of starting a business: formulating the identity of the product or service to be sold, the forecast of the demand for the product or service, the design of the production methodology to be used, the acquisition of financing, and the operation of the business. It is true that starting a business is entrepreneurship. But entrepreneurship is more than writing a business plan, seeking and securing financing, and operating the business: *entrepreneurship is the creation of a vision of the future which will follow the course of action identified by the entrepreneur-actor*. All action involves entrepreneurship as an integral part.

Entrepreneurship *creates the future* in a form different from what it would have been if the entrepreneur had acted differently than he did. It is not so much that the entrepreneur foresees more accurately the state of demand than other forecasters or entrepreneurs do; it is that he thinks his forecast is more accurate and he acts to bring about the meeting of that subjective forecast by prior action. It is not true that the future state of demand "will/must be" as he has foreseen it; rather, in the context of his actions, consumers come to be aware of his creation, and they buy it. It is not that his creation is the best or optimum thing that could be; it is that it is superior to other things that are available. If he had acted differently, he would have created a different thing, and that might have been either better or worse, but it would have been the thing that existed; or it would have been seen to be inferior to a competitor's output. The consumers buy the product the entrepreneur has created partly because it now exists because he has created it, and after contemplating its previously-unanticipated existence, the consumers judge it valuable and prefer it to some other alternatives which exist.

The entrepreneur does not merely *foresee* the future (*i.e*., the future which is already destined to come true); he does not merely *anticipate* the future (*i.e*., the future which is going to arrive no matter what we do); he does not merely *see* the future reality that eventually is going to unfold; he does not merely "discern those aspects of the future, on which he can act, that will influence his well-being"[11]; he does not merely "*conceive* a number of ways in which the future may unfold and *judge* which of the number of ways the future may unfold to choose which of those images will guide his action"[12]; rather, *the entrepreneur **<u>creates</u>** the future in a form different from what it would have been if the entrepreneur had acted differently than he will, in a form different from the way it would have been if this*

[10] Ludwig von Mises quotation.
[11] Jack High, "Alertness and Judgment: Comment on Kirzner," Chapter 13 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p.164.
[12] Jack High, "Alertness and Judgment: Comment on Kirzner," *ibid*, page 165.

*entrepreneur had not lived; the entrepreneur's action **causes** the future to be as it will become*.[13] The entrepreneur's action creates the future he has foreseen.

The market process conveys not only information but also valuations and expectations about future events. These newly-noticed valuations of others and expectations based on others' actions cause the entrepreneur to adjust his own expectations regarding the results of alternative actions, so that when the entrepreneur acts, he acts in a way that tends to bring about a greater homogeneity of expectations and more highly co-ordinated plans and actions of others; in so doing, he gains a profit. It is this conveyance of previously-unknown and previously-un-co-ordinated actions, values, and expectations, which had caused the market not to be in equilibrium, which causes entrepreneurs to change their forecasts and plans, so as to achieve greater co-ordination and provide customers with better opportunities than the customers had perceived in the past, and also with better opportunities than the customers can perceive from competing entrepreneurs.

Valuation is Subjective: a value is created in the appraising mind of the actor at the moment of action and action is taken on the basis of the differential valuation; hence valuation is not constant across time and it cannot be constant across changes in conditions. The mere passage of time can alter expectations, valuations, and actions.

Expectations are also subjective: a particular expectation about a future event is a choice formed in the mind of the acting market participant/entrepreneur; he takes action in anticipation of particular future events which he expects to occur under alternative future actions.

Just as the market process causes alteration of plans and values on the part of individual market participants, so it also causes market participants to alter their expectations into greater homogeneity; *i.e.*, into greater agreement.

Mises meant two different things in discussing entrepreneurship:

first he noted that each human action was inherently "speculative"; *i.e.*, involving a prediction regarding the future which could not be verified or proved in advance, and which most people interpret as meaning that the entrepreneur recognizes the uncertainty and unknowableness of the future;

second, he said "the entrepreneur sees only profits" implying that the entrepreneur, at the moment of his action, believes in the correctness of his speculation and believes *he knows the future*; quite a different meaning than most people have regarding the implications of speculation, and a statement regarding possibly the psychology of the actor-entrepreneur.

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[13] I emphasize that I came independently to this understanding while writing my Ph. D. dissertation from 1976-1980 under Israel M. Kirzner, who was my Dissertation Advisor and the Chairman of my Dissertation Committee. Professor Kirzner and I engaged in continual discussions of the nature of entrepreneurship during this time, so I am acquainted with his thought on the matter; however, I am not aware of his having written down these ideas prior to the 1982 article cited herein. I first read *Competition and Entrepreneurship* in 1974, I believe, and it does not contain this depth of thought. In *Competition and Entrepreneurship*, entrepreneurship is almost completely divorced from the passage of time and the necessity of forecasting the future, much more from the concept of the entrepreneur's *creating* the future. Yet I know that Professor Kirzner did not disagree with me about this.

Entrepreneurship is usually equilibrating: improving the degree of co-ordination of the pattern of valuations, expectations, and actions of market participants, causing profits for the entrepreneur; however, sometimes, entrepreneurship is not equilibrating and causes losses to the entrepreneur.

Two Types of Market

The Flow Market for Consumption Goods (this is the ordinary sort of market most commonly discussed in economics). In a flow market, Supply-Demand Analysis is Useful

The Asset Market for Capital Goods and Financial Assets (the most common such market is the Stock Market, in which shares of ownership of firms are exchanged; similar markets are the Bond Market, in which previously-issued bonds of corporations are exchanged, and the used furniture market, and the used car market). Supply-Demand Analysis is Irrelevant in an Asset Market[14], and the analysis requires understanding the changing pattern of expectations.

Expectations are crucially important in the valuation process of financial securities such as shares of common stock: we teach that the value of a share of common stock is the present value of the stream of expected future cash flows to be received by the owner, discounted at the suitable risk-adjusted cost of capital which relates this situation to other known situations alternatively available. When a share of stock changes hands, it must be because the seller thinks the value is smaller than the price he received, and the buyer thinks the value is larger than the price he paid. The value of a share of stock is the present value of the future cash flows expected to be received across the future. The crucial reality which must be appreciated is that such expectations are subjective and highly volatile: a particular individual can go from being a buyer to a seller in an instant, without the intervention of any observable event, merely by changing his mind or reflecting on already-known but previously-differently-understood facts. **This volatility of action means that the concept of "supply" and the concept of "demand" do not exist in an asset market.**

Different expectations regarding the amounts and timings of the future cash flow cause valuations to be different. **All valuation of stock is based on expectations, and exchanges of stock are therefore understandable only on the basis of the differing expectations of the seller and the buyer regarding the shares to be exchanged and alternatives.** Observed prices in an asset market, as for shares of stock, therefore are evidence of different expectations held by the market participants regarding the traded shares. The seller expects the stream of future cash flows to be smaller, in present value, than the buyer does: the seller and buyer have different expectations about the value of the stock. The value of the stock is the discounted value of the expected future cash flows, so disagreements about value must involve either the size and timing of the expected future cash flows, or the size of the discount rate used to convert those future expected cash flows into a present value.

The market conveys information and expectations from one market participant to another.

Consumption Goods are Valued Based on the Benefits to be Immediately Received, which can be forecasted with reasonable accuracy.

[14] Hugh Townshend, "Liquidity-Premium and the Theory of Value," *The Economic Journal*, **Vol. 47**, No. 185, March, 1937, pp. 157-169.

Capital Goods are Valued Based on the Future Production Consumers Goods Which It Is Expected/Anticipated They Will Produce, and the values are forecastable because of the clear values of the relevant consumers goods —Valuation of Capital Goods is a time-spanning subjective process. Valuation of a particular capital good is different, depending on the intended use of the capital good.

Financial Assets are Valued Based on the Expected Future Price of the Asset and the expected future cash flow stream. These future benefits cannot be forecasted with the "reasonable accuracy" associated with the benefits of consumers goods or capital goods.

Entrepreneurship **is the Formation or Creation of Expectations by the Actor Prior to Action and then the taking of action on the basis of his expectation**; Entrepreneurship is not the Forecasting of Future Actions by Others, Rather, It Is the Forecasting of a Future State the Actor Himself Intends to Bring About.

Expectations Change in Response to Action and to Reflection: new actions, different actions, changed actions are taken after reflection causes a change in the expectations of the actor: a person who bought yesterday sells today, newly self-convinced that yesterday's action was a mistake.

The Perception of "Risk" by the Entrepreneur is mis-identified and misunderstood by most economists.

Definitions of "Risk":

Knight: a probability distribution of known possible future outcomes
Ordinary: the possibility of incorrect forecasting; lack of knowledge of the future
Wood: the actor's opinion of his forecasting ability

Correction of Misperceptions of Kirzner's Definition of Entrepreneurial Alertness:

Kirzner sees entrepreneurship as a non-structured single-time-point perception of *alertness to a previously-unsuspected opportunity*, even if that opportunity can exist only in the future However, his neglect of the *mental process of decision in the mind of the entrepreneur* hampers our understanding of the market process.

Kirzner defined entrepreneurship as: "*alertness to hitherto unperceived opportunities*"[15]; and later modified this definition to become: "the motivated propensity to formulate an accurate image of the future, an image on which we can base our action."[16]

It is widely perceived that Kirzner ignored uncertainty and risk in his analysis, and probably ignored time as well: "In a series of...papers, Lawrence White (1976), Robert Hebert (1980), and Murray

[15] Israel Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, pp. 139-159, page 140, italics in the original.

[16] Jack High, "Alertness and Judgment: Comment on Kirzner," Chapter 13 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p.167.

Rothbard (1980) have identified shortcomings in the idea of the entrepreneur as merely the alert arbitrageur. The major difficulty identified with Kirzner's formulation is that it does not distinguish between arbitrageurship and uncertainty bearing. Arbitrage deals with present, known opportunities to exploit price differences that exceed transaction-transfer costs over time or space. Uncertainty, however, exists solely with respect to the future. Thus, by confining entrepreneurial activity to the practice of arbitrage, Kirzner downplays the importance of uncertainty in human decision making. The consequences are not trivial insofar as economic theory is concerned. By ignoring uncertainty and denying risk, Kirzner's theory cannot explain entrepreneurial losses, only entrepreneurial gains."[17]

But surely Kirzner understands that action really proceeds through time toward the unknowable future and that error in forecasting is possible to the entrepreneur and that error leads to losses. But in explicating entrepreneurial profit, which occurs only if the entrepreneur is correct in his forecast and action, the success has already occurred, so we already know the entrepreneur was correct in his visualization and alertness. *The entrepreneur believed he was correct prior to his action*. I believe that part of the problem lies in the mistaken understanding of uncertainty. I believe that action within the framework of uncertainty is carried out differently by those entrepreneurs who believe their forecast is correct; *i.e*., those who "see only profits."

"The uncertainty that characterizes the environment within which market entrepreneurship plays its coordinative role must be fully recognized; without it there would be no need and no scope for entrepreneurship."[18] One must distinguish emphasis from completeness. "It now turns out that the entrepreneur-as-arbitrageur idea applies only to single-period market decisions (that is, discovery of past error), whereas multiperiod market decisions require the imagination and creativity of the Shacklean enterpriser. In this newest exposition Kirzner admits that uncertainty is central to the notion of entrepreneurial activity, but he claims that the relationship is more subtle than formerly supposed. It is claimed that entrepreneurial activity arises from present uncertainty about the unknowable future as well as from the discovery of past error that previously masked profit opportunities."[19]

We see that Kirzner (after all, the author of *An Essay on Capital*[20], whose first chapter was titled "Unfinished Plans" and discussed multi-period planning and action in the passing of time) understood that human action through time cannot see the future perfectly: "...in the case of multiperiod entrepreneurship alertness must mean alertness to the future. It follows that market entrepreneurship in the multiperiod case introduces uncertainty as facing the entrepreneur...In particular the futurity that entrepreneurship must confront introduces the possibility that the entrepreneur may, by his own creative actions, in fact *construct* the future as *he* wishes it to be....entrepreneurship [is linked with] the courage and vision necessary to *create* the future in an uncertain world..."[21]

[17] Robert F. Hebert and Albert N. Link, *The Entrepreneur*. New York: Praeger Publishers, 1982, p. 97.
[18] Israel Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p. 156.
[19] Robert F. Hebert and Albert N. Link, *The Entrepreneur*. New York: Praeger Publishers, 1982, p. 97.
[20] Israel M. Kirzner, *An Essay on Capital*. New York: Augustus M. Kelley, 1966.
[21] Israel Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, pp. 154-155, italics in original.

Foresight is the essence of entrepreneurship; one cannot be alert to a new opportunity unless one first perceives its existence. But the future does not yet exist. The entrepreneur must first mentally create the opportunity by an act of foresight of the as-yet-unrealized future. The entrepreneur does not "bear risk"; rather, the entrepreneur believes his forecast is the correct foresight of the actual future state, and so he does not believe the situation is "risky". It is only those who understand that they may be wrong in their forecasts and so consider themselves to be poor forecasters of the future, who bear risk. Risk is really the opinion one has of his own ability to forecast correctly; risk has nothing whatever to do with the fact that the future is truly unknown. Because the future is imaginable, those who have a strong imagination consider that they know what will happen so they bear no risk. Even if one *knew* the future, he would bear risk if he believed his forecast was wrong.

