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Abstract

Despite the several attempts to rework Shackle's ideas using alternative non-mainstream approaches, Shackle was and has remained an outsider in the economic discipline. Shackle, however, is not a man alone if we take seriously what he thought of economics, as a discipline concerned with a subject that is not self-contained but open-ended and impermanent. Starting from an assessment of Shackle's understanding of choice as creative, an uncaused cause that happens in a present in which the future must be imagined and for which the past provides no satisfyingly complete anticipations, the paper argues that Shackle should be rescued from the role of a nihilist where he is often relegated. In this perspective, a fundamental key to assessing the richness, originality and anticipatory character of Shackle's contribution can be found in the recent developments of several "friendly" disciplines such as the psychology of motivations and of self-rewarding actions, narrative as the "science" of the possible and the role of calendar time in choice theory. In fact, all these novel re-thinkings can contribute and to the understanding of Shackle's main point, that human (and therefore economic) agents are active, creative enterprisers, who cut the deterministic thread by injecting the new in history to come, in making a difference in the future courses of action.

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Key words: Shackle; Choice; Imagination; Time

1. Introduction

"G.L.S. Shackle has always seemed a man alone." These are the opening words of a paper that Stephen Littlechild wrote in 1979 commenting on Shackle's paper "Imagination, Formalism, and Choice" (Littlechild, 1979, p. 32).

Not that Shackle lacked admirers and followers, Littlechild added (*ibid.*). A collection of papers in *Metroeconomica* published in 1959 (Åkerman et al., 1959) both discussed and developed Shackle's ideas and economic framework. So too did the volume in his honor edited by Carter and Ford (1972). Additional publications would follow after his death, such as the the collection of essays in his honour edited by Frowen (1990), the 1993 commemorative issue in the *Review of Political*

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economy (Carter et al, 1993), the volume edited by Earl and Frowen (2000) and more recently the book by Earl and Littleboy (2014) published by Palgrave Macmillan.

Nor was Shackle without predecessors and inspiratory teachers. As he himself recounts in his “A Student Pilgrimage”, his first encounter at the LSE in 1935 with the works of Hayek, Keynes and Myrdal, sparked his already prepared mind, generating new insights on the roles that knowledge and the lapse of time, expectations and choice as pursuit of possibilities, play in economics (Shackle, 1988, pp. 236-237).

“But”, asks Littlechild, “to what school of thought does Shackle belong? In whose footsteps does he follow and who follows in his? How far has he influenced, or been influenced by, the thoughts and writings of his professional colleagues? Is he not a man alone in his apparent independence of any conventional tradition?” (Littlechild, 1979, p. 32).

Now too, should the same questions be asked, we would be compelled to answer that Shackle was and has remained an outsider in the economic discipline. Several attempts have been made to rework Shackle’s ideas using, alternatively, a Keynesian framework (Harcourt, 1981), (Davidson, 1991), (Rotheim, 1993), (Harcourt & Sardoni, 2000), (Cantillo, 2014) a Austrian, evolutionary and institutional approach (Lachmann, 1976), (Parsons, 1990), (Koppl, 2001), (Hodgson, 2000), or a non-Bayesian decision theories approach (Zappia 2014). But, as Littlechild asserts in his own remarks, Shackle’s position - often defined as radical subjectivism - is more one of radical subversion, maladapted by and maladaptable to any school.¹

For, in the first place, Shackle firmly rejected any form of determinism in which “time encompasses the fixed completeness of the narrative and choice is mere illusion” (Shackle, 1979a, p. 6). He envisioned choice as creative, an uncaused cause that originates a history to come, but a history that is unknowable from the vantage point of the present, since any choice that is not simply a passive reaction to given known circumstances represents in some way a break with the past and the creation of something new. Choice happens in time, in a present in which the future must be imagined and for which the past provides no satisfyingly complete anticipations. In this process the power of imagination is almost boundless and can admit a seemingly unending sequel of possible rival actions.

The economic world described by Shackle then is a world very far from the received view of economics. His was a world in which the passing of time cannot be ignored but is vital, a world “of choice as a beginning”, “where imagination in action generates the unimagined.” (Shackle, 1979b, p. 31). Uncertainty in this world is not about predetermined futures, independent of

¹ In the concluding remarks of his Introduction to *Imagination and the Nature of Choice*, Shackle asks what relation his “heresies” bear to the received view of economics and makes explicit reference to Littlechild’s paper ‘From radical subjectivism to radical subversion’ as the definitive answer in regard to his work. (Shackle, 1979, p. ix).

choice and in need of being found out, but an opportunity for being creative. It is a world where feelings, of hope and fear, of surprise and disbelief, allow us to compare and determine a realm of possible futures.

