

SHACKLE: A CRITICAL SAMPLING

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The works of Shackle are a mixed bag. There is no better critique of the modern Neoclassical orthodoxy than his *Epistemics and Economics* and few worse analyses of Keynes than his essay "Keynes and the Nature of Human Affairs".^[1] We do not have a unified coherent body of thought but rather scattered insights, flashes of brilliance, moments of confusion.

His foundation is solid. His analysis starts from the point of view of the decision-maker, apparently identical in every respect to the Misesian "actor", and he sees the fundamental category in economics to be choice in the face of uncertainty. From this auspicious beginning he formulates an impressive and detailed theory of decision, integrating a nondistributive subjective probability theory into an analysis of the role of time. In addition to this tremendous wealth of positive theory he has incisively dissected the prevailing orthodoxy for its failure to conform to the characteristics of the decision-maker's situation.

This is the kind of theoretical groundwork upon which one could hope for the construction of an intricate edifice of higher economic theory. Such hopes are unfulfilled. Indeed Shackle disdains the task of unifying economic thought under any one formalization.^[2] He sees the tremendous division of labor in his field to be an encouraging sign, that the science is expanding, that we are willing to apply different tools to different problems. No one doubts that specialization *per se* is indispensable to the advancement of any science. But the tentacles of different abstract economic theories must not become disconnected from their roots. There is no connecting tributary amongst the plethora of economic theories from Leontief to Harrod, from Samuelson to Sraffa, or even between micro and macro. Most of economic thought

today, as Shackle has demonstrated, is explicitly *disconnected* from the roots, choice in an uncertain world. What is needed in such a quagmire is an old style economic treatise, a consistent unifying body of knowledge. It is this need which Shackle fails to grasp, and it is the fact that this need is being filled by the modern Austrian school that makes so much of the modern orthodoxy more irrelevant than wrong.

This paper is a critique. I see little need for reiterating everything Shackle says with which I *do* agree, and little possibility of refuting everything Shackle says with which I don't. I've chosen three topics of varying scope and importance as a kind of critical sampling of the works of this intriguing economist.

I. CARDINALITY

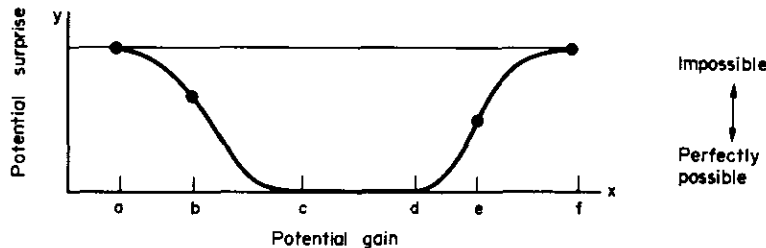
Certainly some of Shackle's most fertile efforts have been his investigations into the nature of decision in the face of uncertainty. Among his most insightful contributions is his concept of focus loss/focus gain. A decision-maker reviews several courses of action, the results of any of which he is uncertain. What he wants to know is what is the best possible and the worst possible result of taking each particular action. The actor focuses attention on possible loss and possible gain in order to decide among action schemes.

In his De Vries lecture, "Decision and Uncertainty",^[3] Shackle formulates a theoretical construction to explain a decision by means of graphical and mathematical techniques. If we take X to represent the range of potential gain of an imagined course of action, as seen by the actor, and Y to represent the plausibility of that chain of events, we could draw the graph:

For example, X could be in units of dollars,

profit, or a measure of some kind of psychic profit, and Y could be in units of potential surprise ranging from zero surprise (perfectly possible) to maximum surprise (impossible). Thus at $X = a$ the expected profit is small, and the outcome is judged impossible, while at

charged that these criteria do not obtain and that therefore his "function" is indeterminate. The problem is that the axes are elastic. "If, having given one possibility a likelihood of 0.8 and a desirability of 10, we give a second possibility 0.5 and 20, the second is made more



$X = d$ the outcome is larger and perfectly possible. Shackle then shows how the most important possible futures imagined are the least gain (or worst loss) and the best gain (least loss) which are deemed reasonably possible, for example points b and e on our graph. Outcomes less than b and greater than e are too unlikely to be relevant to the actor, points in between b and e are irrelevant since worse or better outcomes are possible. This "relevance" is expressed by Shackle's variable ϕ , attention arresting power, which he proceeds to graph on a third axis.