The entrepreneur does not merely *foresee* the future (the future which is already destined to come true); does not merely *anticipate* the future (the future which is going to arrive no matter what we do); does not merely *see* the future reality that eventually unfolds; does not merely "discern those aspects of the future, on which he can act, that will influence his well-being"[22]; does not merely "*conceive* a number of ways in which the future may unfold and *judge* which of the number of ways the future may unfold to choose which of those images will guide his action"[23]; rather, *the entrepreneur* ***creates*** *the future in a form different from what it would have been if the entrepreneur had acted differently than he will, in a form different from the way it would have been if this entrepreneur had not lived; the entrepreneur's action* ***causes*** *the future to be as it will become*.[24]

Kirzner explains: "Rather, acting man really does try to construct his picture of the future to correspond to the truth as it will be realized. He really does try to glimpse the future, to peer through the fog. He is thus motivated *to bring about* correspondence between the envisaged and the realized futures. Man's purposeful efforts to better his condition are responsible not only for his choices as constructed against a given envisaged future; that purposefulness is, perhaps even more importantly, responsible for the remarkable circumstance that that envisaged future does overlap significantly with the future as it actually unfolds. We call this motivated propensity of man to formulate an image of the future man's *alertness*."[25]

And Kirzner goes on: "It should be observed that the entrepreneurial alertness we have identified does not consist merely in 'seeing' the unfolding of the tapestry of the future in the sense of seeing a preordained flow of events. Alertness must, importantly, embrace the awareness of the ways in which

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[22] Jack High, "Alertness and Judgment: Comment on Kirzner," Chapter 13 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p.164.

[23] Jack High, "Alertness and Judgment: Comment on Kirzner," *ibid*, page 165.

[24] I emphasize that I came independently to this understanding while writing my Ph. D. dissertation from 1976-1980 under Israel M. Kirzner, who was my Dissertation Advisor and the Chairman of my Dissertation Committee. Professor Kirzner and I engaged in continual discussions of the nature of entrepreneurship during this time, so I am acquainted with his thought on the matter; however, I am not aware of his having written down these ideas prior to the 1982 article cited herein. I first read *Competition and Entrepreneurship* in 1974, I believe, and it does not contain this depth of thought. In *Competition and Entrepreneurship*, entrepreneurship is almost completely divorced from the passage of time and the necessity of forecasting the future, much more from the concept of the entrepreneur's *creating* the future. Yet I know that Professor Kirzner did not disagree with me about this.

[25] Israel Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p. 149, italics in original.

the human agent can, by imaginative, bold leaps of faith, and determination, in fact *create* the future for which his present acts are designed."[26]

Misperceptions of Ludwig Lachmann's Views

We must consider the views of Professor Ludwig M. Lachmann and Professor G. L. S. Shackle, which are widely misunderstood to include the denial of equilibrating tendencies in the market and regular sequences of events. "Kaleidic" does not mean continuous upset; rather it means sudden upset separated by a, perhaps long, time during which equilibrating forces increase the degree of co-ordination of the economy, or part of it.[27] "In a kaleidic society the equilibrating forces, operating slowly, especially where much of the capital equipment is durable and specific, are always overtaken by unexpected change before they have done their work, and the results of their operation disrupted before they can bear fruit. Restless asset markets, redistributing wealth every day by engendering capital gains and losses, are just one instance, though in a market economy an important one, of the forces of change thwarting the equilibrating forces. Equilibrium of the economic system as a whole will thus never be reached. Marshallian markets for individual goods may for a time find their respective equilibria. The economic system never does. What emerges from our reflections is an image of the market as a particular kind of process, a continuous process without beginning or end, propelled by the interaction between the forces of equilibrium and the forces of change."[28] It is not that there are no equilibrating forces; it is that the forces moving the economy toward equilibrium are interrupted before they can complete the journey, and following the interruption and disruption, the economy must start out anew toward a new equilibrium. But it is not the entire market system that is disrupted by a kaleidic upset: usually only a small portion of the entire society is involved and other parts are affected only by equilibrating adjustments moving outward from the kaleidic upset over time. This causes the entire "equilibrium" toward which the economy is tending to be somewhat different, but not unrecognizably so. "Capitalism is a moving target."[29] It is a complete misunderstanding to accuse Lachmann of nihilism or to argue that he believed in chaos. He merely argued that, because the economy contains asset markets as well as product markets, and in the asset markets kaleidic change is frequent, the entire economy would not achieve equilibrium. This view is no different from that of Ludwig von Mises' view that equilibrium was never achieved.

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[26] Israel Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, p. 150, italics in original.

[27] I should also mention that I worked personally on the ideas of entrepreneurship in my dissertation with Professor Lachmann during the time while he was in residence at New York University, and that the source of my dissertation was Professor Lachmann's article "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **XIV** (1) March, 1976, pp. 54-62 Because of this personal contact and discussions with Professor Lachmann, I feel qualified to interpret his writings in a way I believe is more accurate than some interpretations I have seen.

[28] Ludwig Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **XIV** (1) March, 1976, p. 61.

[29] Leonard Silk, I believe, in *The New York Times*, but I have no document.

Definitions of Entrepreneurship:

Mises and Kirzner and Shackle and Wood: Alertness to Future Opportunities: A Subjective Process of Independent Creation of Future Opportunities Newly Perceived, with an absence of "risk" in the mind of the entrepreneur. The correction of the previous error of failure to perceive this opportunity.

Kirzner spoke of the creation of one perceived future state in a single flash of alertness.

Shackle adds the time-consuming mental process of decision in the mind of the entrepreneur.

Wood adds the process of creation of more than one possible future state in the mind of the entrepreneur and the choice from that set.

The Meaning of "Kaleidic" by Shackle and Lachmann: a sudden change in a developing pattern (whether a large change or a small change) which interrupts the process of adjustment in that sub-market and sends it onto a new way toward a new equilibrium: the market process of adjustment is not smooth and continuously-differentiable; it is kinky and it changes direction—the model however, is eddies in a larger flow, not a complete disruption of the entire river or highway of flow; though admittedly, occasionally a volcano erupts. It must be true that the kaleidic change which occurs is also brought about by entrepreneurial action, but we notice that few privately-taken entrepreneurial actions seem to disrupt the economic process; rather, it appears that most disruptions are brought about by State action.

The Source of "Entrepreneurial Profits": not a return to a factor of production, not a return to entrepreneurship, not a return to something supplied, not a monopolistic rent, as variously thought by some various neo-Classicals. Rather, Kirzner emphasizes that entrepreneurial profits arise from the difference in price of the products produced during period 2 compared with the price of the factors of production paid in period 1: a "time-spanning" arbitrage profit, similar to buying in one market and re-selling at a higher price in another market, but there is a time span between markets, hence involving forecasting the uncertain future more accurately or sooner than was done by others.

ENTREPRENEURSHIP IN THE FLOW MARKET FOR GOODS

Introduction: Entrepreneurship is the essence of the market process.

***The market is a process of discovery, creation, and adjustment of valuations, expectations, plans, and actions of the market participants*. *Valuation is subjective. The market process causes a greater and greater degree of co-ordination of the valuations, expectations, plans, and actions of the market participants, and hence a greater order to society. Entrepreneurship is the critical step in the market process, the step that brings about the greater co-ordination that results. Entrepreneurship is the prior process of action, based on the creation of a view of the future with and without a particular action taken, so that the effect of the proposed action on the values of the actor, can be seen*.**

From the standpoint of mainstream equilibrium theory, the entrepreneur's role is graceful in its absence and is not a part at all of the formation of prices and the adjustment of human actions as a result of the prices at which products are offered or anticipated to be available. To understand how the entrepreneurial process affects human actions and achieves the co-ordination which the market process brings about, we must read Austrian economics.

The market process causes the valuations of individual market participants, the expectations of the market participants regarding future events, and the plans and actions of individual market participants, to come into greater-and-greater degrees of co-ordination with each other as a result of entrepreneurial action in the market. Originally, there was great heterogeneity and dis-co-ordination: at the start of the market process, these valuations, expectations, plans, and actions were heterogeneous and un-coordinated: the plans and actions of one participant did not correspond with the plans and actions of other participants. After the market process has operated, the plans of one market participant to purchase a product at a particular price are co-ordinated with the plans of another market participant to offer to sell that very product at that very price. The market process has caused the valuations, the expectations, the plans, and the actions of each market participant to change so that all are more homogeneous and co-ordinated than they were before.

The market process conveys not only information but also valuations and expectations about future events. These newly-noticed valuations of others and expectations based on others' actions cause the entrepreneur to adjust his own expectations regarding the results of alternative actions, so that when the entrepreneur acts, he acts in a way that tends to bring about a greater homogeneity of expectations and more highly co-ordinated plans and actions of others; in so doing, he gains a profit. It is this conveyance of previously-unknown and previously-un-co-ordinated actions, values, and expectations, which had caused the market not to be in equilibrium, which causes entrepreneurs to change their forecasts and plans, so as to achieve greater co-ordination and provide customers with better opportunities than the customers had perceived in the past, and also with better opportunities than the customers can perceive from competing entrepreneurs.

The existence of such a spontaneous order is a profound understanding. This spontaneous order comes about only under conditions of freedom of thought and action. Government is the agency of coercion and control in society. All that government can do is prohibit. Control is not a creative process. All government action stifles creativity. Creativity is the essence of entrepreneurship and the essence of the market order. All government regulation reduces the possibility of order in human affairs and necessarily causes a reduction in the standard of living, *from the point of view of each market participant*, compared with the standard he would have had in the absence of the government regulation which stifled the unseen creativity which does not come into existence with the regulation.

RISK

Advances in economics come about through better appreciation of the subjectivity of valuation. Each of us *chooses* what to value and how much to value it, and we can and do change our minds. Not only is valuation subjective, ***risk perception is subjective*** also. Just as the appraising mind *chooses* how much to value an end, and just as the appraising mind values a means according to the value the mind places on the end the means will achieve, so also, the appraising mind *chooses* how much risk to perceive in the uncertainty between present and future, and we can change our minds regarding how much risk we perceive.

Valuation occurs through time, between the present and the foreseen future: we value that which we have not yet got, so there is an element of speculation involved in valuation. We act between the present and the future because of the valuation of the anticipated good we expect to achieve in the future, compared with the valuation of the anticipated good we expect to have if we do not act, and compared with the valuation of the present good we already have and must give up to act; the perception of the "likelihood" of our achievement of the sought good is our perception of risk—the actor judges the likelihood of success of his endeavor.

Risk, or *uncertainty*, is not an objective phenomenon like the temperature of the air now; *risk* is a category of perception—of creation within the mind regarding what the future will look like. *Different people perceive risk differently*, just as they value goods differently. Risk is not the likelihood or probability that achieved results will differ from the value expected; risk is the opinion of the actor regarding his own ability to forecast the outcome accurately. The actor does not perceive a "probability distribution" of different possible outcomes like the number of the space of the roulette wheel into which the ball may fall—that is the creation of the academic economist who has a different sort of mind. Rather, the actor foresees the outcome he expects to occur, with no ambiguity whatever. Gambling at dice, or roulette wheels, or cards, is different from acting to start a business or change a production method, or to acting in ordinary events such as acting to start the car or to get on the bus.

It amazes me how popular a vegetable zucchini is. It amazes the economist how the entrepreneur does not perceive how risky is his endeavor, how unlikely of success it actually is, how large a discount rate ought to be applied to the future cash flows. Our treatment of risk as a probability distribution agreeable to all is erroneous: nobody perceives risk the same; nobody really agrees that the suggested probability distribution is accurate.

I do not gamble. My son wagers; he is sometimes wrong. But it is the *structure of our thoughts* which is different, not our appreciation for the "risk" in a particular situation. If I believed I would win, I too would wager; it is the *lack of belief* that causes me to behave in a more conservative way; and my lack of belief is the result of a choice I make. The entrepreneur *subjectively chooses* his belief in the risk of his enterprise: his belief is that it will succeed. The economist, of academic instead of entrepreneurial mind, perceives risks the entrepreneur has already chosen to ignore *because they are not real*. So the entrepreneur acts.

Entrepreneurship in Two Types of Market: 1) Flow-of-Goods; 2) Assets

We must analyze entrepreneurship in the context of two types of markets: 1) the flow market for goods, such as bananas, refrigerators, Chevrolet Tahoes, and so forth; and 2) the stock market for assets such as real capital assets like refineries, metal pressing machines, aircraft, and such as financial assets like bonds, shares of ownership of a corporation, contracts to trade forward, future, and options values, and the like. The asset market for theme parks such as Walt Disney World and Jazzland is complex. The two types of market are different in the way prices are formed within them and in the details of the entrepreneurial forecast and activity.

Definition of Entrepreneurship and Risk (or Uncertainty)

Entrepreneurship *is a forecast; i.e., a mental creation of the future, of a previously-unforeseen or unnoticed possible future event which may occur under alternative circumstances, the selection from possible alternative futures of the most highly valued one, and a choice among present means to achieve the desired selected alternative future events or conditions from the spectrum of imagined future states*. Entrepreneurship implies the choice of particular action to seek to create *this* foreseen future. Entrepreneurship is not merely the forecasting of a future state which the forecaster expects others to bring about, as I forecasted in 1971 the portion of United States electric power in 1990 that would be generated by nuclear fission. *Entrepreneurship is a mental <u>creation</u> of the future in the sense that the entrepreneur intends <u>himself</u> to bring about that future which will not occur in the absence of his action; entrepreneurship is not merely a sighting or a viewing of the future (as through an optical instrument) that would have come into existence anyway; entrepreneurship is the choice to create that future.* Entrepreneurship precedes action. *Entrepreneurship* creates in the mind a perception of a possible future which may constitute an *opportunity not previously perceived; but the grasping of the opportunity requires particular action*. Present action may allow that possible future opportunity to be grasped. *Action* is taken based on the entrepreneurial understanding of the possible future and its relationship with the means perceived to be available. Action is chosen from perceived alternatives available to the actor based on the actor's entrepreneurial understanding of the future states which may develop as a result of each possible action which might be taken by him. *Entrepreneurship* can be spoken of as "alertness" to the perceived/created opportunity connecting the possible future with the available present, so long as it is understood that "alertness" in this sense means much more than alertness to the presence of an otherwise-unexpected condition that has itself moved into the area, like a snake. Since no actor has perfect information regarding all natural events and conditions and the actions of other market participants which will create the future, the future state foreseen by the entrepreneur may not actually occur: the ignorance of what events will actually occur in the future is commonly called "risk" or "uncertainty". This risk or uncertainty is intrinsically a part of the entrepreneurial process because the entrepreneurial process connects the present instant with a moment in the future after the proposed action of the entrepreneur has brought about that future, which is today unknowable. Our understanding of risk therefore is intrinsically a part of our understanding of entrepreneurship.

