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Chick, Keynesian Fundamentalism and Keynes's

General Theory: A Question of Relevance

Dr Bill Gerrard

(Leeds University Business School, UK)

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Abstract

This paper focuses on the fundamentalist Keynesian aspects of Chick's *Macroeconomics After Keynes* and seeks to investigate the extent to which subsequent developments in fundamentalist Keynesian scholarship have progressed Chick's insights. Chick's arguments on the importance of Keynes's method of analysis and his use of equilibrium as a theoretical tool are summarised. Two broad strands of Keynesian fundamentalism are identified - the exegesis of *A Treatise on Probability*, and the ontological turn associated with critical realism and the Cambridge social ontology project. The relevance of this new phase of Keynesian fundamentalism and its applicability to the development of post-Keynesian economic analysis as envisaged by Chick is questioned. Concern is expressed that Keynesian fundamentalism has concentrated on the history of economic thought and the search for the real meaning of Keynes with little direct relevance to the economic analysis of current problems. It is argued that pragmatism may provide a more suitable philosophical basis for

developing Chick's insights on Keynes's methods of analysis to provide a better way of doing economics relevant to current problems.

Keywords

Pragmatism; shifting equilibrium; uncertainty; probability; context

JEL Classification

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Address for Correspondence

Analytics, Technology and Operations Department

Faculty of Business

University of Leeds

Leeds LS2 9JT

UK

Email: ecowig@leeds.ac.uk

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Chick, Keynesian Fundamentalism and Keynes's *General Theory*: A Question of Relevance

1. Introduction

1983, the centenary of Keynes's birth, was marked by two important developments in Keynesian scholarship. First, it saw the publication of Victoria Chick's *Macroeconomics After Keynes* (1983a) still considered by many as the definitive exposition of Keynes's *General Theory*. Second, the Cambridge Journal of Economics (CJE) hosted a conference on methodological issues in Keynes's economics with the conference proceedings subsequently published in a volume edited by Tony Lawson and Hashem Pesaran (1985). Chick was a contributor to the conference and the published volume.

The CJE conference was a watershed moment in Keynesian scholarship in many ways. It heralded the start of a new phase in "Keynesian fundamentalism", the nomenclature used by Coddington (1976) for those Keynesians such as George Shackle and Joan Robinson who emphasised Keynes's treatment of time and uncertainty as the essence of the *General Theory*. The new phase of Keynesian fundamentalism was characterised by the attempt to ground Keynes's economics in his early writings particularly his philosophical writings with a specific focus on Keynes's proposed logical theory of probability, originally formulated in his fellowship dissertation in 1908-09 and eventually published as *A Treatise on Probability* in 1921.

In both *Macroeconomics After Keynes* and her contribution to the CJE conference, Chick argued that Keynes's method of analysis is the core contribution of the *General Theory*. This paper addresses the question as to whether the new phase in Keynesian

fundamentalism, the origins of which can be traced back to the research by Gay Meeks dating from the mid-1970s on the Humean aspects of Keynes's analysis of investment, has enhanced our understanding of Keynes's method of analysis and facilitated its application to current economic problems, a task to which Chick devoted much of her academic life.

The paper is structured as follows. Section 2 reviews and summarises Chick's arguments on the importance of Keynes's method of analysis and his use of equilibrium as a theoretical tool. Section 3 provides an overview of Keynesian fundamentalism and distinguishes two broad strands of development: (i) the exegesis of *A Treatise on Probability* and the debates over the extent to which Keynes's views on probability changed between his pre-war work on probability theory and the writing of the *General Theory* in the 1930s; and (ii) the research programme instigated by the work of Tony Lawson, initially focused on the use of critical realism as a philosophical basis for heterodox/post-Keynesian economics and his subsequent emphasis on social ontology. The relevance of this new phase of Keynesian fundamentalism and its applicability to the development of heterodox/post-Keynesian economic analysis is questioned. Section 4 tries to provide a way forward that attempts to synthesise some of the key arguments of Keynesian fundamentalist research with Chick's insights on Keynes's method of analysis particularly his use of the equilibrium method. It is argued that pragmatism and particularly process pragmatism may provide a suitable philosophical basis for understanding Keynes's own voyage of discovery as regards methods of analysis, and provide a better way of doing economics that is relevant to current problems such as climate change, financial crises and the other major economic problems that we face, just as Chick argued throughout her academic career. The final section offers some concluding thoughts.

2. Chick on Keynes's Method of Analysis

Chick's motivation and approach to Keynesian scholarship is encapsulated in the title, *Macroeconomics After Keynes*, of her exposition of Keynes's *General Theory*. She sought to provide a macroeconomics that was "after Keynes" in the sense that it was 'in the *manner* of Keynes – with the method and perspective and insight of Keynes' (1983, p. v, italics in original). *Macroeconomics After Keynes* stood in marked contrast to the bulk of macroeconomics that Chick considered to be merely 'claiming inspiration from the *General Theory* but has not followed it in spirit' (p. v).