Shackle, however, is not a man alone if we take seriously what he thought of economics, as a discipline concerned with a subject that is not self-contained but open-ended and impermanent, where the economist is a trespasser, one who is not afraid to look at other disciplines to uncover the mysteries of such a complex world as the world of human affairs. In particular, and this will be the main point of our argument, we believe that a fundamental key to assessing the richness, originality and anticipatory character of Shackle's contribution can be found in the recent developments of several "friendly" disciplines and sub-disciplines, to wit:

1. The psychology of motivations and of self-rewarding actions;
2. Narrative as the "science" of the possible;
3. The possible role of calendar time in choice theory.

All these novel re-thinkings, we will try to argue, can contribute to rescuing Shackle from the role of a nihilist where he is often relegated and to the understanding of Shackle's main point, that human (and therefore economic) agents are active, creative enterprisers, who cut the deterministic thread by injecting the new in history to come, in making a difference in the future courses of action.

2. The creativity of choice

Understanding how people choose is not an easy task, especially if one is dissatisfied, as Shackle was, with the traditional approach. In economics the complexity of the task has been simply 'solved' by reducing it to a constrained maximisation problem, either deterministic or probabilistic, whose solution is somehow forced, through appropriate axioms, to be unique. Actually, Shackle had nothing against axioms. In his Appendix to *Expectation in Economics* (Shackle, 1952), he used axioms to define his notion of 'potential surprise'.² However, Shackle's attitude was that of an 'enquirer' aiming at handling complexity, rather than getting rid of it. He adopted a philosophical stance wherein choice should be understood as some sort of 'creative destruction' *à la* Schumpeter, that breaks with the path determined by the past and injects the new in the future. In this world characterized by uncertainty, it is through the flexibility of language, rather than through the definiteness of probabilistic calculus that the chooser is able to imagine and produce creatively future sequels of actions and to reshape the confines of given rules.

² For an appraisal of Shackle's notion of potential surprise, see Zappia (2014) and Derbyshire (2017)

2.1 *Choice as a beginning*

Shackle rejects any view that represents choice as a mere reaction to a given and known set of circumstances, a view that reduces choice to a simple recognition of necessity thus making it totally ineffective and otiose (Shackle 1979a: vi).³ Genuine choice for Shackle is instead the genesis of outcomes not entirely implicit in antecedents, a cause uncaused, a beginning (ibid: vii). Choice is the opening of events which stand as a basis for further choices and whose sequels cannot be known in advance but only imagined.⁴ To give choice this meaning then is also to make it unknowable in the present moment.

Yet, this alternative view seems to open a paradox in choice (Shackle 1966: 71-72).

If really effective, choice's outcomes cannot be determined in advance, cannot be foreknown and we choosers may become lost in the sequel of the indeterminate events that choice originates. If, on the other hand, we move in a pre-known setting, this becomes beyond our reach of influence and choice is not effective. We become slaves of necessity, tools of fate (Shackle: 1979 a:19). To paraphrase Popper's distinction, choice seems to be caught either in the impregnable necessity of clocks or in the elusive freedom of clouds. (Popper, 1966).

How to untie this conundrum? What does choice do for the chooser? (Shackle 1979a:14). And what is its motive?

Decision, in Shackle's view, is choice facing uncertainty but an uncertainty that is *bounded* (Shackle 1959: 293). The sequels of future imagined events must be bound by the possible, whose edges are determined partly by previous choices and partly adjudged by the chooser on the basis of his knowledge of the field and of himself (Shackle 1979a: 10).

It is within these epistemic bounds that the chooser is free to create the "choosable entities", the mutually rival actions and their respective envisageable sequels. Because choice for Shackle is upon rivalries, each claiming the desired history in time to come. Rivalries however are not already existent rivalries but more of a suggestion as to the future evolution of affairs. "Suggestion is the play of the new on the accepted": it is continually developed and modified by updated interpretations of the present (Shackle 1979a: 12,13). And it is here that we can see the cutting of the deterministic thread, the entry into histories of thoughts not determined by antecedents. This rivalry implies unknowledge and the contemplation of the empty space of future time filled by human actions and interactions for which prior probabilities have no relevance. Choice is an exploitation of unknowledge (Shackle 1979a: ix).