As a purely expository technique I would have no quarrel with this graphical construction. It is as handy and as liable to misuse as the Marshallian scissors. The focus gain/focus loss curve expresses more knowledge of a phenomenon than we can imagine ourselves ever having (for example any person's risk aversion). It also brushes aside the problem of measuring such "quantities" as potential surprise, attention arresting power and (to be general) *ex ante* psychic profit. One could suspend disbelief to achieve the clarity of graphs so long as Shackle acknowledges these difficulties. He apparently doesn't.

... for each degree of intensity of feeling which any of these symbols (X , Y , ϕ) can represent, there must be just one and only one particular member of the set of real numbers which can be assigned to this degree of feeling.

The intensity of feeling must be "uniquely cardinal", with explicit non-arbitrary units and zero points. Critics (notably Carter) have

arresting. But if we give the second 0.4 and 17 — and there is no reason why we should not — then this *first* will get a higher value of ϕ ".¹⁴¹

Shackle draws an analogy with measuring a box to determine its volume. We could measure length in inches, width in centimeters and height in feet, but were we to do so our function $V(X, Y, Z)$ of volume would be different than if we had measured everything in inches. Similarly, he argues, if we change the units of X , Y , and ϕ their functional relationship would have to change too, so, he concludes, his function is determinate.

But this argument misses the point. Surprise is not to profit what length is to width. Shackle's problem is to find non-arbitrary units of three entirely different phenomena and relate them in a function in which the units are mathematically resolved. He must find the analog to 1 inch = 1/12 foot for his units of intensity of surprise and attention-arresting power. He has done nothing of the kind.

In a "solution" suggested by Popper, Shackle tries to nail down the function by specifying degrees of surprise Y (e.g. flabbergasted, startled, etc.) and separate and identifiable degrees of pleasure X (ecstatic, delighted, etc.) He then forms an indifference curve among different specific points, say ($Y =$ mildly disconcerted but $X =$ delighted) is deemed equivalent to ($Y =$ startled but $X =$ dejected). But to attach names to intensities of feeling is not to

make them cardinal or determinate. The degree of surprise attached to "startled" is no less arbitrary a unit than the degree of surprise designated by 0.8. One would have hoped that the quantification of feelings would have died with Bentham.

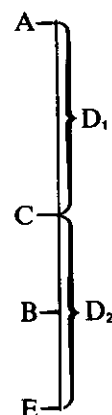
The problem is not that a person measures surprise in a different and incomparable way from the way he measures pleasure. The *more basic* question is whether we can say that a person measures *any* feeling. "A is preferred to B" is different from "A is measured to equal feeling intensity = a , and B is measured at b , and $a > b$ ". Feelings can be ordered but not measured. Chocolate is not twice as good as vanilla. The decision-maker does not measure their pleasures and compare results, he simply prefers chocolate to vanilla, period.

In another essay Shackle points to the limitations of dealing strictly with ordinal numbers. "... (S)o long as we suppose that the discriminated levels of any kind of feeling are merely orderable, we shall still be precluded from attaching any meaning to the relative steepness of such a curve at different points and to the convexity or concavity of its segments".^[5] It is admittedly understandable that an economist brought up in the current orthodoxy would feel uncomfortable until his analysis had been fully translated into calculus and geometry. Mathematization has superseded plain conceptual clarity as the ultimate expository methodology. To get nicely continuous functions we merely have to "suppose that the decision-maker's discriminable and orderable levels of feeling were *infinitely* many within the meaningful range of potential surprise and that of desirability and covered densely the whole of each of these ranges".^[6] Usually an admirable fanatic for accuracy to the decision-maker's circumstances, Shackle has sacrificed pure methodological individualism before the altar of mathematics. The actor does not stop and *measure* the intensities of his potential surprise or psychic profit to compare them. No computation is necessary to decide if this or that outcome has greater attention arresting power.