But although Chick's objective was to construct a macroeconomics in the spirit of Keynes, she was always careful to avoid claiming that she was seeking to reveal what Keynes really meant: '... it is a philosophical impossibility to know what someone else "really meant"; what matters is to make coherent sense for oneself of what an author says and to evaluate its relevance to the problem at hand.' (p. vii). Chick's approach to the interpretation of Keynes's *General Theory* is consistent with the hermeneutic approach which Gerrard (1991) used to explain the existence of multiple interpretations of Keynes's *General Theory*. The hermeneutic approach distinguishes between "meaning" and "significance". Meaning refers to the process of interpretation that seeks to provide a coherent understanding and explanation of the author's text to an audience. Significance refers to the process of application, using insights derived from the text to explain observed behaviour and resolve real-world problems. Chick believes that the two objectives of meaning and significance are inextricably linked, arguing that a better understanding of Keynes's method of analysis in the *General Theory* (i.e. meaning) can provide the basis for a better understanding of macroeconomic problems especially involuntary unemployment (i.e. significance).

Chick shared with Keynes a pragmatic attitude of mind towards economic theory that could be best described as the rejection of the law of the excluded middle. Chick's clearest statement of her rejection of dualistic modes of thought is provided by her critique of formalism (1998). For Chick, formalism is a method of theorising characterised by axiomatisation and deductive logic. (see also Chick and Dow, 2001). Formalist methods begin with a set of self-evident truths (i.e. axioms) from which conclusions are derived by the application of logical rules to ensure consistency and avoid fallacy. Chick does not reject the use of formalist methods in economics particularly mathematical analysis. Her critique is much more nuanced with an emphasis on identifying the appropriate boundaries for the practical application of formalist methods. So rather than treating the axioms as universally applicable, Chick asks when it is appropriate to presuppose that economic agents will behave as assumed by the axioms since this determines the range of applicability of the conclusions derived from the theoretical model. The critique of the use of formalist methods in economics is also a core theme in the work of Chick's long-term collaborator, Sheila Dow (see, for example, Dow, 1990). For Chick, critique is about containment rather than outright rejection, (re)constructing a more general, multi-dimensional approach that encompasses orthodox methods when appropriate in a specific context. Chick uses Keynes's distinction between formal logic and human logic to characterise the need to move beyond the law of the excluded middle, a structural characteristic of formal deductive logic, in order to develop methods of analysis appropriate for complex real-world problems. As discussed below, it is this pragmatic attitude of mind that allows Chick to provide a critique of the neoclassical concept of equilibrium while still retaining the concept of equilibrium in her proposed reconstruction of Keynesian macroeconomics. And, in retaining the concept of equilibrium, Chick follows Keynes's own method of analysis in the *General Theory*. Indeed,

from Chick's perspective, the whole point of Keynes's *General Theory* was to construct a more general theory of the macro economy that contained orthodox theory within a well-defined scope of relevance (i.e. the theory of frictional and voluntary unemployment) and encompassed it within a more general theory that allowed for involuntary unemployment.

It is a message she re-iterated in the closing sentences of one of her last published papers, tellingly on the subject of whether heterodox economists should abandon equilibrium: 'Equilibrium need not mirror the economy: the purpose of abstraction, of theorising, is to find and highlight important features and processes – the map is not the territory. Temporary and partial closures – or the open system, *ceteris paribus* method – permit the use even of pure statics in the context of a wider theory. This is my complex assessment.' (2022, p. 119) Complex indeed and very nuanced but definitely in the spirit of Keynes – equilibrium analysis is to be contained and reconstructed, not rejected outright.

Chick's critique of orthodox economics, following Keynes, focuses on three inter-related aspects of orthodox methods of analysis:

- (i) Equilibrium
- (ii) Time and uncertainty
- (iii) Context of economic behaviour

(i) Equilibrium

Chick identified two strands to Keynes's critique of the orthodox use of the concept of equilibrium. First, Chick argues that Keynes rejected the orthodox approach of conflating two distinct conceptions of equilibrium – equilibrium as a point of rest at which any forces of change are either absent or are perfectly counter-balanced, and equilibrium as market clearing. Orthodox theorists conceptualise economic behaviour as allocative – the

optimisation of utility and profit by rational economic agents through the exchange process. As a consequence, orthodox theory only allows for the price-sensitive forces of demand and supply to simultaneously determine prices and quantities traded. It is this special theory of economic behaviour and the implied special theory of equilibrium that Chick considered to be core to Keynes's critique of orthodox theory and the starting point for his more general theory that retained the concept of equilibrium but only as a theoretical point of rest, not necessarily an allocative market-clearing outcome. Keynes's concept of involuntary unemployment as a possible equilibrium is the exemplar *par excellence* of a non-allocative equilibrium in the macro economy. For Chick, as evident in her critique of mainstream Keynesians such as Clower and Leijonhufvud (Chick, 1978), although they were inspired by Keynes's vision of an economy that could periodically generate mass unemployment, they failed to grasp the revolutionary nature of Keynes's method of analysis. Instead, mainstream Keynesians tended to criticise Keynes for the lack of "proper" (i.e. axiomatic) micro-foundations in the *General Theory* and re-interpreted his conception of (involuntary) unemployment equilibrium as a disequilibrium phenomenon. Gerrard (1995) echoes Chick's critique in his characterisation of mainstream Keynesians as retaining the orthodox conception of economic behaviour as allocative behaviour in a self-adjusting market economy in which market forces generate a tendency towards a full-employment equilibrium (i.e. the invisible hand theorem). From this theoretical perspective, Keynesian outcomes are explained as due to market failures caused by structural imperfections (e.g. some degree of monopoly in markets) and informational imperfections that result in price rigidity/stickiness at a point where the demand for labour is less than the supply of labour.