³ "If we knew in an exploitable degree what we should find we should not need to find it. If we do not know what we should find, how can we say what it will be worth?" (Shackle, 1983, p. 8)

⁴ "If choice is real", Lawson argues, "any agent could always have done otherwise; each agent could always have acted differently than he or she in fact did" (Lawson, 1997, p. 8).

Yet, when the moment of choosing arrives, the business of imagining further variants of possible sequels must come to a stop leaving the chooser with a list of sequels that is incomplete and uncompletable though bounded (Shackle 1979a:viii). What then does choice mean to the chooser? Choice for Shackle shifts the bounds of rival imagined sequels that are deemed possible. Choice is a moral and not simply an intellectual act, it means commitment and resolve. “Choice erects a structure of intentions, any abandonment of which will be hurtful to the chooser in some degree. In the act of choice, the chooser in some degree stakes his own self-esteem (Shackle 1979a: 15).

This commitment is also the motivation of choice. Traditional economic theory has fastened the word equilibrium to the achievement of choice, and its motive rests on the selection of the best of the known available options. But for Shackle, choice happens in the transient present and affects only the possibilities of time to come and of future histories. For him, then, the motive of choice rests on the satisfaction that comes from the contemplation of time to come, it is the “poising of thought” (ibid: 14), a good state of mind. Equilibrium then, in this alternative view, is “a good state of imagination, a fabric of thoughts achieving present, immediate, and synchronous beauty, a whole that satisfies criteria that we must call aesthetic, but using as its means the need to fill, in some sense the calendar axis of time-to-come” (Shackle 1979b.: 24).

Choice in sum, if genuine, makes the possible possible, it commits the chooser to it and, through imagination, allows him the enjoyment (or the fear) of anticipation. But this is not the end of the story, because choice, by shifting the bounds of the possible, creates new future possibilities, in an endlessly open fashion.

2.2 Language

There is an additional problem that concerns an enquirer into the realm of choice as Shackle envisioned it. If histories to come are originated by the chooser in all their diverse rival forms (and in the context of the contemporaneous decisions made by others), they are nonetheless still concerned with entities that are given, that exist and respond to the principles of nature (what Shackle calls “*rex extensa*”) and to the social rules that govern behavior. Two different principles seem to be here at work: the generative and creative act of choice and the settled and stable constitution of nature. How to reconcile them? (Shackle 1979a: 21).

For Shackle the answer resides in language. Language for Shackle is the instrument through which people are able to acquire a framework that allows them to classify and conceptualize the “reports” from the material and social world that surrounds them, as well as a shared and communicable set of conceptualizations. Thought, for Shackle, is “the outward shape of thought, the form that is inseparable from the content.” (Shackle, 1972, p. 185).

But language is not a fixed structure. It is composed of elements - symbols, words and sentences, syntax - that are somewhat stable and given by convention, invariant to the changes of the context and construct of a language. Still, they are capable of infinite combinable variations and open to an almost limitless variety of thoughts (Shackle 1979a: 21).⁵ The elements of the language then must be both classificatory boxes and symbols freely composable like the tesserae of a mosaic (Shackle 1979a: 24).

It is through the flexibility of language then that the chooser is able to imagine and produce creatively future sequels and to inject novelty in the confines of given rules.⁶

Language is made of elements that are also emotionally charged. It is through them that the chooser can experience and compare the anticipatory enjoyment that might prompt him to undertake an action and the anticipatory apprehension and fear that might prevent him from pursuing it. (Shackle 1979a: 21).

This “linguistic creativity” (Lewis, 2017, p. 18), that allows the sensory experiences to be decomposed and recomposed in varied forms and orders, is also what allows us to create meanings and emotional values, to compare the desire and counter desire that identify each sequel of rival actions.

2.3 The possible and the probable

As noted earlier, the resolve and the commitment to which a choice binds the chooser interrupt the potentially infinite chain of imaginable sequels in the mind of the chooser. For Shackle this is the real difference that choice makes: “A choice that did not commit the chooser in some respect would be no choice” (Shackle, 1961, p. 21). By choosing one of the sequels that is in one’s power to choose, one that does not contain a fatal flaw or obstacle, a chooser puts his self-esteem – and the respect of the others involved in his choice - at stake.