Shackle discusses the argument of W. E. Armstrong that an ordinal scale can be translated into a cardinal one given certain subsidiary

assumptions. If the actor can "compare *differences* between intensities, as well as the intensities themselves, and judge that the 'distance' from A to B is greater or less than the distance from B to E, then if an intensity C is presented to him such that he cannot . . . declare the distance A to C to be greater, or less, than the distance C to E, we can claim, as a starting point, that the whole interval A to E has now been divided into two *equal* sub-intervals".^[7] It is by no means obvious that an actor actually *can* make the above subtle distinctions, but even if he could it is certainly true that in making a decision he *doesn't* pause to formulate a unit of measurement of his psychic intensities by dividing his value scale into equal parts. When we analyze a decision it should be on the basis of how it *is* made, not on how it *might* be made. The actor *orders* preferences and in general psychic intensities. The biological technique by which the mind does this is irrelevant (and, incidentally, presently entirely unknown).

Value Scale



II. TIME PREFERENCE

Time for acting man is a continual flux, not a uniform space. There are the categories of *ex ante* and *ex post*, and of nearer and more remote futures. "The 'now' of the present is continually shifted to the past and is retained in the memory only."^[8] In Shackle's words, "(t)here is for us a *moment-in-being*, which is the locus of every actual sense-experience, every thought, feeling, decision and action".^[9]

Shackle has trouble with the idea of duration. The theorist, he explains, can step back from time and view a duration, a span of time each instant of which can be called actual. But for the actor whose only reality is the fleeting present, the moment-in-being, duration presents a "paradox", a combination of actual with imagined instants of time. "In what sense can duration form an aspect of the individual's moment-in-being?"⁽¹⁰⁾

At the outset I must protest that I fail to see the paradox. To think about a period of time *is* to step back from time. The moment-in-being itself must be a duration if such time consuming processes as thought, feelings, action, etc., are to take place in it, as he says they do. He rejects the idea "that the actuality of one moment-in-being could be added in some sense to the actuality of another and of another so that a long-lasting experience would be in some sense more powerful, more to be desired or feared, than a brief one . . ." ⁽¹¹⁾ No, when a person evaluates a good which can serve him for 10 years he doesn't do any adding of actualities, whatever that would mean. The actor steps back from time *at least* to the extent of imagining the whole duration, and the utility to him of the service he can receive from the good over that time span. If there is a paradox in the idea of duration for the actor it is one of Shackle's own creation. But his cure for this so called paradox is worse than the disease.

Inside the moment-in-being, duration must, I think, be looked on as a cumulated intensity, built up and stored by memory or anticipated by imagination. . . . We must allow for a complex pyramiding of enjoyments by anticipation in which the individual looks forward, say, on Monday not only to an enjoyable event on Friday but to his anticipation on Thursday of that event, and to his anticipation on Wednesday of Thursday's pleasure of anticipation, and so on.⁽¹²⁾

This tortured explanation only confuses the matter. Afraid to give his decision-maker the power to abstract from time and evaluate a duration, Shackle instead has his actor anticipating his own anticipations. This is supposed to explain why a longer duration is more to be desired or feared than a brief one. When a man buys a house that is expected to last 50 years, its greater value to him over one which lasts 20 years is self-evident. Very simply,

"the quantity of service rendered is different in both cases".⁽¹³⁾ It is no more surprising that the 50 year house is more valuable, than it is that 50 chairs are more valuable than 20. A year of shelter is a good, and the theory of marginal utility applies to it as well as to any other good. The fact that a man always *exists* in the present does not prohibit him from imagining and evaluating any duration, in the future or past.

But Shackle doesn't stop here. Brandishing his weapon, cumulative anticipations, he challenges the Austrian theory of time preference. "But if the notion is accepted, that the act and the psychic concomitants of imaginative anticipation can themselves be anticipated, then it seems to follow that, for example, Sunday's picnic or concert can be anticipated with enjoyment on Saturday, and that on Friday not only the event itself but Saturday's anticipation of it can be enjoyed in anticipation, and so on indefinitely, so that in a rather complex manner the total intensity of an anticipational experience may conceivably be an *increasing* function of the length of time expected to elapse between the moment-in-being and the date of the anticipated event."⁽¹⁴⁾ Imagine the scenario: "No, Harriet, I think I'll buy the car next year to give my anticipations of anticipations . . . a chance to pile up." But why not take it a little further? As mentioned above, the future is evaluated in anticipation, the past in memory. If I buy the car now, then tomorrow I could experience the pleasure of remembering my having the car today. And in two days I could have the pyramiding memory of tomorrow's memory of today's use of the car *plus* the memory of tomorrow's use of the car. And then we can speculate on whether yesterday we had the pleasure of anticipating tomorrow's memory of today's use of the car.