A second strand to Keynes's critique of equilibrium in orthodox economics identified by Chick is the use of the methods of partial equilibrium analysis and general equilibrium

analysis. Given his Marshallian heritage, Keynes, like Marshall, was keenly aware that partial equilibrium analysis depended on the critical assumption that the behaviour of the single market being analysed neither impacts on, nor is impacted by, other markets thereby excluding the possibility of feedback effects. But Keynes, like Marshall, treated this closure assumption as temporary for the purposes of theoretical exposition that, crucially, must be relaxed when analysing real-world situations. Too often, particularly in the application to aggregate markets in the macro economy, the temporary closure assumption is never relaxed leading to what Keynes called the fallacy of composition in which outcomes derived from the microeconomic (partial equilibrium) analysis of rational economic agents in individuals markets are wrongly assumed to be applicable at the macroeconomic level.

(ii) Time and uncertainty

Chick also recognised that Keynes's method of analysis is incompatible with general equilibrium analysis because it is an analysis that abstracts from time and uncertainty. It is this aspect of Keynes's *General Theory* that more than anything is the defining characteristic of what Coddington (1976) called "Keynesian fundamentalism" highlighted by Keynes himself in his QJE 1937 paper, by the Cambridge Circus particularly Joan Robinson, and by numerous heterodox/post-Keynesian economists, most prominently Shackle, Davidson, Chick, Harcourt, Dow, and Lawson. General equilibrium effectively eliminates time and uncertainty from the analysis in the sense of treating economic behaviour as a dynamic, sequential process of actions, the outcomes of which are unknown and possibly unknowable in advance. Instead, general equilibrium analysis assumes that there is a complete set of markets, both current and future, so that current trading behaviour represents intertemporal optimisation.

Chick (1998) is particularly critical of the orthodox use of comparative statics analysis to investigate dynamic processes by considering only the initial equilibrium and the final equilibrium. Chick argues that ‘... comparative statics tells us nothing about change, which takes place through time, but only how two otherwise identical economies with one exogenous variable differing in value will look as a result of that difference’ (p. 1865). Chick further argues that comparative statics analysis can produce logically valid results that are nonsensical in the real world, citing the example of Tobin (1965) using comparative statics to prove that a non-monetary economy would grow faster than a monetary economy. ‘The model ignores the real-world fact that money comes into the system by means of granting credit; credit is used to finance investment, which is the source of growth; thus, the money economy grows faster.’ (*op. cit.*) And, as Chick concludes: ‘If only equilibrium is acknowledged, not only is there a drastic loss of relevance but the whole notion of *cause* is removed from economic theorising’ (p. 1866, italics in original).

(iii) Context of behaviour

Chick (1983a) argues that ultimately the fundamental difference between Keynes and orthodox economics is the conception of the context of economic behaviour. In early drafts of the *General Theory*, Keynes explained his break from orthodox theory as the move from the analysis of a real-exchange economy to the analysis of a monetary production economy. A real-exchange economy is a barter economy in which all economic behaviour is allocative and conducted via markets. Conceptually, a real-exchange economy can be reduced to a system of simultaneous equations and modelled by general equilibrium theory; static analysis suffices since there is no time dimension. Keynes argued that orthodox theory is ultimately the analysis of the monetised equivalent of the real-exchange economy, what he

termed a “neutral economy”, in which money acts as a means of exchange and unit of account but otherwise is neutral in its effects on economic behaviour. In a neutral economy, money acts as veil with no impact on the real economy equilibrium and determines only the aggregate price level (i.e. the quantity theory of money).

Keynes’s concern with time and uncertainty stems from his conceptualisation of the economy as a monetary production economy. Production is a process, a dynamic sequence of decisions, actions, and outcomes in time. In the short term, firms make production, employment, and pricing decisions in anticipation of being able to sell their products to their customers at a profit. In the longer term they make investment decisions on the production facilities required. Uncertainty is a characteristic feature of the production process both in the short term and the longer term.

As Chick so succinctly summed up the radical break of Keynes’s *General Theory* from orthodox theory: ‘... the *General Theory* presents a model of a *production* economy, using *money*, moving through *time*, subject to *uncertainty* and the possibility of *error*.’ (1978, p. 5).

So, what did Chick consider to be the key aspects of Keynes’s organised and orderly method of thinking, his method of analysis? This is for Chick the most important contribution of Keynes’s *General Theory* to economics but also the most demanding thing to grasp in the whole book (Chick, 1983a). Indeed, Chick went as far as to argue that ‘... the best procedure is to use the *General Theory* as an instruction manual in the art of doing economics’ (Chick, 1983b, p. 276). At the core of Keynes’s method of analysis is his use of equilibrium analysis.

Keynes was well aware of the fundamental problem of analysing economic behaviour that constitutes an organic whole. In his biographical essay on Edgeworth, Keynes recognised that the atomic ontology that works so well in the physical world breaks down in the world of economic behaviour (Keynes, 1972). In essence, he sought to develop methods of analysis that could cope with an organicist ontology. Collectively these methods constitute what could be termed “a method of temporary closure” in which some influences on an outcome are assumed to be fixed temporarily for the purpose of modelling, but this assumption is subsequently relaxed.