Risk is Our Way of Viewing the Possible Future

"Risk" or "radical uncertainty" is a manifestation of this uncertainty under which we always function. Knight argued that the entrepreneur *shouldered radical uncertainty*, which was not quantifiable, as was the probability distribution of possible future outcomes, and as was insurable various "risks" such as death at a particular age (merely a probability taken from a large number of identical events.) Kirzner says that the entrepreneur <u>shoulders aside</u> radical uncertainty. Mises said that the entrepreneur *sees only profits*; *i.e.*, does not perceive the action as at all uncertain. The perception of the future is different in the entrepreneur than it is in the ordinary person. The entrepreneur believes he is right in his forecast, so he sees no uncertainty of the future; ordinary people know the future is uncertain. The entrepreneur may be mistaken; if so, he creates losses. But he expects only the profits in advance.

But "risk" or "radical uncertainty" is badly understood: it is not the probability distribution of possible future outcomes; it is not the insurable likelihood of a future event. Knight was not completely correct, though he went part of the way. The entrepreneur does not so much as "shoulder risk" as he "shoulders aside risk" (Kirzner's phrase) or *believes in the singular future success of his proposed enterprise*: Mises said, "The entrepreneur sees only profits." We must better understand risk: it is not the possible variability of future conditions, nor is it the unknown future which may occur; but rather ***risk*** *is the opinion in our minds regarding our ability to forecast the future accurately*. *The risk we perceive in a situation is our perception of our ability to forecast the future outcome correctly*. If we believe we are forecasting accurately, *we bear no risk*. I call "risk" a "second-order subjective category" because it is our subjective-judgmental opinion of our own subjectively-created ability to forecast. This is much like Keynes's description of the stock market as an Irish beauty pageant in which you do not select the prettiest girl yourself, but rather seek to forecast which girl will be thought prettiest by the readers of the newspaper in which the contestants' pictures are printed: you seek to judge the response of others, instead of reporting your own response.

An actor who believes his forecast of the future is correct acts as though it *is* correct—*he bears no risk whatever*. Different behavior reflecting the "uncertainty of the future" perceived by the less-gifted observer is the result of the opinion of the less-gifted actor that he is not forecasting accurately so he does not know the future. The entrepreneur does not "see" risk, does not "see" losses, does not "see" the possibility of failure, because he believes *his forecast is the right one* and *his is the correct forecast*, because he has a very high opinion of his ability to forecast in this instance. We who observe the process perceive "risk" as the unknowableness of the future *because we do not believe we accurately forecast*—hence we think that the future is unknown because *it is unknown to us*; we do not see into the mind of the entrepreneur to see that *he believes the future is knowable and he knows it*—that is why he acts as he does, and why he "perceives only profits."

Elevator-Bank Example

Consider a person on the top floor of a 10-story office building confronting a bank of five elevators, all of which can convey him to the ground floor. He places a bet regarding which of the five elevators will answer his ring. We will see that the "probability distribution" he forms regarding elevator arrival depends on the actual situation and his knowledge of it, and his success in winning the bet depends only on his knowledge of the real situation.

First, we would expect our elevator-awaiter to estimate the probabilities equally: he knows nothing of the actual orientation of the elevators at the time he rings; *i.e.*, on what floor each is, or between which floors, and traveling in which direction. Accordingly, he would likely predict a 0.2 probability of first arrival of each elevator. If he wagers equal amounts on the first arrival of each elevator, he will win 20% of the time, if indeed, the elevators are deployed *randomly*.

But suppose the elevators are not deployed randomly: suppose elevator No. 1 stays on the ground floor awaiting a ring at that location and elevator No. 5 stays on the top floor awaiting a ring at that location. In this case, unless elevator No. 5 has recently been called, so that it is traveling with a prior customer to a lower floor, causing the nearest other elevator to respond to our ring, elevator No. 5 will be the first to respond to the call. The probability is no longer 0.2, but is something else, much closer to 1.0, depending on the location of No. 5 and the other elevators and the recent calls for their use. If our 10th-floor person bets consistently, he will have a different result than in the first situation. But only if he has knowledge of the actual deployment of the elevators, will he analyze the situation differently.

Now suppose he *thinks* he knows the strategy of deployment of the elevators: his wagers and his other actions in this situation will be consistent with his *opinion* of the deployment; *i.e.*, with a subjective construct, not with the actual deployment.

Time-Viewer Example

Recall that Mises wrote, "The entrepreneur sees only profits."[30]

Consider the example of a man with a working time-viewer who can see perfectly the closing price of IBM stock on January 16, 2005. This stock trader knows that the future of next year has not yet come about, and that the future is uncertain and unknowable; he knows that the winner of the 2004 Presidential election is not known, etc. But he has an alien time-viewer which allows him to see accurately the future price of IBM stock. His behavior regarding the purchase, non-purchase, sale, or short-sale of IBM stock today is therefore not at all due to the bearing of any risk whatever: he *knows* the future and acts on that certain knowledge. He is sure, because he *knows*, that his action will be profitable to him. Let us suppose that his observation through his time-viewer (such as the one Spock made in "City on the Edge of Forever") is that the price of IBM stock will be $175.00 on January 16, 2005. So he knows he will make a profit by purchasing it today at $75.00. In this situation, which the economist knows to be one of radical uncertainty, the actor behaves as if there is no risk at all; and *for the actor, there is no risk*.

Now suppose the time-viewer does not actually work, but is flawed, and our stock-trader still believes that it is surely correct. The time-viewer does not show the correct price of IBM stock on January 16, 2005, but shows an incorrect price of $200.00, which the trader believes is correct. There will be no difference whatever in his action or in his belief that he will make a sure profit by his purchase. Only at the close on January 16, 2005 will he learn that he made a mistake because his time-viewer was faulty and he thought it perfect, when he sees the actual price of $25.00. But, the actor still behaves today as if there is no risk at all, because *to the actor in his mistaken forecast*, there is none.

Now consider the behavior and actions of the same individual who does not have a time-viewer and knows that he has no clue what next year's price of IBM will be. This individual knows that the future price of IBM stock cannot be known with certainty today, so his actions reflect his perception of this risk, and his expectation is that if he buys IBM today, he may or may not make a profit. We will see different behavior from him: his behavior will be affected by the risk he feels. He knows he cannot forecast accurately the price of IBM stock, so he behaves as if he does bear risk. He behaves differently now than he does if he believes he has a working time-viewer. *The determinant of his actions is his*

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[30] Ludwig von Mises, *Profit and Loss*, p. .**Get reference for this footnote**

belief about his ability to forecast the future accurately; this belief, then is the correct definition of "risk" borne by an actor.

And what of the trader who, without any time-viewer, merely *believes firmly*, with no objective reason at all, that he *knows* next year's price of IBM with no ambiguity. What will his actions look like? They will be the same as in the first or second example above when he believes he has a working time-viewer; he will feel no risk and will act as though he bears no risk. The existence of risk and its effect on his actions, depends *only* on *his belief in his ability to forecast accurately*. If he believes he has perfect ability to forecast accurately, he bears no risk at all. If he believes that he has an imperfect ability to forecast accurately, then he bears some risk. The weaker is his belief in his ability to forecast accurately, the greater the risk he feels in the situation.

We see that *risk has nothing to do with the lack of knowledge of the future, but rather with the* ***belief the actor has*** *regarding the accuracy of his forecast of the future.* Risk cannot be evaluated by the economist; it must be understood from the point of view of the entrepreneurial actor. As Shackle has written, *uncertainty is a subjective state of mind of the entrepreneur*.[31]

Entrepreneurship Acting Through Time

Entrepreneurship is Man's way of creating particular aimed-at future events, situations, and conditions which have not yet developed, but may develop, out of present conditions and factors, and will develop if the actions are correctly chosen. Entrepreneurship may be seen as a double forecast made by the actor: what the world will be if I do not perform this action, compared with what the world will be if I do perform this action. Each alternative different action is associated with a different entrepreneurial forecast of the future which the actor expects to result from his taking of that action. Entrepreneurship is a subjective process: created in the appraising mind of the actor; entrepreneurship is inextricably tied to a considered action; entrepreneurship is a logical predecessor of action.

Often, these newly-created conditions are viewed, once they have come into existence, from the point of view of the entrepreneur himself and also from the point of view of a significant portion of the other market participants, to be superior to the alternative which would have developed in the absence of this entrepreneurial action, and this superiority consists in a greater degree of co-ordination among the values, actions, and decisions of the market participants and the means available on Earth. The coming-into-existence of the new future conditions is the result not only of the entrepreneurial action of the entrepreneur, but also of individual actions on the part of other market participants, such as the consumers of the new product or service being supplied; *i.e*. the purchase by consumers of the newly-offered product.

But entrepreneurship is not merely the creation of a new business to offer a new product or service or the implementation of a new production process. "Economics...always did and still does use the term 'entrepreneur' in a sense other than that attached to it in the imaginary construction of functional distribution. It also calls entrepreneurs those who are especially eager to profit from adjusting

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[31] G. L. S. Shackle, **Get reference for this footnote**.

production to the expected changes in conditions, those who have more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneers of economic improvement."[32] Entrepreneurship is a prior part of *every* human action, guiding the action taken.[33]

Successful entrepreneurship—that is, the creation of a new world superior from the point of view of a portion of the market participants to other worlds which might have occurred—produces *profits*: the new world's superiority provides greater benefits to the market participants than other worlds would. However, unsuccessful entrepreneurship—the mistaken creation of a new world inferior from the point of view of the market participants to other worlds which might have occurred—produces *losses*: the new world's inferiority provides smaller or less important benefits to the market participants than would have been provided to them by other worlds. The losses are suffered by the entrepreneur and his employees and capitalists, if any. It is a result of the order of Creation that entrepreneurial activities of mankind, which seek to change the unknowable future, are generally improving of co-ordination and can be said to be "equilibrating". There may be other worlds on which this is not true. Some economists are said to disbelieve in the overall equilibrating effects of entrepreneurship, or to disbelieve in the orderliness of the world. In my opinion, the orderliness of the world is obvious, and the general equilibrating effects of entrepreneurship, leading to greater co-ordination than would otherwise exist, is also obvious to the thinking mind.

The precise explication of the nature of entrepreneurship is difficult and often confusing; please try to understand what I mean, not so much what I say, as the saying is difficult.

Definition of Entrepreneurship

Entrepreneurship *is a forecast of a previously-unforeseen or unnoticed possible future event which the actor intends to bring about, which may occur under alternative circumstances; the selection from possible alternative futures of the most highly valued one, and a choice among present means to achieve the desired selected alternative future events or conditions from the spectrum of imagined future states*. *Entrepreneurship* can create in the mind a perception of a possible future which may constitute an opportunity not previously perceived. Present action may allow that possible future opportunity to be grasped. *Action* is taken based on the entrepreneurial understanding of the possible future and its relationship with the means perceived to be available. Action is chosen from perceived alternatives available to the actor based on the actor's entrepreneurial understanding of the future states which may develop as a result of each possible action which might be taken by him. *Entrepreneurship* can be spoken of as "alertness" to the perceived/created opportunity connecting the possible future with the available present. Since no actor has perfect information regarding natural events and conditions and the

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[32] Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Chicago: Henry Regnery Company, 1966, pp. 254-255.

[33] "Economics, in speaking of entrepreneurs, has in view not men, but a definite function. This function is not the particular feature of a special group or class of men; it is inherent in every action and burdens every actor....The term entrepreneur...means: acting man exclusively seen from the aspect of the uncertainty inherent in every action. In using this term one must never forget that every action is embedded in the flux of time and therefore involves a speculation. The capitalists, the landowners, and the laborers are by necessity speculators. So is the consumer in providing for anticipated future needs. There's many a slip 'twixt cup and lip." Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Chicago: Henry Regnery Company, 1966, pp. 252-253.

actions of other market participants, the future state foreseen by the entrepreneur may not actually occur. "Risk" is a manifestation of this uncertainty under which we always function. The entrepreneur does not so much as "shoulder risk" as he "shoulders aside risk" (Kirzner's phrase) or believes in the singular success of his enterprise: Mises said, "The entrepreneur sees only profits." We must better understand risk: it is not the possible variability of future conditions, but rather the *opinion in our minds regarding our ability to forecast the future accurately*. The entrepreneur does not "see" risk because he believes his forecast is the right one and his is the correct forecast, because he has a very high opinion of his ability to forecast in this instance.

Not "*the* future", because the definite article implies a *single* thing. The future is not a single thing, but many possibilities, not one of which has yet come into existence, and no one of which is destined to occur. The world we live in today is different from what it would have been if more people had voted for Suzanne Terrill and fewer had voted for Mary Landrieu. Yet, prior to the individual actions of all—the candidates and the voters, the advertising people, the media people--, this world did not exist. It was created in detail by the individual actions those people took during the time prior to the counting of the votes. This world will continue to differ, in ever-widening scope, from the world which would have come into existence under other circumstances, and that "alternative future world" can never be recovered. Moreover, each day, new events occur which result from Landrieu's victory which would have been different events if Terrill had won, so we see that a particular event at one point in time creates ever-widening circles of new events conditional on its nature. A successful entrepreneur acting in November, 2002 must in some way encompass into his thinking this newly-created world which differs in many ways from the world in which he acted. The successful economist must include such entrepreneurial thought in his theory or he will misunderstand the world and how it changes.

The Future world that comes into existence is created by the interacting actions of all market participants, animated by entrepreneurship on the part of each participant. Entrepreneurship exercised by some market participants may be different from that exercised by other market participants; yet all entrepreneurship shares the characteristic of foreseeing a future state in some way different from the present state and acting to bring it about. Entrepreneurship precedes action and guides action, but is a component of action.