The only people who think like this are philosophers. But to solidify the defenses of the theory of universal time preference, a few comments are perhaps in order. Let's say we have Shackle's case of a picnic-goer who on Friday anticipates his anticipation on Saturday of the picnic on Sunday. On Friday he has a balance of forces between firstly a kind of time preference (which Shackle calls "vividness of the direct image of an anticipated event"⁽¹⁵⁾) and

secondly by the piled up anticipations of anticipations. Now Saturday comes along. Why not delay the picnic until Monday, to allow the same order (2) of anticipations to cumulate as he did on Friday? Why has the pyramiding effect been reduced relative to the "vividness" effect? If this picnic-goer is really serious about his Friday's anticipations of anticipations as being the only reason for delaying the picnic two days, then why has he on Saturday suddenly cut the delay to one day? The Shacklean picnic-goer would never have his picnic, nor would he want it, for he's valuing the anticipation higher than the picnic. In fact, in praxeological terms the good desired *is* the anticipation, not the picnic.

In general, the good which is desired *may* be neither the picnic itself nor the Saturday anticipation but rather both taken together. When the child on Christmas Eve prefers to keep the anticipation until the next morning, it is clear that the good is the whole experience including the pre-Christmas anticipation. In any event, the example fails as a critique of time preference.

The usual misunderstanding of time preference is evident here, a confusion between pure time (nearer vs remoter) and calendar time (Friday vs Sunday). The Misesian theory of universal time preference says that, other things being equal, the actor prefers satisfaction in the nearer to satisfaction in more remote time periods. In the actor's plan, a more or less complete calendar of actions is structured; some actions, such as going to work, must take place in definite calendar time slots, say 9 to 5 Monday through Friday. Sundays may be free for picnics. This structure imposes constraints on the effectiveness of the time preference, for other things are not equal. Many actions cannot be done simultaneously with one another but must be ordered, and fit into the structure of plans. The structure of plans might be analogous to blocks on an incline, where the present time is at the base and the actor's horizon at the top. Plans must be fitted into this incline, some blocks must precede others, but other things being equal, the blocks slide down toward the present. The force of gravity (time preference) brings actions as close to the

present as possible.

Calendar time schedules, say a class at 6:00 Monday, forces certain actions into particular slots, around which actions unconstrained by calendar slots can be fitted. We can't really prefer to take that class today because it's not *given* today, we have no option of preferring the class today over the class Monday. The picnic-goer has a calendar preference for Sunday picnics, not a preference for remoter time as such, as proven by his Saturday decision to *not* delay the picnic until Monday.

Goods are valued for their ability to fit into the plans of the actor as he moves through time. A good which fills an empty slot in his plans tomorrow will, other things being equal, be valued higher than an otherwise identical good which fills a slot next month. This preference is directly reflected in the discounting of future returns from assets. If I have an acre which yields me \$100 a year in rent, the \$100 coming up *this* year is more valuable to me than the \$100 I expect next year. The 1978 rent fits into a slot on my planning incline at a nearer point to the present and thus is valued more to me than the 1979 rent which fills a more remote slot. The value of that acre to me depends on the intensity of my time preference (the slope of the incline), my calendar constraints (slots), my expectations upon which the plans are built, and (in a market economy) on the acre's selling price and the market rate of interest. But time preference alone is enough to explain the finite valuation of an infinite stream of returns.

"Interest rates", Shackle writes, are "determined in the speculative bond market". This is true but somewhat superficial, like saying a price is determined by supply and demand. A bond represents a theoretically infinite stream of income; why then are not all bond prices infinite? Because people discount the future; a dollar today is worth more (even without inflation) than a dollar in ten years. The degrees to which speculators discount the future decide the price of the bond. The degree of future discounting, or time preference, is primary to the formation of the demand and supply of bonds, and thus to the bond price. Expectations concerning this particular bond issuer's future earnings, in conjunction with the investor's time

preference, determine the bond price and simultaneously the market interest rate.