The method of temporary closure requires an initial categorisation of variables as givens, dependent variables, and independent variables. The first stage in the modelling of economic outcomes (i.e. dependent variables) focuses on the relationships with the selected independent variable, with the other possible influences on the outcome being assumed to be constant. At the second stage, the temporary closure assumption that the other influences are fixed is relaxed and the impact of the relevant complicating factors is investigated.

The categorisation of variables is linked with the method of shifting equilibrium which Keynes proposes as a method to analyse the dynamics of the macro economy (Kregel, 1976; Chick, 1983a). The method of shifting equilibrium involves a three-stage analysis of the macro consequences of the changes in economic behaviour initiated by a change in expectations. The first stage of the analysis is to identify the long-period equilibrium towards which the economy is gravitating with a given set of expectations of the future. Kregel (1976) identifies two different models in the first stage - the “static model” when both short-term expectations relating to production decisions and long-term expectations relating to investment decisions are stable, and the “stationary model” when long-term

expectations are stable but short-term expectations may be incorrect and subject to revision. Chick (1983a) considers these static and stationary models as just two aspects of the same problem. The second stage of the analysis focuses on the process of transition initiated by a change in expectations about the future and seeks to determine the change in long-period equilibrium consequent on the change in long-term expectations. The third stage of the analysis is the historical analysis of the actual course of events. In the *General Theory* Keynes outlines the method of temporary closure in Chapter 18, categorises the key variables and summarises the arguments for the long-period equilibrium being consistent with involuntary unemployment. In the following chapters, Keynes develops his analysis by relaxing his various temporary closure assumptions to investigate the effects of changes in money-wages (Chapter 19), the employment function (Chapter 20) and the theory of prices (Chapter 21).

For Chick, a key component of this third stage of the analysis and the move to a truly dynamic analysis set in historical time is Keynes's recognition of the need to allow for different speeds of adjustment by which behaviours respond to events (Chick, 1983a, 1985, 1998). Indeed, as Arestis and Dow (1992) point out, this concern with historical time is *the* thread that runs through all of Chick's work.

Chick followed Joan Robinson in explaining how Keynes succeeded in using static equilibrium analysis to generate dynamic (process) analysis by recognising the path-dependent nature of economic behaviour with past history captured in the initial conditions of the specific process being analysed. Chick (1985) argues that Keynes uses the wage-unit as the fundamental unit of money value and, by so doing, integrates historical time into his equilibrium analysis. In summing up the Keynesian Revolution, Chick (1978) put the analysis

of historical time centre stage, concluding that '... the formal nature of the "Keynesian Revolution" ... involved the complete overthrow of the static method of solving a set of simultaneous equations, in favour of analysing the results of decisions which are taken in a well-defined sequence, on the basis of information available at the time and forecasts of an uncertain future' (p. 20).

3. Keynesian Fundamentalism: A Reassessment

Fundamentalist Keynesians beginning with those close to Keynes as the *General Theory* developed, the so-called “Cambridge Circus” including Richard Kahn and Joan Robinson, and subsequent generations of heterodox/post-Keynesian economists have always argued that Keynes’s *General Theory* represented a fundamental break with mainstream economic theory. The debate amongst these Keynesians has focused more on Keynes’s method of analysis. Coddington (1976) identifies Robinson (1964) and Shackle (1967) as early exponents of the fundamentalist Keynesian argument that Keynes’s revolutionary contribution lay primarily in his treatment of time and uncertainty. As argued in the previous section, Chick has been one of the leading post-Keynesian proponents of the fundamentalist interpretation of Keynes’s *General Theory* with her work straddling the initial emergence of Keynesian fundamentalism and the subsequent developments.

The fundamentalist interpretation of Keynes’s *General Theory* went through an intense period of development in the late 1970s and early 1980s that paralleled the New Keynesian search for “micro-foundations”. New Keynesians sought to derive underemployment equilibrium outcomes grounded in the orthodox assumptions of optimising behaviour by rational economic agents in the presence of market failures due to structural and informational imperfections. New Keynesians followed the New Classicals in adopting the rational expectations hypothesis in which rational economic agents are assumed to have full information on the economic structure with uncertainty limited to stochastic shocks that can be modelled by a well-defined probability distribution.

The emergence of the rational expectations hypothesis and the New Classical Economics focused attention on the role of expectations and uncertainty in macroeconomics, and provided an opportunity for heterodox/post-Keynesian economists to

revive interest in the centrality of this aspect of economic behaviour to Keynes's *General Theory*. The objective of the new phase of Keynesian fundamentalism was to ground Keynes's *General Theory* in his earlier philosophical writings particularly his fellowship dissertation on probability, written in the period from 1907 – 1909 and subsequently forming the basis of *A Treatise on Probability* published in 1921. The pioneering research in this area was located at Cambridge and principally associated with Meeks (1991), Lawson (1985), Carabelli (1988) and O'Donnell (1989).

Although not finally published until 1991, Meeks's paper, "Keynes on the rationality of decision procedures under uncertainty: the investment decision" was originally written in 1976 and hugely influential, with a direct lineage to the subsequent doctoral theses of Carabelli and O'Donnell and the work of her fellow Faculty colleague, Tony Lawson. Meeks distilled Keynes's analysis of decision making under uncertainty as set out principally in *A Treatise on Probability*, the *General Theory* and the QJE 1937 paper into eight propositions and traced their antecedents in the sceptical philosophy of David Hume. Together the pioneering work of Meeks, Carabelli, O'Donnell, and Lawson provided a constructive alternative to the nihilistic conclusions of earlier Keynesian fundamentalism as portrayed by Coddington (1976).