The Austrian Subjectivist Explanation of Kirzner in the Context of Market Process

This presentation seeks to explain the Austrian economic concept of *entrepreneurship* and how that concept clarifies the details of the market process, and to contrast this Austrian concept of *entrepreneurship* with the sterile concept called "entrepreneurship" included within "mainstream" or "neo-classical" economics. The major writer on entrepreneurship during the past forty years has been my dissertation chairman Israel Kirzner, whom I selected because of his writings in economics.

> Over the last thirty years, no economic theorist has devoted more attention to the role of the entrepreneur in economic life than has Israel Kirzner. From his early work on the historical evolution of the "economic point of view" (1960), through his detailed analyses of the importance of the entrepreneur in the competitive process (1973, 1979), to his recent concern with the implications of entrepreneurship for distributive justice, Kirzner has consistently and forcefully argued that a correct understanding of the way capitalist economies operate requires explicit consideration of the role of the entrepreneur. His work has

> been radical and inevitably subversive of the "mainstream" tradition in economics. Kirzner demonstrates that the methods of equilibrium theory (whether static or dynamic) implicitly overlook the entrepreneurial role and must, therefore, present a highly distorted picture of the economic system.
>
> Kirzner's contribution goes far beyond the mere emphasis on entrepreneurship as a key component of economic theory however. Kirzner's conception of the role of the entrepreneur is a highly distinctive one, and gives to his work a character and underlying theme that sets it apart from that of all other writers in the area. Running through the entire corpus of Kirzner's work there is a unifying "leitmotif" that the exploitation of the gains from trade will not take place automatically. To achieve the advantages of coordination through exchange requires first that these potential gains are noticed. The entrepreneurial role is to be "alert" to as yet unexploited gains from trade.[34] For Kirzner, entrepreneurial profit requires the recognition of error, that is, that there exist alternative courses of action that will produce superior results to those derivable from existing ones.[35]

Kirzner does indeed include in *entrepreneurship* those characteristics many people believe he fails to consider. As time has passed, Kirzner has better and better articulated his previously-more-primitively-stated concepts, which were perhaps less clearly stated in his earlier works than they have been more recently, and which may have indeed developed in sophistication during the years.

What Kirzner has all along emphasized is the *subjectivism* of the process of entrepreneurship; *i.e.*, the *choice to perceive*, or sudden perception and noticing of—the "discovery" of--, an opportunity. The opportunity is created *mentally* and noticed *mentally*. The discovered opportunity includes the potential gains which can result from successful action. This act of perception or discovery is what Kirzner calls "alertness". Kirznerian entrepreneurial "alertness" is much more than what the ordinary man means by "alertness", for Kirzner includes in the concept the *creation of a vision of the future* to which the entrepreneur is "alert": "We call this motivated propensity of man to formulate an image of the future man's *alertness*."[36]

> It should be observed that the entrepreneurial alertness we have identified does not consist merely in "seeing" the unfolding of the tapestry of the future in the sense of seeing a preordained flow of events. Alertness must, importantly, embrace the awareness of the ways in which the human agent can, by imaginative, bold leaps of faith, and determination, in fact *create* the future for which his present acts are designed.[37] ...I have used the terms "discovery" and "creation" interchangeably. To discover an opportunity...is to create it.[38]

In Kirzner's view, the process of entrepreneurship is *intrinsically equilibrating*: bringing about a new state of affairs in which the values of market participant are more homogeneously co-ordinated than they could have been in the absence of the entrepreneurial action. "An unnoticed attractive opportunity

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[34] Martin Ricketts, "Kirzner's Theory of Entrepreneurship—A Critique," Chapter 3 in *Austrian Economics: Tensions and New Directions*, edited by Bruce J. Caldwell and Stephan Boehm. Boston: Kluwer Academic Publishers, 1992, p. 67.
[35] Martin Ricketts, "Kirzner's Theory of Entrepreneurship—A Critique," Chapter 3 in *Austrian Economics: Tensions and New Directions*, edited by Bruce J. Caldwell and Stephan Boehm. Boston: Kluwer Academic Publishers, 1992, p. 71.
[36] Israel M. Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, pp. 139-159, page 149.
[37] Israel M. Kirzner, "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System," Chapter 12 in *Method, Process, and Austrian Economics*, edited by Israel M. Kirzner, Lexington, Massachusetts, D. C. Heath and Company, 1982, pp. 139-159, page 150.
[38] Israel M. Kirzner, "The Meaning of Discovery," Chapter 2 in *Discovery, Capitalism, and Distributive Justice*. New York: Basil Blackwell, Inc., 1989, p. 40.

is, in the context of the individual, a disequilibrium phenomenon. In this sense the discovery of an opportunity is seen as an equilibrating step."[39]

Kirzner's concept of entrepreneurship and his concept of the source of entrepreneurial profits follows completely that of Ludwig von Mises, who stated: "Entrepreneur means acting man in regard to the changes occurring in the data of the market." "Let us try to think the imaginary construction of a pure entrepreneur to its ultimate logical consequences. This entrepreneur does not own any capital. The capital required for his entrepreneurial activities is lent to him by the capitalists in the form of money loans....If he succeeds, the net profit is his. If he fails, the loss must fall upon the capitalists who have lent him the funds....To the extent that the losses incurred cannot be borne out of the entrepreneur's own funds, they fall upon the lending capitalists, whatever the terms of the contract may be. A capitalist is always also virtually an entrepreneur and speculator. He always runs the chance of losing his funds. There is no such thing as a perfectly safe investment."[40]

Shackle: the Decision Process in the Mind of the Entrepreneur and the Kaleidic Nature of Changes

Kirzner sees entrepreneurship as a non-structured single-time-point perception of *alertness to a previously-unsuspected opportunity*, even if that opportunity can exist only in the future. However, his neglect of the *mental process of decision in the mind of the entrepreneur* hampers our understanding of the market process.

As far as I know, only George L. S. Shackle has considered the time-structure of the *decision process itself in the mind of the entrepreneur* in the context of economic thought. In this context, Shackle has emphasized the concept of the "kaleidic" nature of the economy: its complete change of pattern at particular time points as in a kaleidoscope. "Kaleidic" refers to the suddenness of a change and its change of many elements of a systematic pattern. This does not mean that equilibrium is not pursued and gained on during the intervals between kaleidic moments; what it means is that the equilibrium being pursued after the occurrence of a kaleidic moment is a different equilibrium than what was pursued prior to the kaleidic moment. Nor does the kaleidic economy, as explicated by Shackle and by Lachmann, mean that the economy is chaotic and does not move with most events toward a greater state of co-ordination than it had previously. They are emphasizing that there are moments of profound change, and that the market process is not always smooth; it is the moments of profound change, on larger or smaller scale, that we must look into to understand how the market process proceeds and the direction and goal of its process.

Look into a kaleidoscope: there is a consistent pattern which is recognizably similar, though not quite the same both before and after the upsetting shift of the elements. It is the sudden shift to which Shackle and Lachmann attach significance. Following the shift, the pattern is not completely different,

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[39] Israel M. Kirzner, "Commentary: Entrepreneurship, Uncertainty and Austrian Economics," in *Austrian Economics: Tensions and New Directions*, edited by Bruce J. Caldwell and Stephan Boehm. Boston: Kluwer Academic Publishers, 1992, p. 87.
[40] Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Chicago: Henry Regnery Company, 1966, pp. 254, 253.

and the pattern has cohesion. But the shift is sudden, not smooth or gradual. The suddenness of the shift arises because valuation is subjective and expectations held are subjective, and only a *mental* shift is needed to alter the pattern of a person's or a group's expectations, which influence their valuations and resulting actions. It is the *suddenness* of the shift which Shackle and Lachmann refer to, due to the subjectivity of valuation which is, well, kaleidic.

After Walt Disney World was built, people still go to Six Flags Over Texas. Some people who did not frequent amusement parks before continued not to frequent WDW; but others suddenly began to attend WDW. There was a change in the pattern of relative valuations of individuals for such activities and also for others. There is an enormous momentum in the economy within which the kaleidic moments occur, making changes at the margin, but making systematic changes because of the associated adjustments propagating out from a nexus.

I shall also consider, to a limited extent, the ideas on entrepreneurship of other economists who have contributed to the understanding of this economic process.

CATEGORIZATION OF THEORIES OF ENTREPRENEURSHIP

Below I categorize the different writers on entrepreneurship in terms of the following dimensions of the theory of entrepreneurship:

Market Discussed
What is forecasted by the Entrepreneur
Number of Forecasts made by the Entrepreneur
Action Taken by Entrepreneur
Entrepreneur's Perception of Risk
Cause of Entrepreneurial Profit
Effect of Entrepreneurship on Equilibration of Economy

TABLE OF WRITERS ON ENTREPRENEURSHIP

Economist	Market	What is forecasted	Number of Forecasts
KNIGHT	goods-flow	Events: future demand	Many: One chosen
HAYEK	goods-flow	Knowledge/Facts/Events Values/Expectations	One
SCHUMPETER	goods-flow	New Productive Technique	One
MISES	goods-flow Any market	Future Valuations by actor and future state of the market.	Many
KIRZNER	goods-flow	Future Valuations of consumers in market.	One
SHACKLE	goods/assets- flow/stock	Expectations and values of other market participants	Many: one chosen.
LACHMANN	goods/assets- flow/stock	Expectations and values of other market participants	Many

TABLE OF WRITERS ON ENTREPRENEURSHIP

Economist	Action Taken by Entrepreneur	Ent.'s Perception of Risk
KNIGHT	Alternative Forecasts Evaluated for Correctness; Estimation of the value of chosen alternative; Factors secured and organized for one chosen plan.	Certain of accuracy. Self-perceived accuracy of forecasts and correctness of selection judgment.
HAYEK	Adjustment of production to new knowledge of facts, or to newly-perceived changes in the plans of other market participants: Learning.	Not addressed by Hayek.
SCHUMPETER	Innovation of new product or production processes or new sources or goods, new management techniques: technological creativity: undertakes new things; produces economic change; "gets new things done."	No discussion of risk; Entrepreneur upsets the previous equilibrium. Entrepreneur does not bear risk: risk-bearing is done by the capitalist.
MISES	Any action is entrepreneurial because it seeks to improve the future above the value the entrepreneur foresees if he were to act differently. "The activities of the entrepreneur consist in making decisions."[41] The entrepreneur forecasts more accurately than do others the future state of the market.	"Entrepreneur sees only profits": he believes his own forecast.
KIRZNER	Alert discovery of previously-unnoticed opportunities to gain by changing the existing organization of production or creating a new product. Entrepreneur creates a future image in his mind and acts to bring it about.	Risk "shouldered aside": Entrepreneur believes in his own forecast.
SHACKLE	Mental creation of a (Knightian) spectrum of Alternative forecasts of possible future events and the "*inspired"* creative selection of one of the possible futures, the least-surprising to the entrepreneur, to be pursued by adjustment of production plans to the new and previously-unexpected events. The entrepreneur's action reduces the divergence of expectations among market participants.	The entrepreneur's creation of new future states and the "inspired" choice from these alternatives eliminates his perception of "risk".
LACHMANN	Entrepreneurial action changes the pattern of expectations in the market, making this pattern more convergent and less diverse.	The formation of a better-integrated pattern of expectations in the mind of the entrepreneur eliminates his perception of risk.

[41] Ludwig von Mises, "Profit and Loss", Chapter IX in *Planning for Freedom*, Libertarian Press, 1962, p. 111.

TABLE OF WRITERS ON ENTREPREURSHIP

Economist	Cause of Entrepreneurial Profit
KNIGHT	Factor price based on the supply of and demand for entrepreneurial talent, which appears to be a factor of production. Yet superior foresight is identified as improving things.
HAYEK	Not addressed.
SCHUMPETER	"Getting things done." Innovative Forecasting: Factor Payment to Entrepreneurial Factor. Gain of a new successful enterprise. Factors call forth, favor, impede entrepreneurial activity. There is evidently a supply curve of entrepreneurial talent which is affected by those factors. The entrepreneur takes a portion of the "social return" earned by the innovative project or product. "Profit" is entrepreneurial gain resulting from the excess of the revenues over the expenditures for factors of production of the new process.
MISES	Superior Forecasting of the future prices of products by entrepreneurs compared to other market participants removes maladjustments existing. The new state is valued more highly than the renounced alternative which no longer can exist. Excess of future revenues over past expenses = profit. Profit arises from a better idea.
KIRZNER	Superior Forecasting: Excess of future revenues over current expenses. New revenues are created from nothing which presently exists, but are foreseen by the successful entrepreneur.
SHACKLE	Revenues exceed expenses due to superior forecasting and the removal of some of the divergence of expectations among market participants.
LACHMANN	Revenues exceed expenses due to superior forecasting and the removal of some of the divergence of expectations among market participants.

TABLE OF WRITERS ON ENTREPRENEURSHIP

Economist	**Effect of Entrepreneurship on Equilibration of Economy**
KNIGHT	Superior foresight improves co-ordination and equilibrates.
HAYEK	New events or information create a disequilibrium situation, which the action of the entrepreneurs causes to become more co-ordinated with the new conditions.
SCHUMPETER	New products or methods disrupt previous existing equilibrium and create a new dis-equilibrium situation, which then progresses toward a new and different equilibrium.
MISES	Prior cause was the perception of "felt uneasiness" on the part of the actor, causing him to act to improve the situation; this improved situation is closer to equilibrium than the prior state which was renounced by the actor.
KIRZNER	Previously unnoticed opportunities exist because of the existing un-co-ordinated non-equilibrium state in which previously unappreciated demands are not yet satisfied or in which existing opportunities for production have not yet been fully exploited; the action of entrepreneurs co-ordinates the economy better, bringing it closer to equilibrium.
SHACKLE	The prior condition of the market cannot have been an equilibrium one; a "kaleidic" shift of events or expectations into an unanticipated form creates a clearly dis-equilibrated state, into which the entrepreneur steps with his mental creation of a more orderly future; the creation and action of the entrepreneur improve the co-ordination of the market among market participants; hence, entrepreneurship is equilibrating.
LACHMANN	Equilibrium is a chimera. The "evenly rotating economy" cannot exist in the real world with subjectivity of valuation and expectation. Entrepreneurship improves the degree of co-ordination of the economy; however, general equilibrium cannot ever be achieved because the subjectivity of expectations causes independent and unavoidable "kaleidic" shifts in the asset markets which upset the progression. Entrepreneurship is indeed "equilibrating", but the world cannot long persist in such a direction because of the refreshing alteration which results from the subjectivity of expectations and the capital gains and losses in the stock markets.