Shackle tries to explain the discounting of future income streams entirely by the uncertainty of the future. "In order to give themselves some presumption of getting back at least as much as they lend, lenders will require the promised repayments to exceed, in total, the principal which is initially lent."⁽¹⁶⁾ "Lender's uncertainty is the beginning and end of the essential explanation of interest rates." Risk plays a significant role in market interest rates but could hardly be called a sufficient explanation. Even if the future were known with certainty people would still prefer an apple today to an apple in 10 years, or 1000 years. The fact that the near future is valued more highly than the distant future is expressed by Shackle indirectly and as if it were a secondary consideration of minor importance. The lender in foregoing present consumption subjects himself to "mental discomfort" and must receive "compensation for this". This compensation for discomfort, an apparent throwback to the abstinence theories of interest, would be more conveniently integrated into a coherent theory of interest if it were simply acknowledged that an actor values the near future more than the distant future, other things being equal.

III. KEYNES AND THE DEPRESSION

The most disappointing characteristic about Shackle to an Austrian is his worship of Keynes. One becomes accustomed to seeing economists pay homage to the Keynesian revolution; the way they will scramble over each other to prove what Keynes really meant, it always miraculously turning out to be just what *they* meant; the way theories which had been common before Keynes are attributed to Keynesian innovation; the way the contradictions are reconciled, excused, ignored. That so many great minds fall to their knees before the Keynesian Mystique is to me an embarrassment to the economic profession. Listen to this:

There is a time, perhaps more than one, in the history of every science when it has its *mystique*: an idea, surprising, vaguely hinting at enormous powers of explanation, and far from being fully understood, takes command of some men's thought and imagination, and

is followed to the stars. It is for these men a time of great happiness, a time filled with a sense of purpose, of conquest, of being members of a small *elite*, a time of achievement past and promised, of great prestige and a feeling of being borne upon irresistible waters of success. Such a time, in England, was the 1930's for those who had any share, however humble, in the Keynesian liberation. Whether a man was himself a liberator or a young convert whose feet were scarcely yet entangled in the classical net and was unknowingly eager for release, the time was magical.⁽¹⁷⁾

With the Keynesian "liberation" came "prestige" and "success". "At last I understood . . . I joined the elect, for I understood Keynes. (And this, at first, put one in rather the position that understanding Einstein had done a decade earlier.)"⁽¹⁸⁾ Einstein indeed.

Shackle got more than *esprit de corps* from Keynes. "This . . . great convenience, conferred by money, is called liquidity, and when preference for liquidity over more specific schemes of gain becomes very widespread and very strong, we have unemployment and business depression, because, of course, merely *holding* money rather than investing it in the purchase of plant, equipment, buildings, livestock and so on employs nobody."⁽¹⁹⁾ But this higher demand for cash balances is a symptom, not a cause of a depression. When the stock market crashes are we to reprimand people for being somewhat hesitant to invest? But no need to worry. Shackle assures us that next time we have a depression the government will "unhesitatingly start to spend their way out of it".⁽²⁰⁾

If Shackle merely accepted Keynes on depressions and left it at that it would be understandable if not ideal. But he holds Hayek's theory in very high regard at the same time. In fact, hard to believe as this may seem, Shackle thinks he can reconcile Hayek and Keynes. "Was this [Hayekian approach] the antithesis of Keynesianism? Not at all, it only seemed to be. Hayek was describing what happened when easy credit in a time of full employment leads to over-ambitious schemes of equipment-building, to consequent shortage of consumers' goods and to rising consumers' goods prices, which finally defeat the equipment schemes by bidding factors of production away from them, so that they are left half-finished and stranded. It is strange that this theory gained adherents in the thirties, when it was scarcely being illustrated anywhere in the

Western World. [sic!] It is not surprising that it was readily abandoned in favor of Keynes. But it has made a dramatic comeback. For since the Second World War we have seen in many countries just that steady rise of the general price level which comes of trying to do too much with given resources. . . . We may say that the Hayek–Keynes debate of 1932 was unnecessary, for Keynes was discussing deflation and Hayek was describing inflation.”^[21]