This dimension of choice underlines once more the distance that exists between Shackle’s view of choice and the received representation of choice in traditional economics. The traditional economic calculus puzzles over lists of known choosables as well as the probabilities assigned to their occurrence.. But this is not available in the world of unknowledge of Shackle. This is why, for him, not only reason, but also feelings, commitment and imagination are also necessary for choice.

This brings us to one of the themes of Shackle’s reflections on choice that has been most debated, that of the difference between the possible and the probable.

⁵ See also Lewis (2017)

⁶ And Shackle is a master of language. The way he bends, breaks and blends words, phrases and sentences is the way he alerts the reader of the newness of his thoughts.

Though Shackle accords imagination the freedom to envisage the sequels of future actions, this freedom, as we have seen, cannot be unbounded, with no connections between action and consequences; it works only within the limits of the possible. Untrammelled freedom to imagine whatever course of action would make choice powerless and pointless (Shackle 1979b.: 21): “The anarchy of Nature is as fatal as the determinacy of Nature to the notion of choice as a source of history” (Shackle 1979b.: 20).

Imagination then should be subject to the constraints of the possible, of the now and then. The possible is a body of suppositions that reflects the chooser’s subjective knowledge, tempered by natural and social constraints.⁷

Only when so constrained, when imagination is not simply unlimited fantasy and daydream, can it create those subjective consequences of action schemes open to the individual that are called expectations. And only when, of all the courses of action, the individual has chosen one and has committed to it, does imagination become anticipation (Shackle 1959: 288).

But the possible is not the probable. This is a point repeated constantly by Shackle and one that marks his views to be irreconcilable with the received view of economic choice.

Probabilities can be assigned to classes of events taken to be exhaustive and known to include the true class. They are mutually exclusive and consist of fractions summing up to unity. This means that when a new conjecture appears and has to be added to the existing ones, these have to be adjusted downwards (Shackle, 1955). But, Shackle insists, there is no reason why a new conjecture should affect the possibility of the existing ones.⁸

For him, instead, no list of hypotheses can be certain, but only a sequel of imagined sequels of outcomes, endlessly augmentable, and constrained only by their adjudged relative possibility. This means that the ultimate comparison in Shackle is not numerical but subjective and different among individuals or for the same individual at different times. Possibility then is not a category of degree but a matter of yes or no. (Shackle 1988: 2-4).

Still it is possible for Shackle to treat possibility as a variable by defining the natural bounds of the entire possible and non-possible on the basis of some memory of previous sequels of events (what he calls the epistemic interval). In order to make them fixable they need to reflect some emotion the intensity of which may allow a judgment of comparative possibility. The emotion that responds to epistemic circumstance is the feeling of surprise (Shackle 1988:5).

⁷ For an analysis of Shackle’s view of individual knowledge of the rules of the game and of the individual beliefs in human nature, of the artistic constraint, see Ford (1993)

⁸ The implications and suggestions of a non-distributional uncertainty variable was addressed in his *Expectations in Economics* (Shackle, 1949).

Choice then is both a matter of taste, of a comparison between desire and counter desire, and of possibility, of the intensity of the feeling of surprise that is associated with the best hope and the worst threat offered by the skein of rival envisaged sequels Shackle (1979b: 26).⁹

3. Shackle on time

Starting from the long-awaited English translation, edited by Georgescu Roegen (1983), of Gossen's (1983 [1854]) *Laws of Human relations and the Rules of Human Actions Derived Therefrom*, traditionally considered the forerunner of the marginalist theory, a recent strand of literature has explored the implications for choice theory of taking into account the uncontroversial fact that human activities take time and that individuals are more concerned with answering the question "what shall I do" rather than "what shall I buy". On the one hand, Steedman (2001) has shown that many of the fundamental results of neoclassical theory of demand do not hold when time, together with income and wealth, is included among the individual's constraints. On the other hand, another strand of research (Nisticò, 2014; 2015; 2017) has focused on the possibility to build a Bentham-based, non-axiomatic and path-dependent theory of choice based on the idea that "except in a very few instances in modern societies (such as the customer who drinks in a lounge) no individual decides, say, how much bread to buy while eating bread" (Georgescu-Roegen, 1983: lxxxi). In fact, the path paved by Georgescu-Roegen's reappraisal of Gossen is surprisingly close and complementary to Shackle's research on choice as 'mover', i.e., as a creative act.