DEFINITIONS OF "TYPES" OF ENTREPRENEURSHIP

Frank H. Knight

I term "**Knightian entrepreneurship**" the rash self-confidence in one's abilities to forecast the future[42], then to undertake and secure the factors to begin and to manage successfully an enterprise to produce goods for an unknown future demand by consumers[43], with superior opinion in the face of uncertainty.[44] Knight emphasized the "forward-looking[ness]"[45] of action in the face of uncertainty ("imperfect knowledge") of the future as the cause of entrepreneurial profits as the excess of the return on sales in the future, which cannot be perfectly known, over the contracted price of factors in the known present.[46] Knight established a multi-step process of entrepreneurship: 1) estimating (forecasting) the future demand which he is striving to satisfy, 2) forecasting the future results of his operations in attempting to satisfy that demand[47], 3) the evaluation of the accuracy of the forecasts and the likelihood of their achievement (called by Knight "control of the future), and 4) the choosing of the plan which is considered most likely of success ("increased power of prediction")[48]. Element (3) is a "psychological" process.

Knight did not discuss the details of the process of co-ordinating different plans, but he did point out the time-transcending forecast of the mind to see into the uncertain future more successfully than do others as the cause of successful entrepreneurship. "We *perceive* the world before we react to it, and we react not to what we perceive, but always to what we *infer*."[49] Knight understood that the successful entrepreneur sees the future more accurately than do others. And his use of the verb "infer" implies that the entrepreneur *creates* a vision of the future which is unique to his own mind:

> The universal form of conscious behavior is thus action designed to change a future situation inferred from a present one. It involves perception and, in addition, *twofold* inference. We must infer what the future situation would have been without our interference, and what change will be wrought in it by our action....none of these processes in infallible, or indeed ever accurate and complete. We do not perceive the present as it is and in its totality, nor do we infer the future from the present with any high degree of

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[42] "...the function of prediction in the technological side of production itself inevitably devolves upon the producer." Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 240.

[43] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 240-241: "[The consumer] does not know what he will want, and how much, and how badly; consequently he leaves it to producers to create goods and hold them ready for his decision when the time comes."

[44] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), Chapter IX "Enterprise and Profit," pp. 264-284.

[45] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 200.

[46] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), pp. 197-198.

[47] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 238.

[48] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 239.

[49] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 201 [italics in original].

> dependability, nor yet do we accurately know the consequences of our own actions. In addition, there is a fourth source of error to be taken into account, for we do not execute actions in the precise form in which they are imaged and willed....
>
> It must be recognized further that no sharp distinction can be drawn between perception and reason...The function of consciousness is to infer, and all consciousness is largely inferential, rational. By which, again, we mean that things not present to sense are operative in directing behavior, that reason, and all consciousness, is forward-looking;...[50]

Knight emphasized that decisions to act were two-fold in nature: first a forecast of the events which will result from an action, and second, an evaluation of the degree of correctness of that forecast. "The business man himself not merely forms the best estimate he can of the outcome of his actions, but he is likely also to estimate the probability that his estimate is correct."[51] This is how an entrepreneur plans: he looks at alternative sets of plans, and he also evaluates the likelihood of correctness of each forecast, selecting not necessarily the "best" plan (*i.e*., the most profitable), but the plan most likely to succeed; *i.e*., the correct forecast. Knight emphasized that successful entrepreneurs had a high opinion of their own accuracy of forecasting, so that even though they are mindful of the uncertainty of the future, still they believe that they have selected the most likely--the most-likely-to-be-successful plan of action--from among all of those which they have identified. "The 'degree' of certainty or of confidence felt in the conclusion after it is reached cannot be ignored, for it is of the greatest practical significance. The action which follows upon an opinion depends as much upon the amount of confidence in that opinion as it does upon the favorableness of the opinion itself....Fidelity to the actual psychology of the situation requires, we must insist, recognition of these two separate exercises of judgment, the formation of an estimate and the estimation of its value."[52] "What does appear certain is that [the entrepreneur's] own estimate of the value of his own judgment would be given far greater weight than [other] sort[s] of computation."[53]

Knight goes on to emphasize the actual nature of the perception of risk or uncertainty in the mind of the entrepreneur: "...men do form...more or less valid opinions as to their own capacity to form correct judgments."[54] That is to say, that an entrepreneur's perception of the risk of a particular situation depends on his own opinion about his own ability to forecast accurately; *i.e*., his own opinion about his correctness, "...the subjective feeling of confidence of the person making a prediction.[55] "...an inveterate belief on the part of the typical individual in his own 'luck,' especially strong when the basis of the uncertainty is the quality of his own judgment."[56]

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[50] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), Chapter VIII "The Meaning of Risk and Uncertainty," pp. 201-203 [italics in original].
[51] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 226.
[52] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), pp. 226-227.
[53] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 228.
[54] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 228.
[55] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 229.
[56] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 236.

Knight recognizes the "second-order subjective" nature of the psychological process: "The confidence in a prediction which is based on the strength of an intuition may appear to be compounded to the point of nonsense, but in so far as there exist such feelings reached unconsciously or without deliberation and in so far as they may become the objects of deliberative contemplation, the situation is none the less real."[57]

Knight wrote of the formation of expectations and the judgment of the actor regarding the accuracy of his forecast, the accuracy of his expectations. "...the exercise of judgment or the formation of those opinions as to the future course of events, which opinions...actually guide most of our conduct."[58] And anticipating the process of adjustment of expectations by individual investors in an asset market, as considered by Shackle and Lachmann and the present author, Knight adds, "The man in the street has little more sense of the real value of his opinions than he has knowledge of the 'logic' (if such it may be called) on which they rest."[59]

F. A. Hayek

I term "**Hayekian entrepreneurship**" the co-ordination and dissemination (bringing into greater and greater agreement) by entrepreneurs of the *knowledge* held by different market participants of new factual events which have occurred and which are not yet fully appreciated by all market participants in *the flow market for goods* (such as a collapse of a copper mine in South America which causes a reduction in the supply of copper in the world)[60], and the co-ordination by entrepreneurs of the *expectations* of market participants in *the flow market for goods*, bringing them closer into agreement with each other and closer to correct accuracy of forecasting of future events and conditions[61] so that the plans of market participants are more closely co-ordinated and the economy is closer to equilibrium as a result of this co-ordination. The Hayekian entrepreneurial function "coordinate[s] existing knowledge scattered over many parts of the economic system and disseminates the market knowledge thus gained"[62], thereby improving the co-ordination of the economy. Hayek was speaking of *the flow market for goods*; his concept of the entrepreneurial co-ordination of the expectations of market participants, which is necessary for progress toward equilibrium, has not been addressed by economists. Hayek, however, merely assumed that new information would be acted upon; he did not explain *why* a change in

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[57] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 229.
[58] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 233.
[59] Frank H. Knight, *Risk, Uncertainty, and Profit*, The University of Chicago Press, 1971 (reprint of 1921 Houghton Mifflin edition), p. 236.
[60] F.A. Hayek, "Economics and Knowledge," *Economica*, **Vol. 4** (February 1937); reprinted in *Individualism and Economic Order*, (London: Routledge and Kegan Paul, 1949, pp. 33-56; and "The Use of Knowledge in Society," American Economic Review, XXXV, No. 4 (September, 1945), pp. 519-30, also reprinted in *Individualism and Economic Order*, (London: Routledge and Kegan Paul, 1949, pp. 77-91.
[61] F. A. Hayek, "Economics and Knowledge," *Economica*, **Vol. 4** (February 1937); reprinted in *Individualism and Economic Order* (London: Routledge and Kegan Paul, 1949, pp. 33-56; and "The Use of Knowledge in Society," American Economic Review, XXXV, No. 4 (September, 1945), pp. 519-30, also reprinted in *Individualism and Economic Order*, (London: Routledge and Kegan Paul, 1949, pp. 77-91.
[62] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), p. 59.

the supply or demand for a commodity would cause individuals to act differently. It was Mises and Kirzner who explained *why* and *when* the process of market transactions will occur in response to price differentials.

Hayek (see Lachmann below) also believed that a "...long-term equilibrium...in an ever changing world can never be reached."[63]

Joseph A. Schumpeter

I term "**Schumpeterian entrepreneurship**" *innovation*: the creation by specialist dis-equilibrating innovators of new commodities, new technology, new sources of supply, new types of organization; *i.e*., *new goods and new methods of production* of existing and innovative goods which better utilize the available factors and existing and new capital goods to produce better consumers' goods more eagerly desired by consumers, than the previous goods and the previous methods of production[64] *in the flow market for goods*. The innovations included by Schumpeter in his entrepreneurs' activities included new innovative products, new techniques of production, opening of new markets, opening of new sources of supply, improvement of management techniques, improvement of distribution methods. Schumpeter emphasized the interruption of previous market processes—the disruption of existing equilibrium--by the new innovative production processes.[65]

"...the function of entrepreneurs is to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, by reorganizing an industry and so on."[66]

However, although he defined "Entrepreneurial profit [a]s a surplus over costs....the difference between receipts and outlay in a business,"[67] Schumpeter apparently viewed entrepreneurial "profit" as a factor payment to the entrepreneurial factor input; *i.e*., the wages paid to the entrepreneur for innovative activity, which tended to erode away following the innovation.[68] This is a profound difference from the theory of entrepreneurial profit explicated by Knight, Mises, and Kirzner, in which the profit is related to the dispersion between the purchase prices of inputs and the selling prices of outputs in an exchange which was previously unnoticed by anyone, and which are not the same as factor payments and do not erode away. Kirznerian entrepreneurial profit is *created from nothing which presently exists* by the entrepreneur by seeing how his actions can change the future from what it would have been (if the entrepreneur had not acted, or had acted differently) to a better (*i.e*., more highly valued by consumers)

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[63] Friedrich A. Hayek, "The Meaning of Competition," in *Individualism and Economic Order*, Gateway Editions, 1948, p. 101.
[64] Joseph A. Schumpeter, *Capitalism, Socialism and Democracy*, Harrap, 1942, p 84.
[65] Joseph A. Schumpeter, "Comments on a Plan for the Study of Entrepreneurship," Chapter 10 in Richard Swedberg, ed., *The Economics and Sociology of Capitalism*, Princeton University Press, 1991, pp. 406428. Also *Business Cycles*, Harrap, 1939.
[66] Joseph A. Schumpeter, *Capitalism, Socialism and Democracy*, Third Edition, Harper & Brothers, 1950, p. 132.
[67] Joseph A. Schumpeter, *The Theory of Economic Development*, Harvard University Press, 1949, Chapter IV, "Entrepreneurial Profit", p. 128.
[68] Joseph A. Schumpeter, *Capitalism, Socialism and Democracy*, Harrap, 1942, p. 83.

situation, for which consumers will pay higher prices than the entrepreneur had to pay to achieve this change in conditions. Entrepreneurial profit, says Kirzner, is not foreseeable or predictable by anyone other than the entrepreneur, who, because he believes firmly in the correctness of his prediction, sees it merely as an arbitrage profit. And because of this method of creation, profit cannot be viewed as the payment for a factor of production, because then, more entrepreneurship could be called forth by some higher authority authorizing higher payments.

The Schumpeterian entrepreneur moves the economy away from one equilibrium to a better, a "higher" equilibrium by introducing an innovation, a new and previously-unsuspected thing. He can be seen, in the context of Mises' "evenly rotating economy" as disrupting an existing equilibrium and increasing the radius of rotation into a new equilibrium; but Schumpeter emphasized that his innovators engaged in "creative destruction"—they began by disrupting a calm equilibrium situation which already existed, to change the future. This is in stark contrast to the Mises-Shackle-Kirzner-Lachmann entrepreneur, who acts to more-consistently co-ordinate the existing *dis*equilibrium into a more highly co-ordinated system, by adjusting previously-unnoticed mistakes. Both entrepreneurs improve the standard of living, but the later writers emphasized "smaller" adjustments made to improve an existing dis-co-ordinated situation. But for Schumpeter the entrepreneur was a business producer who introduced an innovation in production; for the others, entrepreneurship is carried out by all market participants in all walks of life and in all economic activities, so it is a much more general and prevalent activity. Schumpeter saw entrepreneurship as the starting of a new business or undertaking a new task seeking monetary profits.

Schumpeter did not focus on price as the means for encouraging innovation; innovation occurred in the context of equilibrium prices, so there is not the Hayekian disturbance of price conveying new information to entrepreneurs, or the Kirznerian dis-co-ordination of existing prices with one another which alerts the entrepreneur to a previously-unnoticed opportunity to improve the co-ordination of prices and values. Rather, Schumpeter seems to have focused on the technological (in the broadest sense of the term) creativity of the innovator, creating a new product or technique in the absence of any perceived "need" for it demonstrated by the pattern of prices.

Ludwig Mises

I term "**Misesian entrepreneurship**" the acting for personal gain in the face of the uncertain future by bringing about a future state superior to what the actor expected to exist if he had acted differently. Since all market participants face uncertainty, all action involves entrepreneurship, and all market participants are to some extent entrepreneurs. The Misesian entrepreneur is every man, not merely the specialist captain of industry of Schumpeter. "Economics, in speaking of entrepreneurs, has in view not men, but a definite function. This function...is inherent in every action...Action is always uncertain."[69] Misesian entrepreneurship is the most general and all-inclusive concept of entrepreneurship. Mises also emphasized that, even though the entrepreneur knows the future is uncertain, still he believes so much in the correctness of the forecast on which he acts that he "sees only profits." For Mises, since equilibrium does not exist, entrepreneurial action moves the economy closer

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[69] Ludwig von Mises, *Human Action*, pp. 252-253.

to the potential equilibrium state from the initial state, but the cause of the entrepreneurial action was the uncertainty and dis-co-ordination of the economy. Mises did not delimit or define in detail entrepreneurial action; rather, it was for him all human action, which is aimed at improving the state of things from the point of view of the actor. Entrepreneurship is each human action, seeking improvement of the perceived situation of the actor.