Surely Shackle should know that money inflation was at the same time Hayek’s cause of, and Keynes’ cure for, the depression. They weren’t discussing different things; the world was in a depression and both theorists were trying to explain why and what to do about it. Their answers to both questions are different. Hayek’s theory *does* apply to the 1930s: it tells us how we got there. What does it mean to try to “do too much with given resources”, and what does this have to do with a “steady rise of the general price level”, and most importantly, what does *either* have to do with Hayek’s business cycle theory? Hayek cannot and should not be reconciled with the economist who wrote “. . . the remedy for the boom is not a higher rate of interest but a lower rate of interest! For that may enable the boom to last”.^[22] Either Shackle has failed to understand Hayek or I have.

Shackle also seems to have been impressed by the multiplier theory. “Here then is the great lever which Kahn and Keynes showed could be applied to the elimination of unemployment. If, when there is massive general unemployment, the Government starts an extra stream of annual purchases of machinery, buildings, roads, *or anything which cannot directly satisfy consumers* of, say, £100 million, and if the marginal propensity to consume is, say, 3/4, then £400 million a year of extra income, and the corresponding extra employment, will be generated.”^[23]

The brilliant criticisms of the multiplier theory in Hazlitt^[24] and Rothbard^[25] need not be repeated here. The fundamental error of Keynes was to confuse a purely formal relationship, investment as 1/4 of income, with a causal relationship (a practice which, incidentally, macroeconomics has nowadays made a commonplace). One could expect naïve-positivist neo-

classical economists to fall for such a theory, but for Shackle of all people, the indeterminist radical, to accept this mechanistic theory is inexplicable.

The multiplier must get under way through inflation of the money supply. It is interesting here to contrast the Keynesian account of inflation spreading prosperity through the economy, with Mises’ treatment of inflation:

An increase in a community’s stock of money always means an increase in the amount of money held by a number of economic agents . . . For these persons, the ratio between the demand for money and the stock of it is altered; they have a relative superfluity of money and a relative shortage of other economic goods. The immediate consequence of both circumstances is that the marginal utility to them of the monetary unit diminishes. This necessarily influences their behavior in the market. They are in a stronger position as buyers. They will now express in the market their demand for the objects they desire more intensively than before; they are able to offer more money for the commodities that they wish to acquire. It will be the obvious result of this that the prices of the goods concerned will rise, and that the objective exchange-value of money will fall in comparison.

. . . the increase of prices continues, having a diminishing effect, until all commodities, some to a greater and some to a lesser extent, are reached by it.

The increase in the quantity of money does not mean an increase of income for all individuals. On the contrary, those sections of the community that are the last to be reached by the additional quantity of money have their incomes reduced, as a consequence of the decrease in the value of money called forth by the increase in its quantity.^[26]

The multiplier theory ignores the late tributaries of the inflation process, by assuming constant relative prices. Those who receive money first benefit, and increase spending; those from whom they buy benefit and increase spending. But all this magically increased spending must have some effect on prices. Those who see costs going up *before* they benefit from any stimulated sales are hurt by the inflation. Everyone on the tail end of the multiplier suffers and there’s no *a priori* reason to suppose that the net effect is an improvement. The inflationary boom could be entirely an accountancy illusion owing to depreciation of the currency between the time of purchase of factors and the time of sales.

But the outstanding contrast between the Keynes and Mises treatment is in methodology. Mises is concerned with factors which influence individual decision makers, a point of view with

which one usually finds Shackle to be in sympathy. Keynes is concerned with the mechanics of the system, with the functional relationships between faceless macro variables.

The chief beneficial effect of the *government investment* multiplier is seen to be its stimulation of the economy by instilling a general sense of optimism among investors. Keynes sees the depression to be essentially a result of general pessimism among investors; all we have to do is jostle them into a good mood and, presto, we'll end the depression. Shackle applauds Keynes for this insight, citing it as an infant version of a theory of expectations.