3.1 *The inside vs the outside view of time*

In his paper *Time and Thought*, Shackle (1959) condenses his approach to choice. In order to understand the nature of choice, Shackle argues, time must be taken into account from the viewpoint of the individual chooser, i.e. from the *inside view* when "we think, imagine and decide" under the "fleshly pressure" of the actuality of the present "as distinct from the content of those events that pass upon the mental screen of memory and imagination" (ibid: 286). In fact, from the inside view of time 'the moment in being' is commensurable neither with the past nor with the future; it is a locus of sensations, thoughts and acts that take time and carry us, therefore, into a different moment, like a wave, "which exists only by changing". The relationship of this moment with other moments of calendar time is mediated by the power of our mind to create

⁹ The act of decision is a fusing of judgments of different kinds, and these judgments in effect are made all at once in that moment and have their mutually relevant existence in that moment. The chooser of action wishes to fix upon the best and worst imagined outcome of each action that are possible enough: the best that is possible enough to be worth hoping for, and the worst that is too possible to be dismissed (Shackle, 1988, p.5).

images and to “label them with dates other than the actual date at which such images are created” (ibid:288).

It is only from the viewpoint of the observer, be he/she historian or mathematician, but in any case one taking the *outside view* of time, that different points on a timeline can be compared, since outside observers do not “place themselves in any specific moments of the system they are describing” (ibid:286).

3.2 Economic Dynamics and regret

An example of the typical outside view of time is represented in Table 1. This shows the evolution across three consecutive time periods of the contribution revenue and of pension expenditure of a pension system, where c is the contribution rate and W the wage sum at time t growing at the constant rate g .

Time	$t-1$	t	$t+1$
Revenue	$\frac{c \cdot W}{(1+g)}$	$c \cdot W$	$c \cdot W \cdot (1+g)$
expenditure	$k \cdot \frac{W}{(1+g)^2}$	$k \cdot \frac{W}{(1+g)}$	$k \cdot W$

Table 1

For a hypothetical outside observer willing to understand the dynamics of the magnitudes reported in Table 1 all periods must be given the same importance (e.g. to understand that contribution revenue and pension expenditure are both growing at the constant rate g and to identify the condition $c = k/(1+g)$ which is necessary for sustained financial solvency. However, it is clear that there is nothing about individual choice in Table 1 and this is why the outside view of time is wholly sufficient to analyze its content, considering “only Arguments of Sense, and ... only such Causes as have visible Foundations in Nature; leaving those that depend upon the mutable Minds, Opinions, Appetites and Passions of particular Men, to the Consideration of others” (Petty, 1899 [1690], p. 244)

However, if one aims, as Shackle did, to understand choice, then “Opinions, Appetites and Passions” cannot be neglected and the inside view of time is what we need, being aware that any attempt to substitute some modelling of expectations and anticipations for the actuality of the moment will be delusive, since “as the individual viewpoint advances ... the real expectations pictures ... of any action-scheme shifts repeatedly” (Shackle 1959: 288).

Shackle provides a clear example of the differences between the two views of time by making reference to a hypothetical ‘action-scheme’ chosen by an individual in period t_0 after anticipation

of the associated pleasures and pains, with anticipated pleasures ‘located’ in t_1 and anticipated pains ‘located’ in t_3 . The choice taken in t_0 implies - and here Shackle seems to endorse some sort of maximization or cost-benefit analysis – that at that date “the good anticipations outweighed the bad” (Shackle 1959: 289). But then Shackle asks, what are the likely feelings of the individuals in t_2 ? Given that the pleasures ‘belong to memory’ and the only consequences still to be experienced of the action-scheme taken in t_0 are forthcoming pains, it is likely that the individual regrets his decision. However, Shackle also raises a second question about “which of these two views taken at different dates by the same man about the same act is just? I contend that this question is meaningless These two moments cannot, for the individual to whom alone the question could matter, be ‘in being’ together, the actuality of the one denies and excludes the actuality of the other and it is only by assuming ourselves to be observers *outside* the system under discussion ... that we can make the question even seem to mean something” (ibid.). What is interesting and appealing in Shackle’s approach is that when time matters, the distinction between rational and irrational behavior evaporates. In fact, such a distinction - according to which, at some point in time, one action can be judged according to whether its consequences are superior to those implied by other, ‘rejected’ actions - can make sense only for the outside observer. The rational-irrational distinction makes no sense if the moment of choice is non-commensurable with the moment of evaluation, as it is for the individual chooser whose decision takes place in the ‘solitary present’:

“if the act of deciding is the act of maximizing something, that something must be a feeling belonging to the same moment as the act of decision itself, [requiring] experience by anticipation, that is by imagination limited to the seemingly possible” (p. 289).