For Mises, the entrepreneur earned profits by forecasting more accurately than did others the future prices of products, so that he was able to purchase the factors of production for prices which, seen from the later point of view were too low.[70] "The task of the entrepreneur is to select from the multitude of technologically feasible projects those which will satisfy the most urgent of the not yet satisfied needs of the public."[71] "The ultimate source of profits is always the foresight of future conditions."[72]

Mises, along with Lachmann (see below) also did not believe in the existence of long-run equilibrium: "There is no such thing as a static economy"[73]; *i.e.*, the evenly rotating economy or the equilibrium state.

Israel M. Kirzner

I term "**Kirznerian entrepreneurship**" the *alert discovery* by entrepreneurs *due to their seeking of gain* of previously unnoticed opportunities for co-ordination (*i.e*., previously unnoticed existing dis-co-ordinated situations) or of previously-unanticipated *changes in valuations* by consumers of particular goods or services (which may not yet exist) which they will wish to consume in the future *in the flow market for goods* and the actions taken by these entrepreneurs to achieve this improved co-ordination[74]. Kirznerian entrepreneurship brings the economy closer toward equilibrium, the condition in which all valuations are co-ordinated and consistent, by "spontaneously" correcting disequilibrating dis-co-ordinations among values, plans, and goods. The Kirznerian entrepreneur buys factors in the present at a relatively low price, and turns them into finished goods which he sells at a later time at a relatively high price, thereby creating entrepreneurial profits. Necessarily, the purchase of factors occurs earlier in time than the sale of products, so the Kirznerian entrepreneur sees, and acts, through time, and must, therefore, correctly anticipate the as-yet-unrealized future in which products will be salable at high prices, at the time in the present when he purchases the "too-cheap" factors of production.[75] If the Kirznerian entrepreneur incorrectly anticipates the future state of demand, then he would not be able to sell his newly-produced products at the anticipated higher prices, and he would incur losses.

The Kirznerian entrepreneur, like the Schumpeterian entrepreneur, changes the future from what it would have been in his absence, to a better state (unless the entrepreneur has made an error in forecasting, in which situation the entrepreneur bears the associated losses, suggesting some dimension

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[70] Ludwig von Mises, "Profit and Loss", Chapter IX in *Planning for Freedom*, Libertarian Press, 1962, pp. 108-150.
[71] Ludwig von Mises, "Profit and Loss", Chapter IX in *Planning for Freedom*, Libertarian Press, 1962, p. 117.
[72] Ludwig von Mises, *Human Action: A Treatise on Economics*, Third Revised Edition, Henry Regnery Company, 1963, p. 664.
[73] Ludwig von Mises, "Profit and Loss", Chapter IX in *Planning for Freedom*, Libertarian Press, 1962, p. 149.
[74] Israel M. Kirzner, *Competition and Entrepreneurship*, p.
[75] "...in the case of multiperiod entrepreneurship alertness must mean alertness to the future." Israel M. Kirzner, "Uncertainty, Discovery, and Human Action," in *Method, Process and Austrian Economics*, D. C. Heath, 1982, p. 154.

of capitalist function also embodied in the entrepreneur, despite Kirzner's protestations against that inclusion). The Kirznerian entrepreneur must foresee the future valuations of consumers which do not yet exist, but which the entrepreneur believes will exist in the future, when he seeks to sell those goods he has produced in anticipation of this change in consumer valuations.

Kirzner defines "*alertness*" as "this motivated propensity of man to formulate an image of the future"[76] And Kirzner explains that the entrepreneur must create the future in a different form than it would have existed in his absence: "In particular the futurity that entrepreneurship must confront introduces the possibility that the entrepreneur may, by his own creative actions, in fact *construct* the future as *he* wishes it to be....In the multiperiod case entrepreneurial alertness must include the entrepreneur's perception of the way in which creative and imaginative action may vitally shape the kind of transactions that will be entered into in future market periods....so many writers are undoubtedly correct in linking entrepreneurship with the courage and vision necessary to *create* the future in an uncertain world (rather than with merely seeing that which stares one in the face)."[77]

Kirzner emphasized, by calling it an "arbitrage" exchange ("*the discovery of something obtainable for nothing at all*"[78]), the supreme confidence of the entrepreneur in the correctness of his forecast, such that he had no doubt of the existence of the previously-unnoticed opportunity to sell for high prices those products which he proposed to make, even though that opportunity existed only in the uncertain future, and behaved as though there were no uncertainty. In arguing that the entrepreneur does not "bear risk" in the ordinarily-understood sense, Kirzner remarked that "the entrepreneur does not shoulder uncertainty so much as he *shoulders aside* uncertainty" and pointed out that Mises had emphasized that "The entrepreneur sees only profits." From Kirzner's point of view it was the certainty of the entrepreneur's forecast of the future on which he acted which caused his action to be as though it were between two certain contemporaneous markets, and not between the present and the future uncertain market. The entrepreneur *believes* he *knows* the future, without uncertainty (even though he realizes that the future is uncertain), and the entrepreneur *acts as if he knows* the future; if he is correct, he captures profits, but if he is not correct, he incurs losses by being unable to sell his products at high enough prices to exceed his purchase prices. The mind of the entrepreneur is different from, and functions differently from, the mind of the academic or bureaucrat or politician. And the entrepreneur bears the full costs of being incorrect, and earns the full benefits of correct forecasting, while others do not, thereby developing in the entrepreneur a superior capacity to forecast correctly, which capacity eludes—and must always elude, causing them to act incorrectly to improve the world—the academic, bureaucrat, or politician. The entrepreneurial profits are not the function of any objective pre-identifiable quantities, and cannot be payments to any identifiable "factor of production" the supply of which can be expanded by suitable known actions, so they appear to the superficial mind, to be created out of nothing.

Kirzner's entrepreneur, like Mises', also acts in a disequilibrium situation which is characterized by previously-unnoticed opportunities, which the entrepreneur alertly notices, and upon which he then

[76] Israel M. Kirzner, "Uncertainty, Discovery and Human Action," in *Method, Process and Austrian Economics*, D. C. Heath, 1982, p. 149.
[77] Israel M. Kirzner, "Uncertainty, Discovery, and Human Action," in *Method, Process and Austrian Economics*, D. C. Heath, 1982, p. 155.
[78] Israel M. Kirzner, *Competition and Entrepreneurship*, p.144 [emphasis in original].

acts, bringing the economy into a greater degree of co-ordination and closer to equilibrium. The opportunities are first created in his own mind, and then having seen them, he chooses one for action.

G. L. S. Shackle

I term "**Shacklian entrepreneurship**" the response; *i.e.*, with new production plans, of entrepreneurs to differences in events from what they had earlier expected (*e.g.*, the sales of a product whose production was recently expanded); *i.e.*, entrepreneurs' responses to newly-discovered previously-made mistakes in forecasting,[79] and the creation of alternative imagined patterns of future forecasts ("rival diverse hypotheses"[80]) inspired by the new knowledge of events, from which the "*inspired*"[81] selection is made of the path to follow: "Decision is choice in face of bounded uncertainty."[82] Shackle created the concept of the "kaleidic society, a society in which sooner or later unexpected change is bound to upset existing patterns"[83], a society "interspersing its moments or intervals of order, assurance and beauty with sudden disintegration and a cascade into a new pattern."[84]

Shackle's entrepreneur creates in his mind *inspired* (not dependent only on observable facts) multiple visions of alternative futures, from which he chooses the best and most likely to be achieved, and then acts to implement that chosen direction: "Decision is choice amongst rival available courses of action. We can choose only what is still unactualized; we can choose only amongst imaginations and figments. Imagined actions and policies can have only imagined consequences, and it follows that we can choose only an action whose consequences we cannot directly know, since we cannot be eye-witnesses of them. If we knew what would be the sequel of each of the different and mutually exclusive courses open to us, we should choose the act whose sequel we most desired."[85]

Following Townshend,[86] Shackle began also the analysis of "speculative" decision-making, based on structures of changing subjectively-chosen expectations of the decision-maker within patterns of expectations of other market participants in an asset market, whether the stock market or the market for real physical assets.[87] In the pattern of Knightian "risk" comprising probability distributions of alternative possible future outcomes, but without the concept of probability upon which Knight depended, (Shackle rejected probability as a useful tool for dealing with uncertainty or risk) Shackle

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[79] G.L.S. Shackle, *Expectations, Investment, and Income*, Second Edition, Oxford University Press, 1968, pp. xiii-xxvii.
[80] G.L.S. Shackle, *Time in Economics*, North Holland, 1958, p. 33.
[81] G.L.S. Shackle, *Time in Economics*, North Holland, 1958, p. 34 {italics in original].
[82] G. L. S. Shackle, "Time and Thought," *British Journal for the Philosophy of Science*, **Vol. 9**, No.36, 1959, p. 293, reprinted in *Time, Expectations and Uncertainty in Economics*, Edited by J.L. Ford, Edward Elgar, 1990, p. 22.
[83] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), p. 54.
[84] G. L. S. Shackle, *Epistemics & Economics: A critique of economic doctrines*, Cambridge University Press, 1972, p. 76.
[85] G. L. S. Shackle, *Expectation, Enterprise, and Profit: The Theory of the Firm*, Chicago: Aldine Publishing Company, 1970, Chapter 5, "Expectation", p. 106.
[86] Hugh Townshend, "Liquidity-Premium and the Theory of Value," *The Economic Journal*, **Vol. 47**, No. 185, March, 1937, pp. 157-169.
[87] G. L. S. Shackle, "A Theory of Investment Decisions," *Oxford Economic Papers*, No. 6, April 1942, pp. 77-94, and also "The Expectational Dynamics of the Individual," *Economica* (New Series), Vol. 10, No. 38, May, 1943, pp. 99-129, and "An Analysis of Speculative Choice," *Economica* (New Series), Vol. 12, No. 43, February, 1945, pp. 10-21.

introduced the concept of patterns of expectations formed as a sort of spectrum of possible outcomes in the market in the mind of the actor, from which a choice is made: "In the absence of knowledge there is room for many answers, all of which we must provide for ourselves; and since the number of suggestions which our visible circumstances will supply, which bear on the matter, can be endless, it will be natural to construct many such answers in rivalry to each other. How are we to choose amongst rival, that is, mutually exclusive, courses of action, when each such course is assigned, not one uniquely described sequel but a skein of imagined sequels which are rivals amongst themselves? We shall call any such suggested sequel an expectation."[88] Shackle introduced the concept of choice based on the relative "potential surprise" (a subjective concept) which a particular outcome would evoke from the decision-maker, as contrasted to the choice of the probabilistic outcome possessing the largest expected value (an objective concept). It is only Ludwig Lachmann[89] and Douglas Vickers[90] (and the present author[91]) who have continued this line of thought regarding asset markets, as discussed herein below.

Shackle has created a theory of entrepreneurial decision making under *uncertainty* (as opposed to Knightian probabilistic "risk") from *memory time through the present moment into expectational time*[92]; *i.e.*, in the real world, in which the created, forecasted alternative plans of action and possible outcomes[93] from which choice is to be made are *not initially specified*, but are *created* (and hence unpredictable because in part uncaused[94]) in *inspired* acts of thought in the present moment by the entrepreneur, and, because they are *inspired*, were previously unknown and unknowable. Shackle emphasized his rejection of the calculus of probability as a tool for dealing with action in a world of uncertainty.[95] To deal with "uncertainty" as opposed to Knightian "risk", Shackle created the concept of "potential surprise" to replace the probability distribution of known possible outcomes, and used that new concept to analyze the thought process of the decision-maker in a world of uncertainty, reaching through it conclusions different from those of the mainstream community analyzing "decisions under risk."[96]

Shackle in one stroke added the divergence of expectations between market participants (both consumers and producers) regarding future events as a cause of specific actions which tend to reduce that divergence, and Shackle also included both product flow markets and asset stock markets in his analysis. Shackle emphasized that the uncertainty of the future required *inspired* (*i.e.*, unpredictable by

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[88] G. L. S. Shackle, *Expectation, Enterprise, and Profit: The Theory of the Firm*, Chicago: Aldine Publishing Company, 1970, Chapter 5, "Expectation", p. 106.
[89] Ludwig M. Lachmann, "From Mises to Shackle", *Journal of Economic Literature*, 1976.
[90] Douglas Vickers, <cite his book on investment analysis using potential surprise>
[91] J. Stuart Wood, *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market*, New York University, Graduate School of Business Administration, 1980; Ann Arbor, Michigan: University Microfilms International, 1980, 1982.
[92] G. L. S. Shackle, "The Complex Nature of Time as a Concept in Economics," *Economia Internazionale*, **Vol. 7**, No. 4, November 1954, p. 744, reprinted in *Time, Expectations and Uncertainty in Economics*, edited by J. L. Ford, Edward Elgar, 1990, p.4.
[93] G. L. S. Shackle, "Time and Choice," Keynes lecture in economics, 1976, *Proceedings of the British Academy*, **Vol. LXII**, p. 7, reprinted in *Time, Expectations and Uncertainty in Economics*, edited by J. L. Ford, Edward Elgar, 1990, p. 32.
[94] G. L. S. Shackle, "Time and Thought," *British Journal for the Philosophy of Science*, **Vol. 9** No. 36, 1959, p. 294, reprinted in *Time, Expectations and Uncertainty in Economics*, edited by J. L. Ford, Edward Elgar, 1990, p. 23.
[95] G. L. S. Shackle, *Epistemics & Economics: A critique of economic doctrines*, Cambridge University Press, 1972, Chapter 34, "Languages for Expectation," pp. 364-408.
[96] G. L. S. Shackle, "Expectations and Cardinality," *Economic Journal*, **Vol. 66**, No. 262, June 1956, pp. 159-162.

physical means, determined by the non-physical and non-corporeal world) creation of new forecasts. Shackle considered the effects of a revision of the individual expectations of a single entrepreneur and the implication of the revision of expectations on the part of many entrepreneurs, which then affected the entire pattern of expectations under which the entrepreneurs would act and pointed out the co-ordinating effects of entrepreneurs' actions on the divergence of expectations. It is the actions of the Shacklian entrepreneur which reduces the divergence of expectations, making them more unified, co-ordinated, and coherent, and often anticipating new knowledge before it arrives.[97]

More than any other economist, Shackle wrote in great detail about the detailed flow of ideas within the mind of the decision-maker or entrepreneur in response to past events and in anticipation of new possible futures, and the true nature of time in economics (*i.e.*, in the real world of men and affairs), a time different and distinct from the mathematical time of the physicist, which, along with the inspiration of ideas, precludes mathematical modeling, description, or understanding of the economic process or of the decisions of individuals.