Prenatal, perhaps. Just as Keynes aggregates all other aspects of his field, his theory of expectations is macro: investors as a class have overall optimism or overall pessimism. But it is not investors as a class who invest, and it is not investment as such about which decisions are made. Individual investors make specific investment decisions about specific investment possibilities. Even in portfolio investment the broker who picks out components of the package does so on the basis of his expectations of the profit-making possibilities of the specific stocks involved. To obscure this complex decision-making process under the macroeconomic categories of general optimism and pessimism is to abstract from the essence of the very process under scrutiny.

Furthermore, Keynes tries to use this macro-ized simplification of expectations to explain booms and slumps. What reason have we to believe that when a few bears turn into bulls this will start a stampede? Where is the connection between pseudo-random changes in expectations and massive unanimity?

The Keynesian explanation for the stampede is Keynes' caricature of the stock market in Chapter 12 of the *General Theory*. Speculation is reduced to gambling and expectations to guesses about everyone else's expectations.

Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes a bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done.^[27]

This diatribe shows more about Keynes' ignorance of investment decisions than it tells

us of the stock market. First of all gambling is the *creation* of risk for sport, speculation is the *assumption* of already existing risk for profit. Secondly, Keynes assumes that professional speculators are ignorant of (and unconcerned with) the real companies and products, the future of which they are trying to forecast. This assessment conflicts with both what we know about professionals in Wall Street and with what we would reasonably expect. The most successful stock brokers are the ones with the *alertness* for inside tips and company policy changes, intimate knowledge of the industry, a pragmatic, hardnosed understanding of human action, experience in the interrelations between industries, in short, those who know the real world. Gamblers who merely bet on trends, who jump bandwagons of optimism or pessimism are not likely to survive long in the speculation business.

Individuals always expect something and reveal their expectations in action. If most people expect terrible disasters the expectations for religious "production", cemetery plots, space ships, fallout shelters, hospitals, and so forth, improve relative to, say, pension plans. If major transformations take place in the context of expectations there will be capital losses from specific capital, retraining personnel, etc. But this change is poorly characterized by the general terms "optimism" and "pessimism" which beg the crucial question: "Optimistic with respect to what?"

The Keynesian sees the depression as a period when everybody is too pessimistic (presumably with respect to every conceivable investment!) or too timid to invest, and the solution is to have the optimistic, brave government do some "investing" to bring everybody into a good mood. The Austrian sees the depression as a period of manifested malinvestment, where drastic changes in relative prices are necessary to adjust capital allocation toward conformity with consumer time preferences. The solution is to allow these adjustments to occur.

Shackle's sympathy with the gambling-game description of speculation is evident in section 19.3 of *Epistemics and Economics*, where he uses the pure gambling game as a first approximation to a stock market, but he is unwilling

to go as far as Keynes in ridiculing speculators. Elsewhere usually a methodological individualist, Shackle makes at best an uncomfortable Keynesian. His concession to the gambling analogy can only be explained as one example of his occasional exaggeration of the thesis that the future is unknowable. He has carried the uncertainty of the future to the extreme of envisioning stock market speculation as wild guesses about guesses, tied only tentatively and indirectly to any real factors.

This extreme Shacklean position, best expressed by his phrase "knowledge of the future is a contradiction in terms",^[28] at best de-emphasizes and at worst ignores most scientific knowledge. Shackle looks at the decision-maker moving through time, aware of the past *only* through memory and of the future *only* through imagination. Neither "only" is correct. In a recent issue of *Scientific American* half a dozen methods of dating objects from the distant past are evaluated from the famous carbon-14 test to tree ring counting. Since World War II our anthropological knowledge has improved immensely, and one should hardly call this knowledge "memory". When a physicist charts the radioactive decay from a rod of uranium into the future the word "imagination" does not adequately convey the nature of his estimate. We have much knowledge of the past beyond memory, we have much knowledge of the future beyond imagination, in short, we learn natural laws of the universe and apply them in analysis of both future and past events. $E = mc^2$ is not an historical statement, it represents knowledge of the future.