Much of the attention of this new phase in Keynesian fundamentalism has focused on Keynes's logical theory of probability. In *A Treatise on Probability*, Keynes sought to develop probability as a branch of deductive logic dealing with propositions of vague knowledge. It is what Hacking (1975) defined as an epistemic conception of probability as a feature of our knowledge in contrast to the aleatory conception of probability inherent in the frequency approach in which probability is a feature of the world and concerned with events, not propositions.

The core of Keynes's logical theory of probability can be summarised by two equations. Equation (1) represents Keynes's definition of the probability relation (p) as the rational degree of belief (α) to hold in a proposition (a) given the available evidence (h).

(1)...
$$p(a|h) = \alpha$$

Importantly, Keynes did not restrict the probability relation to being numerical in nature and allowed for the probability relation to be non-numerical, possibly non-comparable and even unknown. Equation (2) represents Keynes's concept of weight of argument (V) representing the amount of available evidence relevant to a specific proposition. The weight of argument is increased if the additional evidence (h_1) is relevant to the specific proposition with the weight of argument unchanged if the additional evidence is irrelevant.

(2) ...
$$V(a|hh_1) \geq V(a|h)$$

Treating probability as epistemic rather than aleatory implied that Keynes's logical theory could be applied to propositions concerning unique events unlike frequency theory that presupposed repeatable events with stable stochastic structures. This feature of Keynes's logical theory of probability has led many to draw parallels with Knight's distinction between risk and uncertainty, proposed in his book, *Risk, Uncertainty and Profit*, also published in 1921, the same year that Keynes eventually published *A Treatise on Probability*. Knight reserved the term "risk" to situations with well-defined probability distributions representing repeatable events that are potentially insurable and, therefore, should be treated as a cost of production to firms. In contrast, Knight defined "uncertainty" as probability relating to unique situations with profit as the reward to entrepreneurs that correctly anticipate the future. As Gerrard (2024) argues, Knight and Keynes differed fundamentally in their definition of uncertainty. Whereas Knight defines uncertainty in terms of probability, Keynes defines uncertainty in terms of the weight of argument. Indeed,

the only reference to *A Treatise on Probability* in Keynes's *General Theory* is in Chapter 12 on the state of long-term expectations where Keynes explicitly refers to the weight of argument to explain what he means by uncertainty. For Keynes, high uncertainty is characterised by a lack of relevant evidence (i.e. low weight of argument) irrespective of whether or not the limited available evidence strongly supports any of the alternative propositions. In contrast, Knight would consider uncertainty to be low if one proposition is strongly supported by the available evidence, irrespective of the weight of argument. To put it another way, Keynes treats uncertainty as a matter of *absolute belief* based on the degree of available relevant evidence on which the probability distribution for the set of alternative propositions is based whereas Knight treats uncertainty as a matter of *relative belief* in the most probable proposition.

Much of the fundamentalist Keynesian debates throughout the 1980s and 1990s focused on what Gerrard (1992) called the “continuity-or-change” debate. The basic “continuity” proposition of the pioneering research by Meeks, Carabelli, O'Donnell, and Lawson is that Keynes's analysis in the *General Theory* of the impact of long-term expectations on the investment decision is grounded in the logical theory of probability developed in *A Treatise on Probability*. O'Donnell (1989), for example, argues that the distinction between expectation and confidence in the *General Theory* parallels the distinction between probability and weight of argument in *A Treatise on Probability* and represents a move from a concern with the domain of “strong rationality” in formal logic to the domain of “weak rationality” and real-world decision-making under uncertainty in the *General Theory*.

Others such as Bateman (1987, 1990) have argued for the “change” proposition that after the publication of *A Treatise on Probability*, Keynes subsequently abandoned the

logical theory of probability in favour of a more subjective theory of probability. Bateman identifies Frank Ramsey's critique of Keynes's logical theory of probability as the catalyst to Keynes's move away from treating the probability relation as objective. Ramsey, along with De Finetti and Savage, is now recognised as having provided the basis of subjective expected utility (SEU) theory as the orthodox economic theory of decision-making under uncertainty. Ramsey proposed a betting method to quantify subjective degrees of belief as numerical probabilities and viewed the laws of probability as the rules of formal logic necessary for a set of consistent degrees of belief. While it is generally accepted that Keynes accepted Ramsey's interpretation of the laws of probability as rules for a logically consistent set of beliefs and adopted Ramsey's distinction between formal and human logic, it remains an open question as to what extent Keynes agreed with Ramsey's more subjectivist approach to probability. Indeed, as discussed in the next section, the real impact of Ramsey on Keynes's thought may well have been more profound as a catalyst to Keynes adopting a more explicitly pragmatist philosophical orientation (see, for example, Gerrard, 2023a, 2023b).

Another key theme of the "continuity-or-change" debate is whether or not Keynes changed his ontological views, moving away from the generalised atomistic ontological position of his early writings and arguing that an understanding of human and social behaviour required an organicist social ontology. The crucial text in this particular instance is Keynes's biographical essay on Edgeworth originally published in 1926 in which Keynes states: 'The atomic hypothesis which has worked so splendidly in physics breaks down in psychics' (Keynes, 1972, p.262). Carabelli (1988), Winslow (1989) and Rotheim (1989) were amongst the first to argue that an organicist social ontology underpinned Keynes's later

economic writings but this interpretation of Keynes was rejected by Bateman (1989) and Davis (1989a, 1989b).