Shackle wrote of the "fundamentally unpredictable thoughts"[98] created by the individual, unlimited by the objectively given information or by the actual events which have occurred. Shackle emphasized that economic decisions are taken in the present moment in time and because of the creativity of the human mind, there could be no *mechanical* connection between these thoughts and the past or the future, and that, from the *mechanical* point of view, the world appeared "kaleidic" changing pattern suddenly in an unanticipated way. Discussing the present moment in time, Shackle wrote: "In this solitary moment all the consequences that the decision-maker seeks or accepts must necessarily be contained. These consequences must therefore be experiences by imaginative anticipation. As the basis of these anticipations the individual ...has in mind a set of rival diverse hypotheses."[99]

Shackle emphasized that part of the reason for the existence of disequilibrium was the spontaneous volatility of consumer values and expectations regarding future benefits of assets, the ignorance of the entrepreneurs of those future volatile consumer values, and the spontaneous volatility of producer production opportunities (some of which are unknown), both of which arise from physical and subjective causes, and both of which mean that there is at any moment great scope for further entrepreneurial action to fulfill the unmet values and to co-ordinate the previously un-co-ordinated values, and to co-ordinate the previously dis-co-ordinated production processes, and today's decisions generate a new following sequence of new decisions tomorrow contingent on exactly what today's decisions were.

Ludwig M. Lachmann

I term "**Lachmannian entrepreneurship**" the co-ordination (bringing into greater and greater agreement with each other, and closer and closer matching to correct accuracy of future actual events and conditions) by entrepreneurs of the *expectations* of market participants in the "kaleidic" market

[97] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), p. 59.
[98] G.L.S. Shackle, *Time in Economics*, North Holland, 1958, p. 23.
[99] G.L.S. Shackle, *Time in Economics*, North Holland, 1958, p. 33.

economy ("a world of flux in which the ceaseless flow of news daily impinges on human choice and the making of decisions"[100]), in both the flow market for goods *and in the stock market for capital assets*. The stock market for capital assets co-ordinates patterns of expectations about the future and causes the patterns of expectations to become more homogeneous and more accurate regarding the future which does come into being[101]. Lachmannian entrepreneurship brings the capital markets closer toward equilibrium (until the next unexpected "kaleidic" upset occurs), and this assists the general economy including the flow market for goods to move toward equilibrium.

Along with Shackle, Professor Lachmann has been the most concerned with the state of expectations in markets for the longest period of time.[102]

The general economy consists of both **goods markets**, in which are traded (in a flow through time) consumption goods which provide current utilities easily appraised by consumers (such as the benefits of a can of green peas); and **asset markets**, or capital markets, in which are traded assets (such as a share of common stock) which produce difficultly-forecasted future benefits across spans of time far into the future. The benefits to be provided in the future by a present asset are not easily appraised, and are imagined or expected by market participants, differently by different participants; hence there is much more disagreement among market participants regarding the precise future benefits to be provided by an asset, and the present value of these forecasted benefits, which is the current price of the asset.

> In studying the relevance of expectations to the market process, we come to learn that they play a different part in different markets, and these differences of their *modus operandi*...have to be explored....In an ordinary product market in which an output flow is sold, most participants are either producers or consumers. Fluctuations of limited size may originate on either side. When we add stock-holding merchants, the range of possible fluctuations increases as these merchants may be buyers today and sellers tomorrow or *vice versa*. But in an asset market in which the whole stock always is potentially on sale and in which everybody can easily choose or change sides, we find an element of volatility that is absent from product markets. Such asset markets are inherently "restless," and equilibrium prices established in them reflect nothing but the daily balance of expectations. [In a goods market, the futures price converges to the actual price as the subject date approaches and expectations converge as time passes.] But this cannot happen in the Stock Exchange, since what is being traded there are titles to (in principle) permanent income streams, which have no "date" that could "move nearer." All we get is a succession of market-day equilibria determined by a balance of expectations tilting from one day to the next as the flow of the news turns bulls into bears and vice versa. There is here no question of a gradual approach towards long-run equilibrium.[103]

The present author disagrees with this last sentence above, and has argued elsewhere that indeed, an equilibration process does occur in the stock market for an individual security, although it cannot

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[100] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), p. 56.
[101] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), pp. 54-62.
[102] Ludwig M. Lachmann, "The Role of Expectations in Economics as a Social Science," *Economica*, **10**, February 1943; reprinted in Walter E. Grinder, ed, *Capital, Expectations, and the Market Process*, Sheed Andrews and McMeel, Inc., 1977, pp. 65-80; and "A Note on the Elasticity of Expectations," *Economica*, November 1945, reprinted in Walter E. Grinder, ed, *Capital, Expectations, and the Market Process*, Sheed Andrews and McMeel, Inc., 1977, pp. 124-130.
[103] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), pp. 59-60.

complete its task and achieve equilibrium (it only moves part of the way before being interrupted), and that this equilibration process proceeds due to entrepreneurial actions which reduce the divergence of the state of expectations across time.[104]

Lachmann emphasized that the restlessness of asset markets precludes the achievement of long-run equilibrium in the general economy: "In volatile asset markets new capital gains and losses are made every day that change the distribution of resources [and valuations in the goods markets]. It is hard to see how the system can attain long-run equilibrium while these changes are taking place."[105] Lachmann argues that the general economy does not tend toward a long-run equilibrium, but rather moves into greater co-ordination which is then upset by the "kaleidic" shift in the asset markets which alter the pattern of valuations and resource distributions in the goods markets.

Compare the difficulty of evaluating the future dividends of an *asset* such as IBM stock across the years of the future with the difficulty of evaluating the future benefits of a consumption *good* such as peas or corn or shirts or houses or automobiles or refrigerators: we fairly well understand the benefits of *goods* and the value of these benefits—everyone's expectation of the benefits to be provided by a can of peas is the same and correct.

But we cannot easily imagine the future conditions which will give rise to the dividends of *assets* such as IBM stock and which create the values of the *assets,* and the risk perceived by different market participants regarding their forecasting of those future conditions (which determines the discount rate which transforms the future expected stream of dividends into the current price of the *asset*), so there are wide differences between the expectations of dividends held by different market participants (e.g., sellers and buyers), the degree of risk involved in the forecasts by the different market participants, and therefore valuations of stock, of different capital market participants. Moreover, because the benefits must be forecasted by different people with different expectations, not all of the forecasts can be correct, and so not all of the "intrinsic values" (present values of the future benefits) computed by different market participants can be correct. There is therefore inherently more *disagreement* or "heterogeneity of expectations and heterogeneity of valuation" regarding the values of *assets* than there is regarding the values of *goods*. *The size of the disagreement among market participants in an asset market regarding the value of an asset are orders of magnitude larger than the size of the disagreement among market participants in a goods market regarding the value of a good.* And *the mental process of valuation of an asset (discounting future expected benefits uncertainly to be received) is intrinsically different from the mental process of valuation of a good (seeing clearly the benefits of consumption).*

This degree of disagreement is caused by the uncertain forecasting of expected future benefits which each market participant in an asset market must himself estimate in order to value the asset. It is the volatility of expectations regarding future benefits and the valuation of these expected future benefits which creates the "kaleidic" upheavals in the stock market written about by Shackle and Lachmann.

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[104] J. Stuart Wood, *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market*, New York University, Graduate School of Business Administration, 1980; Ann Arbor, Michigan: University Microfilms International, 1980, 1982.

[105] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), p. 60.

This difference in the degree of difficulty of evaluating the benefits to be provided by a consumers *good* and that of evaluating the benefits to be provided by an *asset* (which must be forecasted across many future years), causes the process of *valuation of goods* to be different from the process of *valuation of assets*, and also therefore causes the analysis of goods markets to be different from the analysis of asset markets. To analyze asset markets, one must explicitly understand the patterns of expectations of future benefits (formed in the minds of the various market participants interested in particular assets) which give rise to the current valuations of those benefits, called "market prices" of the assets.

Expectations are volatile, not easily seen or explained, and subject to immediate un-forecastable change, thereby causing the Shacklian "kaleidic" changes which are observed in the market for common stocks as sudden changes in the prices of various securities and the patterns of prices of many securities. These changes then are transmitted into the flow markets for goods, precluding the achievement of general equilibrium.

> In a kaleidic society the equilibrating forces, operating slowly, especially where much of the capital equipment is durable and specific, are always overtaken by unexpected change before they have done their work, and the results of their operation disrupted before they can bear [complete] fruit. Restless asset markets, redistributing wealth every day by engendering capital gains and losses, are just one instance...of the forces of change thwarting the equilibrating forces. Equilibrium of the economic system as a whole will thus never be reached. Marshallian markets for individual goods may for a time find their respective equilibria. The economic system never does.[106]

Yet, the co-ordinating function of the entrepreneur improves the situation for all market participants.

CO-ORDINATION IN THE FLOW MARKET FOR GOODS AND IN THE STOCK MARKET FOR ASSETS BY ENTREPRENEURIAL ACTIVITY

This paper discusses first the equilibration or co-ordination process of the "flow market" for goods, as described by Knight, Mises, Schumpeter, Hayek, and Kirzner; and then discusses the equilibration or co-ordination process of the "stock market" for assets—the capital market—which are inherently "kaleidic" (prone to sudden upheaving changes due to the volatility of the controlling expectations which govern prices in asset markets) as discussed by Shackle and Lachmann; and then shows that the asset markets would be chaotic in the absence of entrepreneurial activity.

Hayek pointed out that entrepreneurs co-ordinate *information*; *i.e*., factual data known at first to only a few market participants throughout the economy; Kirzner added that entrepreneurs, alert to previously-unsuspected future valuations, thereby co-ordinated *valuations* of market participants, changing them by market action; Lachmann emphasized that entrepreneurs also co-ordinate previously-diverse patterns of *expectations* in the capital markets, so that the degree of homogeneity is increased.

[106] Ludwig M. Lachmann, "From Mises to Shackle: An Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, **Volume XIV**, Number 1 (March 1976), pp. 60-61.

This paper argues that the Kirznerian process of entrepreneurial *alertness* to previously-unsuspected future valuations of consumers in the flow market for goods also functions with regard to previously-unsuspected and un-co-ordinated expectations in the capital-asset markets (*e.g.*, for shares of stock), to make the patterns of expectations and therefore valuations observed as prices more completely co-ordinated than they would have been in the absence of the entrepreneurs' actions; and that, in the absence of entrepreneurial activity in the asset markets, these markets would not move toward greater co-ordination or "equilibration", but would instead be entirely, continuously, and completely "kaleidic", exhibiting continuous upheaval in prices of individual assets and patterns of prices of many assets, which would not converge toward stable values. That is, in the absence of entrepreneurial activity in the asset markets, these markets would be truly chaotic. This paper will explore the mechanisms of the entrepreneurial activity of the asset market, which brings about the equilibration of the asset market, or its increasing co-ordination as time passes, subject to the introduction of new exogenous events.

Mises and Schumpeter argued the primacy of the entrepreneur in changing the pattern of market action in the flow markets for goods from what would have occurred in the absence of entrepreneurial activity to what does occur because of the entrepreneurial activity. Just as Schumpeter was concerned with the upheavals of "creative destruction" in the goods market caused by the changes introduced by the entrepreneur, Shackle and Lachmann have pointed out that the capital markets are "kaleidic" and so characterized by sudden unanticipated changes because of the volatility of the expectations which control actions in the capital markets. But, while Schumpeter emphasized that the activity of entrepreneurs can be seen (although, as Kirzner points out, with some lack of clarity) as creating upheavals in the goods market, Shackle and Lachmann have argued that it is the inherent nature of the un-entrepreneurially-adjusted capital market to suffer from such "kaleidic" upsets. And as Kirzner showed, Schumpeter was mistaken in his belief that the entrepreneurial changes were at first disequilibrating, we will see that the entrepreneurial changes in the asset market are also inherently equilibrating reducing the "chaotic natural nature" of the asset markets and bringing about greater co-ordination.

This paper shows that the Kirznerian process of entrepreneurial alertness to previously-unsuspected valuations and circumstances, which co-ordinates the goods markets, also functions in the capital markets to co-ordinate the previously-unsuspected and un-coordinated expectations of the capital-market participants and therefore entrepreneurs in the capital markets act to equilibrate the capital markets. In the absence of this co-ordinating entrepreneurial action in the capital markets, asset markets would be continuously "kaleidic"; *i.e.*, always suffering from dis-equilibrating upheavals because of the volatility of expectations. It is the entrepreneurial activity in the capital markets which co-ordinates these otherwise-volatile expectations, bringing about equilibration in the capital markets, which otherwise would not be observed.

The market is a process of creation, and discovery (on the part of successful entrepreneurs), and the actions of the successful entrepreneurs bring about the adjustment of valuations and expectations through time of the other market participants (consumers and investors), so that, not only is the future different from the past, the future which does come into being is more consistently co-ordinated than was the past situation (in the sense of the correctness of expectations and the co-ordination of values of the various market participants); and *this future*, which does result from the actions of the successful entrepreneur, *is more consistently co-ordinated than other future states which would have existed if this* *successful entrepreneur had acted differently*. There is not only the change which we can see through time (by comparing the future in which we live with the past in which we formerly did live); there is also the change from what we cannot see (alternative future states which are different from the one in which we now live) because they never came into existence, to the future which we do see because it does exist. Successful entrepreneurship not only changes the conditions we do see, it also precludes other conditions which would have occurred in its absence.