Of course in dealing with human action our knowledge of the future has vast pockets of ignorance. There is uncertainty in our understanding of other actors' plans and expectations. But to say that our knowledge of the future is highly incomplete is not to say we have *no* knowledge of the future. An entrepreneur must rely on his understanding of human action and there is no foolproof way of predicting human behavior. Nonetheless, some entrepreneurs are evidently better at this understanding and hence predicting than others. We do not exhibit scientific rigor in such predicting but on the other hand we are not entirely blind. Since we

have *some* knowledge of the future (as Shackle argues, we can eliminate the impossible) some entrepreneurs, e.g. those who know natural laws and praxeology, are more likely to succeed than others. There is such a thing as speculative expertise. There is a divergence of expectations among speculators about specifics, but the expectations are bounded by *real* considerations. It may be called a guess, to speculate that the price of potatoes will be X in a year. There will be a divergence of "guesses" on the futures market around the price X . But there is general *convergence* among the experts about the reasonable range $X-a$ to $X+b$ which is most likely. The person lacking in speculative expertise with regard to the future's market in potatoes might guess wildly outside of the reasonable range, and on rare occasion may even be right. But we must emphasize that on the whole the experts are more often correct and that if they are guessing it makes sense to call it *educated* guessing.

Shackle mentions the constraints to guessing imposed on the speculator by the real world as an afterthought, as a minor revision to the great Keynesian insight. Perhaps Shackle is just being too modest. The Keynesian diatribe against the stock market *rests* on the alleged irrationality of speculators, but Shackle (and others) have demolished that charge the moment real world constraints are shown to influence speculation significantly.

Concerning educated guessing, Shackle emphasizes the "guessing", that is, emphasizes the divergence of expectations in a speculative market around the market-day equilibrium, the balance between the opposing forces of bears and bulls. The Austrians emphasize that important adjective "educated", and point out the convergence of expectations about whatever *range* of possibilities is overwhelmingly suggested by the evidence. There is no contradiction here. Whenever our knowledge of a phenomenon is incomplete, characterized neither by complete ignorance nor by omniscience, there will emerge both convergence of opinion concerning the likely range of possibilities derived from our limited knowledge, and divergence of opinion with regard to any single specific outcome, due to our pockets of ignorance.

The neoclassicals are wrong in characterizing actors as omniscient, while Keynes is wrong in tending to characterize actors as totally ignorant of the future. The Austrians correctly perceive actors to be uncertain but not blind. Shackle, while he possesses definite nihilistic Keynesian tendencies, probably belongs with the Austrians on this issue. It's a shame he doesn't know it.

NOTES

1. Shackle, *The Nature of Economic Thought* (Cambridge University Press, 1966), p. 33.
2. *Ibid.*, p. 16.
3. Shackle, *Time in Economics* (North-Holland Pub. Co., 1958), p. 35.
4. *Ibid.*, p. 57.
5. Shackle, *Decision, Order and Time* (Cambridge University Press), p. 130.
6. *Ibid.*, p. 130. (emphasis mine).
7. Shackle, *Decision, Order and Time*, p. 131. (emphasis Shackle's).
8. Ludwig von Mises, *Human Action* (Chicago: Henry Regnery Co. 1966), p. 100.
9. Shackle, *Time in Economics*, p. 13.
10. *Ibid.*, p. 30.
11. *Ibid.*, p. 30.
12. *Ibid.*, p. 30.
13. Mises, *Human Action*, p. 483.
14. Shackle, *Time in Economics*, p. 32.
15. *Ibid.*, p. 32.
16. Shackle, *Epistemics and Economics* (Cambridge University Press, 1972), p. 190.
17. Shackle, *The Nature of Economic Thought*, p. 14 (emphasis his).
18. *Ibid.*, p. 53.
19. *Ibid.*, p. 129.
20. *Ibid.*, p. 14.
21. *Ibid.*, p. 55.
22. Keynes, *The General Theory of Employment, Interest and Money* (Harcourt, Brace & Co., 1936), p. 322.
23. Shackle, *The Nature of Economic Thought*, p. 48 (emphasis mine).
24. Henry Hazlitt, *The Failure of the New Economics* (Princeton, N.J.: D. Van Nostrand & Co., 1959), pp. 135-155.
25. Murray N. Rothbard, *Man, Economy and State* (Los Angeles: Nash Publishing Co., 1973), pp. 757-759.
26. Mises, *Theory of Money and Credit* (New York: Foundation for Economic Education, 1971), p. 139.
27. Keynes, *The General Theory of Employment, Interest and Money*, p. 159.
28. Shackle, *Epistemics and Economics*, p. 47.