Possibly the most significant impact of the new phase of Keynesian fundamentalism has been the ontological turn in the post-Keynesian critique on mainstream economics instigated by these interpretive debates over Keynes's views on atomism and organicism. The leading voice in this ontological turn has been Tony Lawson (1997, 2003, 2019), initially under the banner of "critical realism" and, more recently, "the Cambridge social ontology project". Lawson has been consistently critical of the tendency in philosophical debates both within economics but also in philosophy generally, to reduce ontological questions about the nature of being and reality to epistemological questions about the nature of knowledge. Lawson calls this the "epistemic fallacy" (1997, p. 33), a term that originates with Bhaskar (1975) although the basic proposition can be traced back to Hume. Lawson's argument is that all epistemological conceptions of knowledge ultimately presuppose ontological assumptions about reality and being that are typically implicit and not subject to scrutiny. The whole point of critical realism from Lawson's perspective is to embrace quite explicitly a conception of '... a world that is completely structured, intrinsically dynamic, characterised by emergence and so novelty, and inclusive of totalities and causally efficacious absences' (Lawson, 1997, p. 65), and to work through the implications on this ontological position for the understanding of economic behaviour.

It is an ontology that is consistent with Chick's views of the need to analyse economic processes in historical time. However, the extent to which Chick would consider the ontological turn in Keynesian fundamentalism and, more generally, in post-Keynesian economics as contributing to the development of macroeconomic theory in the manner of Keynes applicable to current real-world problems is an open question. While Chick was

always respectful of the history of economic thought and was herself a careful scholar who approached with integrity the task of textual interpretation of economists both past and present, her primary concern was always *significance* not *meaning* in the hermeneutic sense. Chick respected meaning but pursued significance. She studied Keynes to better understand current real-world problems as she emphasised in her paper 'A question of relevance: the *General Theory* in Keynes's time and ours' (Chick, 1983b), published in the same year as *Macroeconomics After Keynes*. From this perspective, Keynesian fundamentalism would seem to be primarily a search for what Keynes really meant, a matter of history of economic thought and textual exegesis, with limited significance as regards the development of macroeconomic theory. In particular, Chick's advocacy of Keynes's nuanced use of equilibrium analysis and temporary closure assumptions runs counter to the long-held view in post-Keynesian economics that rejects the appropriateness of equilibrium analysis and closure assumptions. As Dutt and Amadeo (1990) noted, 'In rejecting neo-classical general equilibrium analysis the Post Keynesians have had a tendency to throw the baby out with the bathwater' (p. 120). And it is an assessment repeated by Halevi, Hart and Kriesler (2013): '... most post-Keynesian economists deny the relevance and usefulness of equilibrium analysis for understanding actual economies' (p. 175).

In sum, Chick was supportive of both the probability strand and the ontological strand in Keynesian fundamentalism, and respectful of the scholarship in clarifying and extending the understanding of the origins and development of Keynes's philosophical thought. But, ultimately, she came to view Keynesian fundamentalism as having lost its way, more concerned with philosophical meaning than practical significance. Her frustration is clear in "Should equilibrium be abandoned by heterodox economists?", one of her last published papers, in which she returned to the arguments she herself initiated fifty years

previously on the need not just to de-construct the orthodox meaning of equilibrium analysis but to move onto the significant task of re-constructing economic theory in general and equilibrium analysis in particular to address the current economic problems in the spirit of Keynes using the methods of analysis advocated in the *General Theory*. This begs the question: is it possible to bridge the gap between Chick's arguments for the practical relevance of Keynes's method of analysis and the Keynesian fundamentalist concern with Keynes's early writings on philosophy and probability? Intriguingly, the way forward may lie within Keynesian fundamentalism itself and the nascent "pragmatist turn" emerging in the work of Bateman, Churchill and Gerrard discussed below.

4. Keynesian Pragmatism: A Way Forward?

The basic argument of this paper so far is that the perceived theoretical and policy failures on mainstream Keynesianism in the 1970s led to two alternative “fundamentalist” types of responses by heterodox/post-Keynesian economists. One fundamentalist response, that of Chick as articulated in *Macroeconomics After Keynes*, was to go back to the *General Theory* to recover and reconstruct Keynes’s method of analysis with Kregel’s exposition of Keynes’s method of shifting equilibrium as a crucial component of this reconstruction. The alternative fundamentalist response was initiated by the work of Meeks, Carabelli, O’Donnell, and Lawson that focused attention on *A Treatise on Probability* and Keynes’s other early philosophical writings to understand the philosophical basis of Keynes’s break with orthodox economic theory. As discussed above, much of this research been concerned with determining the extent to which Keynes remained wedded to his logical theory of probability when he analysed the investment decision and role of expectations in the *General Theory*. Subsequently this focus on Keynes’s philosophical thought took an ontological turn towards critical realism and social ontology led principally by Lawson. As argued above, Chick, although supportive of the foundational research on Keynes’s philosophical thought, became increasingly concerned that it had lost its way, focused more on establishing the meaning of the *General Theory* in the context of *A Treatise on Probability* rather than establishing the significance of both the *General Theory* and *A Treatise on Probability* for understanding current economic behaviour. Chick’s primary concern was always the latter question of significance.