It is worth noting that much of the literature on *regret aversion* as a possible explanation of the Allais paradox and/or of preference reversal¹⁰, refer to possible outcomes of different gambles, i.e. to situations in which the probabilities associated to possible payoffs are both objective and known to the individual.

3.3 Expected and discounted utility

Nor, however, can the individual be thought of as someone attributing ‘subjective’ probabilities to all possible states of the world *à la* Savage (1954) to be revealed by choices. Even subjective probabilities require that the individual “can make a list, complete, and somehow known to him to be complete, of all the possible trains, and attach to each of them a proper fraction, given the proportion of times, in an infinitely long lifetime of repetitive experiments, that this outcome would prove the true one” (Shackle 1959: 291). Once we drop this assumption, we are left with

¹⁰ See e.g. Hargreaves Heap et al. (1992, pp. 36-50).

the only case in which choice really matters, i.e. with those instances in which “outcomes are not *given to* the individual but imaginatively created by him” (ibid.).

According to Shackle, the rationality assumption, both under certainty and uncertainty, as embedded in expected utility theory, makes sense only if time is seen as a mere succession of points along the calendar axis, i.e. as “no more than the rolling of a wheel along a road which constantly and fixedly exists in its entirety wherever the wheel is located” (Shackle 1959: 290). Let us add that such a conception of time is also implied by the idea that utility can be ‘neutrally’ moved along the calendar axis through a discount factor representing individual time preference, precisely as it is with money through borrowing and lending.

3.4 The nature of decision when time matters

If we look back at the value controversy and at how individual choices have been taken into account by the classical and marginalist schools respectively, we can easily see that choice has generally been considered as a tool by which individuals or firms exploit all existing gain or *arbitrage* opportunities. In the classical theory, firms are the only effective choosers. By changing location to capitals in search of the highest rate of profit firms tend to level profit rates across sectors. In fact, the essence of the so-called marginalist revolution can be identified in its attempt to counteract the classical idea that, under the pressure of competition, market prices tend to gravitate around their natural counterparts, i.e. around the cost of production as ‘pre-determined’ by the state of technology and the level of one of the two distributive variables. According to the classical approach, abstracting from “the mutable Minds, Opinions, Appetites and Passions of particular Men”, the proof could be given that class antagonism, rather than harmony, governs incomes distribution. On the other hand, the proof that a general competitive equilibrium characterized by Pareto optimality could exist was seen as an ‘image’ of the power of the invisible hand to be contrasted with the conflictual view of capitalism. These two competing economic theories, surely “marked by both apologetic attitudes and preconceived criticisms” (Nisticò & Tosato, 2002, p. 12) are the result of the two alternative ‘atemporal’ scans of the economy wherein individual choices are there only to put together the pieces of a puzzle whose image has been predetermined by the theorist and “the final picture takes its character from the necessity of fitting the pieces together in the only possible way, yet the profile of each piece was cut before ever the fitting together began to be attempted” (Shackle 1959: 290).

When time matters, actual, creative choices must be taken into account. Economic history then becomes the interplay of decision makers “introducing a new strand into the tapestry as it is woven, as injecting into the dance and play of events something *essentially* new, something not implicit in what had gone before” (ibid.).

4. The friendly disciplines

In the concluding remarks in the Preface to *Decision, Order and Time in Human Affairs* Shackle (1961) writes:

“If the thesis of this book is in any degree acceptable, it follows that such a subject as economics must not be looked on as self-contained. Human nature and action as a whole is the proper object of study, and philosopher, psychologist, economist, and historian must work hand in hand”. (Shackle 1961: xi).

And these are the final passages of his “A student Pilgrimage”:

“I think there are two kinds of economics. One of them aims at precision, rigour, tidiness and the formulation of principles which will be permanently valid: an economic science. The other is, if you like, rhetorical. This word is often used disparagingly, but that is a modern unscholarly abuse. The rhetorician employs reason and appeals to logic, but he is a user of language at full compass, where words are fingers touching the keyboards of a hearer’s mind. I do not believe that human affairs can be exhibited as the infallible and invariable working of a closed system.” (Shackle 1988: 239).