Successful entrepreneurs change the (future) valuations and expectations of other market participants from what they would have been if the entrepreneur had not acted as he does, to a new constellation of valuations and expectations, which is more completely co-ordinated with the valuations and expectations of the new period of time, than the constellation of valuations and expectations of the market participants would have been in that period of time if the entrepreneur had acted differently. Successful entrepreneurs create a different future from the one which would have existed if they had acted differently. This new future is more completely co-ordinated, in the sense of the successful dovetailing of the valuations and expectations of market participants, than the future (which will now not come into existence) which would have occurred if the successful entrepreneur had not acted as he did.

Human beings act in the present, based upon their knowledge and new discoveries (Hayek) in ways which upset the present organization of industry (Schumpeter) to change the future prices of goods (Kirzner) based on their alertness and discovery of new opportunities (Kirzner) based on their newly-created expectations (Shackle, Lachmann) about what the future would be like if they acted differently, compared with what they wish to make it. The entrepreneur does not merely "discover" the nature of the future (Hayek, 1978, Kirzner,); he *creates* a different future than the one which would have occurred if he had not acted as he does. We live in a world that is different from what it would be if Mozart had lived to be 60; in a world that is different from what it would be if Henry Ford had produced different-colored automobiles. To "discover" the future is to believe that it *already is destined to exist in that form*, due to events which have already occurred; this is not correct: the form of the future is not created until the future moment actually occurs—it is not merely awaiting our discovery of it.

It is not so much that the successful entrepreneur "sees before others what is around the next corner" as that he *creates*, before others act, the future that arrives when we turn the corner. The "future" was not "out there" awaiting discovery; rather, the future was formless and generally unspecified until the successful entrepreneur acted to create it and make it different from what would have occurred if he had acted differently, and different from what it would have been had only others acted. It is not that the expectations of the successful entrepreneur are more accurate than those of others, less-successful entrepreneurs; it is that the force of the actions of the more-successful entrepreneur are more detailedly dovetailed with what the actions of the market will be, than those actions of the less-successful entrepreneurs, whose efforts, being less closely dovetailed with the valuations and expectations of other market participants than are the efforts of the more-successful entrepreneur, are unsuccessful. The future that arrives is different from what it would have been if the entrepreneurs had acted differently. It is not that the more successful entrepreneur saw more clearly what was coming; he more successfully integrated his efforts with what does come, and that integration *changes the nature of what does come*, in detail, from what would have come if the more-successful entrepreneur had acted differently.

It is not that the successful entrepreneur's expectations are more accurate—he does not "see the future" more clearly than his competitors; rather, his creative actions *more successfully change* the future valuations and expectations of other market participants *from what they would have been* in his absence or his other actions, than do the actions of the less-successful entrepreneurs.

The world is complex, and different markets have different time scales, depending on the different processes of valuation, thought, knowledge, and action which occur in each market. Valuation is subjective and volatile, and valuations of individual market participants change from time to time regarding particular assets and goods, often in response to market events, but often also in response to other conditions or a change in thought or philosophy on the part of the market participant. Such changes in the pattern of values of various participants alter the state of co-ordination toward which the market moves. Entrepreneurial activity, which acts to bring the market into greater co-ordination with the values of the market participant, must alter its actions in response to any such change in values, so that the new values are taken into account in co-ordinating activities. *Asset markets* are particularly volatile in this regard because the valuation of assets is based on *expectations* regarding the unknowable future benefits to be provided, and these expectations change, often spontaneously, creating a new pattern of values. Such a "kaleidic shift" in the pattern of valuations of assets in a securities market resulting from a change in the expectations of the market participants, was what Professor Lachmann was interested in. Following such a sudden change in the pattern of valuations, what entrepreneurial forces act to again put the market onto a course toward greater co-ordination?

The asset market in which financial assets are traded has a much shorter characteristic time scale for transactions than does the goods market in which physical products are produced by various capital-intensive means. This is because the valuation of financial assets is based on the expectations of market participants regarding unknowable future benefits which each asset may provide. Individuals' expectations and the pattern of expectations which influences prices can change instantaneously for no observable reason, and it is this volatility of expectations that causes the characteristic time scale of the asset markets to be much shorter than the time scale of the goods market. Sudden changes occur in the goods market rarely, generally resulting from some natural catastrophe. But sudden changes occur frequently in asset markets. It is entrepreneurial activity which begins again the process of co-ordination of any market following a sudden disruption, just as it is entrepreneurial activity which animates the ordinary pattern of greater and greater daily co-ordination of the market in the absence of a sudden interruption. We must consider both types of market and both types of entrepreneurial processes: the ordinary entrepreneurial process which functions as a continual process, and the resurgent entrepreneurial process which takes up after a sudden jolt and co-ordinates once more.

The general economy contains and includes both types of market, so its overall behavior is governed by the processes in both markets together. It is a mistake to neglect the processes of the asset market in considerations of the equilibrating processes of entrepreneurship in the general market and concentrate only on the processes in the goods market. Interruption events—that is, events which interrupt the movement of the market toward equilibrium--occur more frequently in the asset market than they do in the goods market. But market participants' behavior in the goods market is changed by their participation in the asset market. The asset market behaves differently from the goods market because of the difference in the way market participants form values within it and because of the shorter time scale of interruptive events within it, compared with the longer time scale of interruptive events in the goods market.

The views of Professor Kirzner and Professor Lachmann were closely related and fit together quite well. Everybody knows that Kirzner taught that entrepreneurial activity was equilibrating. It is thought that Professor Lachmann argued that the frequent kaleidic surprises were "dis-equilibrating" in the sense of bringing about chaos instead of greater order. I believe that this is not what Professor Lachmann meant. Indeed, he called attention to unexpected surprises which caused the order to dissolve into a new pattern. But once this dissolution occurred, Kirznerian entrepreneurial activity would again move the new economy toward a new equilibrium. The kaleidic surprises, no matter how many and how frequent they are, do not bring about chaos—they merely cause the equilibrating economy to move off in a new direction which is different from the direction it had been moving prior to the collapse. Professor Lachmann emphasized the asset markets in his discussions of the kaleidic sudden changes which interrupt the progression toward equilibrium.

Professor Kirzner wrote about entrepreneurship only in the goods market: the market for consumers and producers goods, in which real physical matter is manipulated so that goods and services aimed at consumption can be produced[107]. But entrepreneurship occurs also in the financial markets--the asset markets—in which financial assets are exchanged. Professor Lachmann wrote about the processes and the formation of values in financial markets, but he did not clarify the entrepreneurial activities in such markets[108]. Nor did Professor Kirzner discuss the entrepreneurial activities in financial markets. Indeed, asset markets have been generally neglected by writers in economics, and the entrepreneurial processes of such markets have been neglected by writers in finance.

All action seeks to bring about a future which the actor expects to be preferable to what he expects to occur if he acts differently. The future is unknowable, and cannot always be accurately forecasted; often the actions of unknown others will alter the market so that the future is not what the actor expected. Often, changes in valuation which were unexpected by the actor will alter the market—such are the sorts of kaleidic surprises which occur much more frequently in the asset market than in the goods market. Kirzner taught us that entrepreneurship is an equilibrating process: the result of the entrepreneur's action is often more closely in pattern with the wishes of the consumers than the prior state of affairs was, and more closely matched to the wishes of the consumers than alternative states would have been. But mistakes in entrepreneurship are possible: sometimes, the less-effective entrepreneur wins; sometimes the action is not well chosen and failure occurs—the results may therefore be farther from "equilibrium" than they had been, so that a particular act of entrepreneurship may be dis-equilibrating. In an asset market, in which valuations are based on expectations, a mistake on the part of an entrepreneur may precipitate a kaleidic surprise, requiring re-adjustment to overcome the mistake.

Also, there are times when the flow toward equilibrium is upset—a Shacklian-Lachmannian kaleidic surprise may occur. Such surprises may be the result of deliberate but possibly mistaken entrepreneurial success, or they may be the result of entrepreneurial failure; often in the asset market, they are the result of a cascading change in valuation for a particular asset or a group of assets caused by a sudden alteration of the pattern of perceptions and expectations regarding that asset. A sudden

[107] Footnote all of Israel Kirzner's books and articles on entrepreneurship here.
[108] Ludwig M. Lachmann, "From Mises to Shackle" article from *Journal of Economic Literature*; also other relevant writings.

alteration of expectations may be triggered by a market event or by a seemingly-unrelated event; but it results is a new pattern of values which is inconsistent with the current ownership of assets: a dis-equilibrium situation.

The question is, can such kaleidic surprises upset the economy so that entrepreneurial activity no longer moves the economy toward equilibrium? Or does entrepreneurship have the skill to overcome such a surprise so that the pieces can be immediately picked up and we can again resume our trip toward equilibrium? But in such a case is this the same equilibrium as had been pursued prior to the upset, or is the equilibrium which is now being pursued different from the one which was the goal of the pre-upset process?

Pursuit of equilibrium is not always a smooth process which uniformly proceeds toward a particular state; however, much of Professor Kirzner's analysis is limited to such a process, in which the smooth waters of the economy move downstream toward equilibrium. Changes in events can upset the stream bed, erupt rapids, and change the course of events, and thereby cause the economy to set off through rough waters, in another direction, along another path, toward a new equilibrium different from the previous destination. Entrepreneurial activity, which had been equilibrating the economy toward the previous equilibrium, now must re-direct the changed economy through the newly-created rapids, through the changed course of the stream bed with different twists and turns than existed before, toward the new equilibrium. This ability of entrepreneurial activity to adjust to previously-unexpected surprises and alterations in the course of events, and thereby pursue successfully a new equilibrium, is what Lachmann was emphasizing. It is true that Lachmann believed that there were non-equilibrating events, and dis-equilibrating events—even a succession of such events—and that they occurred frequently and could disrupt the asset market. But the point is that entrepreneurial activity builds upon these new changes and is again an equilibrating process—but this new equilibrating process leads toward a new and different equilibrium state than would have been achieved if the disrupting event had not occurred.

Only in the sense that the parameters of the new equilibrium are now different from the parameters of the one that had previously been pursued, and the course of events is now roiled by new obstacles which had not previously existed, is it sensible to describe this upsetting surprise as a "dis-equilibrating event." The event caused the market to change its goals; but the entrepreneurial process again moves the market toward a new equilibrium in which the values of consumers will be more closely co-ordinated than they are now, and more closely co-ordinated than they were immediately following the disrupting event, and because the individual valuations have changed, the new state of co-ordination will be greater than the old state possibly could have been with respect to the new valuations. It is not that the economy resumes its previous course toward co-ordination following an upset: the upset creates a new course and a new final state of co-ordination due to the alteration by the upset of the individual valuations of the market participants.

What we cannot know is whether this new equilibrium is more co-ordinated with valuations than was the old one which has now been abandoned by change would have been, if the change had not occurred. Because valuation is subjective, the kaleidic upset changes the values of the market participants so that the formerly-sought-after "final state" would no longer be equilibrating of this pattern of values. The upset causes the new equilibrium to be different from the old one due to the alteration of values. But we do know that, under the changed conditions, the new equilibrium is more closely co-ordinated than the old one would have been, now that change has occurred and new valuations govern action. "Dis-equilibrating" kaleidic surprises do not bring about chaos; they merely change the direction toward which the economy is moving.

Lachmann noted that the kaleidic changes of pattern described by Shackle more commonly occur in the asset markets, like the stock market, than they do in the goods market, because of the essential difference between an asset market and a goods market. Because the general economy contains both types of market, and the asset markets are frequently upset by kaleidic shifts, the economy as a whole probably can never attain equilibrium. Yet, Lachmann noted also that, following a kaleidic shift of pattern in an asset market, the equilibrating processes again took hold and brought about greater co-ordination of values and conditions in this market, until another upheaval took place. It is not that Lachmann believed that the entrepreneurial process was inherently dis-equilibrating; it is that he realized that it was continually interrupted because of the nature of value-formation in the asset markets.

Values are formed in the goods market in response to the almost-certain knowledge of the capacities of various goods to fulfill an actor's desires: the benefits of a sport-utility vehicle compared with a sports car are definable. Values are formed in an asset market in response to the unknowable future benefits expected to be received from various financial assets: the future dividend stream of IBM compared with the future dividend stream of Dell Computer Corporation is essentially a guess. The order of knowledge is different in an asset market, so the process of valuation of financial assets is inherently different than it is in a goods market.

It is a complete misunderstanding to accuse Lachmann of nihilism or to argue that he believed in chaos. He merely argued that, because the economy contains asset markets as well as product markets, and in the asset markets kaleidic change is frequent, the entire economy would not achieve equilibrium. This view is no different from that of Ludwig von Mises' view that general equilibrium is never achieved.

Although values are formed differently in asset markets than in goods markets, Kirznerian entrepreneurship still operates in asset markets, bringing about greater co-ordination than previously existed, just as it does in goods markets. The details are different. This paper contrasts Kirznerian entrepreneurship in the goods market with entrepreneurship in the asset market, which does not so much co-ordinate valuations of the benefits of goods as it co-ordinates patterns of expectations about the future and causes the patterns of expectations to become more accurate regarding the future which does come into being; I term this entrepreneurship in the capital asset markets "Lachmannian entrepreneurship". This paper argues that entrepreneurial processes in the asset market do act to bring the market, and hence, the economy closer to equilibrium. But because of the nature of the valuation process and its foundation in the formation of expectations in the asset market, we shall see that indeed kaleidic upsets occur more frequently in the asset market, interrupting the progress toward equilibrium and causing the economy to set out on a new path toward a different equilibrium than it had been pursuing prior to the recent upset.