So what should be done? Is it possible to reconcile Chick’s search for significance in Keynes’s method of analysis with the fundamentalist Keynesian search for meaning in

Keynes's philosophical thought? It is the argument of this paper that a reconciliation is possible and the basis of the reconciliation lies within Keynesian fundamentalism itself and the nascent pragmatist turn to be found in the recent work of Bateman (2021), Churchill (2022), and Gerrard (2023a, 2023b).

Pragmatism, in the form of American classical pragmatism, emerged in the early 1870s in the aftermath of the American Civil War. Its origins are traced by Menaud (2001) to The Metaphysical Club, a discussion group in Cambridge, Massachusetts that opposed European foundational philosophy. This group included two of the most prominent classical pragmatist philosophers, C.S. Peirce and William James, as well the future Supreme Court judge, Oliver Wendell Holmes. The essence of pragmatism is that our beliefs, theories, and concepts are linked to experience, practice, expectations, and consequences. American classical pragmatism was rooted in both the experience of life and the scientific approach. The characteristic proposition of classical pragmatism is that our beliefs, whether in life in general or in the scientific laboratory, evolve through the dynamic interplay of action and consequence. Peirce formulated the so-called "pragmatic maxim": 'Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object' (1878, p. 293). From the pragmatist perspective, the rationalist-empiricist dichotomy in foundational philosophy is wrong-headed, a product of reductionist thought that attempted to identify the essence of belief and knowledge in either logic or sense-data. The pragmatist solution is to recognise that sense-data is always mediated by our beliefs, and our beliefs are always contextualised by our experience.

Churchill (2022) is one of the first to make the case for pragmatism as an appropriate philosophical outlook for post-Keynesians. Churchill characterises pragmatism as follows: 'Pragmatism allows for fallibilism without scepticism where the aim of inquiry is human flourishing' (2022, p. 123). Rather playfully, Churchill elaborates her definition of pragmatism using Russell's statement on the role of philosophy: 'To teach us how to live without certainty, and yet without being paralysed by hesitation, is perhaps the chief thing that philosophy, in our age, can still do for those who study it' (Russell, 1946, p. 14 as cited by Churchill, 2022, p. 123). Playful given Russell's rather ambiguous attitude towards pragmatism in general and Peirce in particular but a characterisation of pragmatism that identifies the common concern of pragmatists and post-Keynesians with uncertainty. Churchill goes further in arguing that there are very clear echoes of pragmatist thought in Keynes's own work, and that *A Treatise of Probability* '... can be read as part of the pragmatist canon' (p. 123). So why have post-Keynesians tended to ignore pragmatism? Churchill believes that the chief reason is that post-Keynesians have had a rather limited understanding of pragmatism, possibly because of the association with the instrumentalism of Friedman. However, another possible explanation suggested by Churchill is that post-Keynesians have aligned with Lawson in adopting an ontological position on uncertainty, and hence treat the epistemic uncertainty of pragmatism as an example of the epistemic fallacy (although, as Churchill recognises, this argument itself could be judged as equally fallacious).

Bateman (2021) and Gerrard (2023a, 2023b) both agree on the influence of pragmatism on Keynes's thinking in the development of the *General Theory* and both follow Misak (2016, 2020) in focusing on the important role of Ramsey as the conduit for the introduction of pragmatist thought in Cambridge, England in the interwar years.

The “standard story” of pragmatism in Cambridge, England is that Russell, Moore and Wittgenstein savaged pragmatism with Ramsey and Wittgenstein developing novel philosophical positions influenced primarily by their local circle, particularly Sraffa (Gerrard, 2023a; 2023b). However, an “alternative story” of pragmatism in Cambridge, England has been provided by Misak in *Cambridge Pragmatism* (2016) and *Frank Ramsey: A Sheer Excess of Powers* (2020). Misak argues that Ramsey was a proponent of the most compelling version of pragmatism associated with Peirce. She also argues that Ramsey’s pragmatist objections to the *Tractatus* were largely responsible for Wittgenstein’s turn towards ordinary language in his later philosophical work.

Gerrard (2023a; 2023b) proposes a pragmatist interpretation that sets the later economic writings of Keynes in the context of the philosophical revolt in Cambridge against formalism after the First World War. This pragmatist interpretation develops out of the arguments of Coates (1996) who reminds us that *A Treatise on Probability* is a work of formal logic and as such should be seen as an artefact of pre-war analytic philosophy. From this perspective, treating Keynes’s *General Theory* as a linear development of *A Treatise on Probability* is as misguided as treating the mainstream ISLM/disequilibrium/new Keynesian theories as a linear development of the *General Theory*. In both cases, there is a presumption of continuity with no recognition of the fundamental novelty inherent in Keynes’s method of analysis in the *General Theory*.

Gerrard builds on Misak’s argument for the critical role of Ramsey in the Cambridge, England revolt against formalism in the interwar years. Ramsey was critical of Keynes’s logical theory of probability, particularly of Keynes’s argument that probabilities are only partially measurable. This led Ramsey to propose the betting method for measuring

probabilities and he is now recognised as one of the founders of SEU theory and modern decision theory. But possibly Ramsey's most important contribution has been largely ignored – his emerging pragmatism in the final years of his tragically short life and the influence of his pragmatist thinking on both Keynes and Wittgenstein.