This view of economics as an open system in close relation to the other social disciplines echoes a view of another economist who was inspirational for Shackle: Frank Knight. For Knight too, saw economics as only one element in a larger dialogue with other social disciplines, notably for him, ethics and aesthetics (see Knight, (1935b [1925])). For Knight too, the problem of knowledge was pre-eminently a problem of understanding and discovery, and a process of creating new values (see Bianchi (2018)). People, in his view, did not rest content with the given but kept striving for what they thought was better for them. Life, in short, was, for Knight, fundamentally an exploration in the field of values and not, or not merely - a matter of producing fixed values (Knight, 1935a [1923], p. 43)

The implication of this is that, before efficiency can even be discussed, it is necessary to have a measure of usefulness, of value; and this is particularly true in the case in which there is more than one form of usefulness of output, or a costly input (Knight 1935a: 43), as is the case, crucially, when entrepreneurial decisions are at stake.¹¹

Yet creating values requires different views of possible futures and different and uncertain knowledge of future consequences: without uncertainty, there would be no entrepreneurship. In stressing this point Knight however posed an even deeper issue, as Loasby remarks (2011, pp.

¹¹ For Shackle’s contributions to entrepreneurial decisions, see (Batstone & Pheby, 1996). Littlechild, in his paper stressing Shackle’s subversivism, draws a sharp distinction between Shackle’s view of entrepreneurship and Kirzner’s, for whom entrepreneurs exploited *existing* unexplored opportunities (Littlechild 1979). On this point see also Shackle 1983.

773-774). He suggests that ‘a life with uncertainty eliminated . . . would not appeal to us’ (Knight, 1971[1921], p. 348); Shackle, on his side, equated such a life to “the reverse of hope, the opposite of freedom ” (Shackle, 1966, p. 133).

As for Knight, so for Shackle: choice rests on unknowledge and on the human ability to respond inventively and differently to it. A world with perfect knowledge not only would be a world without change and novelty, but also without excitement and hope. Yet in order to address and understand the complexity of this world of change, economics should not be alone, but rely also on the contributions of other social disciplines such as psychology and history, but also philosophy, ethics and aesthetics.

If we look at the developments that some of these disciplines were and are undergoing, we discover some findings that are surprisingly close and complementary to Shackle’s research.

4.1 The psychology of motivations

The first of these findings that is worthwhile considering is in the field of experimental psychology, where, at the same time of Shackle’s reflections, some researchers were also attempting to uncover the role that novelty and variety play in explaining behavior. We refer here in particular to the work of Daniel Berlyne, whose psychological experimental research dates back to the late 1940s and early 1950s and focused initially on the study of exploratory behavior and curiosity, to be expanded in the mid seventies to the study of aesthetic preferences (Berlyne & Madsen, 1973).

The earliest findings of this research stressed the existence, both in animals and in humans, of forms of behavior that were pursued without any biological basis that would explain why they are chosen or should prove gratifying. Rather than a simple Pavlovian response to external stimulation, these forms of behavior proved to be the opposite, since stimulation was the result and not the cause of exploration (Berlyne, 1978, p. 120). The reason why exploratory behavior proved rewarding was because it provided exposure to novelty and change, to challenge and interest. Behavior in other words was not a reaction but an active choice, originative of change and novelty that were rewarding in themselves (see Bianchi (2016)).

Not only then, similarly to Shackle, actions (both animal and human) were undertaken “unaided by outside stimulus” (Shackle1959: 288), but they had also a strong hedonic component. Looking for novelty and variety, for surprise and complexity through exploratory behavior and curiosity was highly rewarding and to be deprived of this reward proved insufferable as the privation of the satisfaction of basic needs. The discovery that variables such as novelty, variety, surprise, but also ambiguity, complexity and uncertainty could be pleasurable as long as they were within

bounds, neither too high or too low, was momentous. It changed the way we look at human motivations.

Up to that point psychologists (and economists) were content to look at variables of proven hedonic value, such as the satisfaction of basic needs. Unexplained were all those activities and choices that did not have any antecedent of pain or bother in order to be undertaken, but they were originaive, creative and rewarding in themselves.

The discovery of those variables of change that Berlyne calls collative in order to underline their character of being at the crossroad between two conflicting stimuli: past and present experience as in the case of novelty, or the expected and the unexpected as in the case of surprise, provided a first answer. Novelty and uncertainty – Shackle’s unknown - as well as Berlyne’s additional collative variables prompted an action that was exploratory and creative, and the imagination and knowledge that was behind this act had also, as Shackle and Knight had intuited, an emotional, hedonic dimension (see Bianchi (2014b).

Human motivations were not limited to negatively reducing a pain or a discomfort, but aimed at positively producing pleasure and activities that were self-rewarding.

4.2 The “science” of the possible

A second strand of research that provides both a support and a broader compass to Shackle’s representation of choice and action is linked to the psychological studies of the mind, and in particular to those studies that see the working of the mind as congenial to a “narrative mode”. In the conclusion to the *Preface* to his 1961 book that we have referred to above Shackle mentions the benefits that his work had enjoyed from the exchanges and friendship with scholars of different disciplines. Among these scholars one stands out, psychologist Jerome Bruner, who may be considered among the most representative and original of scholars exploring the links between processes of the mind and the structure of stories.

Bruner draws a distinction between two "modes of cognitive functioning, two modes of thought, each providing distinctive ways of ordering experience, of constructing reality." (1986, p. 11). One is the logical-scientific mode that deals in general causes and uses procedures to assure verifiability and testable empirical truths. The other is the "narrative mode" that proceeds by way of storytelling and deals with the vicissitudes and consequences of human intentions and actions. Though complementary and equally important, they are distinct. Yet, Bruner observes, in contrast to our vast knowledge of the way logical and scientific reasoning proceeds, we know very little of what makes a story a story and of how stories compare to other forms of reasoning and of making sense of the world.

In Bruner's view, narrative and storytelling appear to be the means to shape imagination, to give sense and meaning to the possible, to discriminate among alternatives. By a creative exploration of alternative courses of actions, choices and consequences, storytelling provides a possible structure to the unknown and an access to different ways of experiencing and thinking. If language, as Shackle argued, is the external form of our thoughts, storytelling enlarges our hermeneutic responses and helps us to construct the symbols, words and concepts that express and give meaning to experiences and thoughts, as it does to the multifaceted diversity of different courses of actions and interactions (Meretoja, 2017).

It is through the narrative mode then that people are able to provide and communicate the reasons and values that inform their actions. It is storytelling that suggests the decision-making procedures when facing choices that are complex, imply values, and call for interpretations and for the creation of alternatives. "Do we make history or we simply enact it? Do we speak parts written for us or spontaneously improvise them ourselves?", asks Shackle (1984, p 7).

Yet Bruner warns that "not every sequence of events recounted constitutes a narrative" (Bruner, 1991, p. 11). "For to be worth telling, a tale must be about how an implicit canonical script has been breached, violated, or deviated" (ibid.: 26). Breaches of the canonical scripts are the points in which choices have to be made as to which possible actions and consequences have to be imagined and their alternative courses compared. A narrative appears at the junction of a choice and action and as in narrative so in life it is in the tales' breaches that innovation occurs (Bianchi & Patalano, 2017)). Nor is this all. If the canonical evolves around plots and structures that follow universal patterns – fall and rise, voyage and return, rags and riches, evil and good – the breaches follow instead infinite, unpredictable paths and resolutions, through unending innovations that constitute the pleasure and magic of stories (see Bianchi (2014a)). Again, this matches Shackle's original discussion of the flexible, creative power and internal combinability of language and thought.

5. Conclusions

Choice for Shackle was "the focal, creative, psychic event where knowledge, thought, feeling and imagination are fused into action" (Shackle, 1962, p. 105). To unravel the analytical and practical consequences of this representation of choice, Shackle devoted all his work, a work that, Shackle was well aware, made him an outsider among mainstream economists (see Shackle 1983).

After an early academic success and attention from leading economists of the time (Earl and Littleboy 2014), Shackle's intellectual project, with its emphasis on creativity, uncertainty and unpredictability, was considered more and more alien to the concerns and policy ambitions of

mainstream economics. Criticized both for nihilism and a substantial disinterest in the problem of social order, Shackle was relegated to the ranks of those interesting but odd figures who did not leave a workable economic analysis.¹²

What we have tried to argue instead is that the practical relevance of Shackle's theory of choice for an economic theory that does not retreat from addressing the problem of change and creativity is fundamental. (Latsis, 2015)

Immediately implied by his view of decision-making as the work of thought, reason, imagination and feeling in the face of unknowledge is, understandingly, the conception of entrepreneurship. But Shackle implied even more. He preferred to talk about "enterprisers" rather than only entrepreneurs. And enterprisers are choosers. The economics of creativity involves enterprising both in business and consumption. Within this different view of economic choice a whole new and surprising field of analysis and discoveries open up, rich in suggestions for an economics and policy that takes into account the complexity and innovativeness of choice.

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¹² For a discussion and answer to these two critique see (Latsis, 2015).

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