Keynes's concept of weight of argument is a paradigmatic example of the transition from the analytic (formal) logic of *A Treatise on Probability* to the pragmatist (human) logic of the *General Theory*. Keynes expressed doubts on the practical significance of weight of argument in Chapter 6 of *A Treatise on Probability*. But it is the weight of argument that Keynes refers to in Chapter 12 of the *General Theory* in defining his conception of uncertainty and it is the state of confidence, the pragmatist counterpart of the weight of argument, that Keynes sees as playing a crucial role impacting on investment and employment via the state of long-term expectations.

Bateman (2021) also follows Misak in recognising the role of Ramsey as a conduit of pragmatist thinking but, unlike Gerrard, Bateman sees Ramsey's pragmatist influence on Keynes as much more limited in scope. Specifically Bateman limits the impact of Ramsey's pragmatism on the *General Theory* to Keynes's recognition of multiple motives in the consumption and money demand decisions, and the use of a more narrative mode of theorising especially in the discussion of the impact of the state of confidence on investment decisions and economic fluctuations. Bateman remains wedded to the view, discussed above, that Ramsey's most significant impact on Keynes was in the area of probability theory, specifically Keynes's abandonment of the logical theory of probability in favour of a more subjective theory of probability. Bateman, unlike Churchill and Gerrard, does not argue for pragmatism to be embraced by post-Keynesians as an appropriate

philosophical position on which to ground the development of an heterodox alternative to mainstream economics.

Keynesian pragmatism, as envisaged by Churchill and Gerrard, is characterised by what could be called “impact theory”, that is, theory for practical purpose where theory is developed in conjunction with or by practice. And, crucially, impact theory recognises that context matters. Pragmatism is a philosophy of impact. At its core is the link between intentions, beliefs, and actions in everyday life. Keynes’s later philosophical and economic thought parallels, and arguably was directly influenced by, the Peirce-Ramsey strand of pragmatism. Human behaviour depends on our beliefs about the situation in which we find ourselves. Every decision is to some degree unique in its context. As Chick highlighted, Keynes’s method of analysis recognised the importance of context. Keynes recognised the processual nature of our context, hence the emphasis in his later economic writings on uncertainty (rather than probability) and his development of a dynamic process analysis, the method of shifting equilibrium, that combined static equilibrium analysis with the method of temporary closure in the move from the logical time of formal analysis to the historical time of actual economic processes. Indeed, this conception of Keynesian pragmatism bears a close affinity with process pragmatism that seeks to combine pragmatism with process philosophy (Rescher, 2000). And, as Winslow (1989) has argued, Keynes’s direction of travel in the Cambridge, England revolt against formalism in the 1920s/30s, particularly his adoption of an organicist ontology, mirrors the direction of travel of Alfred North Whitehead. Just like Keynes and Wittgenstein, Whitehead moved away from the pre-war style of formal analysis, in his case the formal analysis of mathematics with Bertrand Russell, to a concern with process and organism (Whitehead, 1929).

5. Some Concluding Thoughts

Victoria Chick, first and foremost, was a Keynesian *economist* with a particular specialism in monetary economics. She was one of the most prominent “first-generation” post-Keynesians by which I mean the generation of heterodox Keynesians between Keynes and his contemporaries, and the current “second-generation” post-Keynesians. The two abiding characteristics of Chick’s approach to Keynes and Keynesian economics are a primary concern with providing economic analysis relevant to current problems, and a recognition that Keynes’s analysis of the fragility of the macro economy and the ever-present dangers of involuntary unemployment is grounded in a fundamental break with orthodox methods of analysis.

Chick’s *Macroeconomics After Keynes* provides the detailed exposition of Keynes’s *General Theory* that emphasises the importance of his methods of analysis. From Chick’s perspective, Keynes’s *General Theory* is a generalisation of orthodox economic theory that offers both a critique of orthodoxy that clearly identifies the limits to its relevance and then reconstructs a more general theory. Chick followed Keynes in rejecting either/or dualism, a fault to which both orthodox and heterodox economists are prone. Chick, like Keynes, should be seen as a theorist of the excluded middle. This is exemplified more than anything in the reconstruction of equilibrium analysis as the method of shifting equilibrium in which temporary closure assumptions are progressively relaxed to analyse dynamic economic processes in historical time.

A concern with methods of analysis necessarily goes beyond methodological issues into the realms of epistemology and ontology. Chick and Keynes both recognised that moving beyond orthodox methods of analysis required a critique of the philosophical underpinnings of these methods of analysis. Fundamentalist Keynesians have pursued this

line of investigation particularly in the 1980s/90s through the pioneering research of Meeks, Carabelli, O'Donnell, and Lawson on the influence of Keynes's early philosophical writings, particularly *A Treatise on Probability*, on the *General Theory*. Lawson, in particular, has been the most prominent advocate of a much greater awareness of the ontological assumptions implicit in economic theory.

The danger of course is that the focus on Keynes's philosophy becomes an end in itself and becomes detached from the original objective to develop Keynes's economics to remain relevant in a changing world. Chick never lost sight of the original objective. Keynesian pragmatism as a philosophy of practical action is proposed in that spirit, inspired by Keynes but also in the manner of Keynes, just as Chick urged.

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