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The problematic nature and consequences of the effort to force Keynes into the conceptual cul-de-sac of Walrasian economics

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The all-too-common tendency to ignore, misunderstand, misinterpret or misrepresent the central arguments of Keynes's *General Theory* is the result not of flaws or a lack of clarity in their expression but rather of Kuhnian incommensurability. The paradigms of Keynes and of General Equilibrium are fundamentally at odds. Attempts to reconcile Keynes's arguments with, or to address his arguments within, a General Equilibrium context are thus likely to entail misunderstanding, misinterpretation and misrepresentation, and an inclination to ignore their original meaning. At a time when his arguments are as important as ever, methodological intransigence still prevents much of the profession from understanding that he offers a template for developing a better understanding of the functioning, and malfunctioning, of market systems, and that he identifies crucially important policy solutions within this framework.

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Equilibrium is just a property of the way we look at things, not a property of reality (Robert Lucas, in Snowden and Vane, 1998, p. 127).
I think the key thing about the New Classical economics is the commitment to some notion of General Equilibrium and some notion of optimizing behavior, strategic behavior (Thomas Sargent, in Klamer, 1983, p. 70).[1]

1. Introduction

Macroeconomics is again at a crossroads. Occurring as it did in the midst of what was once called the Great Moderation, the Great Recession exposed an 'anomaly', as Thomas Kuhn would put it, between the mainstream of macroeconomic theory and the realities of contraction, crisis and persistently high unemployment (Kuhn, 1970a, pp. 52–53). This is the very same anomaly presented by the Great Depression: and every major downturn after that has pressed the case made by a legion of like-minded

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[1] This paper adopts Sargent's use of the term New Classical economics and uses the term New Classical economist to describe anyone who shares Sargent's view in this regard.

economists to develop a new conception of the system, or a new paradigm. The departure from 'habitual modes of thought and expression' (Keynes, 1936, p. viii) that Keynes had in mind was a substantially different and more general theory rooted not in the ideal world that had captured the imaginations of Edgeworth, Walras and so many of those who followed, but rather in 'the economic society in which we actually live' (Keynes, 1936, p. viii, 3). Unfortunately, the immense appeal of Walrasian General Equilibrium (WGE) as the central principle of macroeconomics prevented the revolution that Keynes envisioned from becoming a revolution in the classic Kuhnian sense. In fact, few (if any) of the key theoretical constructs found in the *General Theory*, such as his theories of rational decision-making and macroeconomic equilibrium in the presence of an unknowable future, have found a home in the mainstream of macroeconomics. These constructs have, instead, been ignored or misrepresented: or they have been mistranslated when an effort has been made to 'absorb' them (Pernecky, 1992a). In the mainstream of macroeconomics, the allure of the ideal still trumps the object of understanding the economy as it is.

Dissatisfaction with the mainstream of macroeconomics is nothing new, but it does seem to have gathered momentum in recent years, and may even have reached a critical mass in the aftermath of the Great Recession.[2] It does seem reasonable to wonder why so many seemed convinced that this sort of catastrophe was a thing of the past and, once it was upon us, that we could (or should) do little to mitigate its impact. Déjà vu perhaps? The mainstream continues to largely reject the ideas and arguments that both yield a better understanding of the system, and provide policies to mitigate the problems so clearly endemic to the system as it is. It should be clear to all by now, like it or not, that the primary impediment to the development of a more accurate and helpful understanding of 'the economic society in which we actually live' is the widely held (and in the minds of many unquestionable) conviction that the construct of WGE is 'the only engine of truth' (Lucas, 1987, p. 108) in economics.

The first objective of this paper is to make it clear that Keynes offers specific and clear arguments regarding (among other things) the equilibrating tendencies of the system, the nature of uncertainty and rational decision-making in the presence of true uncertainty, which are radically incommensurable with the Walrasian paradigm. As a result, the long-common tendency to read Keynes with Walrasian eyes, from a categorically Walrasian perspective, has resulted inevitably in misperceptions, misunderstandings, misinterpretations, mischaracterisations, mistranslations and all-too-often in the conviction that his ideas can be conveniently ignored.[3] This does an obvious injustice to Keynes and an even more important injustice to the goal of producing an accurate and ultimately helpful understanding of the 'economic society in which we actually live'.

The second objective of this paper is to demonstrate that Keynes arguments are, as we circle back to economic circumstances which all-too-clearly resemble the 1920s

[2] The emergence of behavioural economics may be the most visible manifestation of this new momentum, but the emergence of new organisations such as the World Economics Association, the Institute for New Economic Thinking, the Critical Political Economy Research Network and the International Initiative for Promoting Political Economy are also evidence of this momentum.

[3] Reading is, by nature, an act of interpretation. There is, as a result, no text that is not subject to interpretation, and that is not interpreted differently by different writers. The point here is not to say, therefore, that Keynes does not require interpretation, or that this interpretation is not complicated given, for example, language that is culturally and historically specific (see Coates, 1996 and Davis, 1999). There are, however, many examples of interpretations which are clearly at odds with the text that are at least largely the result of the reader's bias for orthodoxy. Interpretations of this sort are the focus of this paper.

and 1930s, no less relevant today than they were when he first made them. This is true both because they identify crucial flaws in the structure and logic of 'habitual modes of thought and expression' and because they identify alternatives rooted squarely in the real rather than the ideal. Keynes's arguments, considered in the absence of Walrasian preconceptions, are still, as they have always been, at least the starting point of a theory that sheds light on 'the economic society in which we actually live', as opposed to the economic society that we might prefer to imagine, and thus the starting point for the truly Kuhnian revolution still needed in economics.[4]

2. Kuhn and Keynes

Alasdair MacIntyre notes that all facts are 'theory laden'—a theory assists in choosing from among the multitude of facts, and also aides in interpreting those facts (MacIntyre, 1981, p. 79). In turn, paradigms house the theories which give these facts interpretive meaning (Kuhn, 1970a, pp. 119–22). However, as Dow has noted, a paradigm 'involves …a shared philosophy and methodology; terms have shared meanings, and there are shared criteria for deciding on how to understand evidence and on what constitutes theoretical development' (Dow, 1999, p. 19). Thus, differing paradigms contain a significant degree of theoretical incommensurability (Dow, 1999, pp. 19, 20). Moreover, as Thomas Kuhn explains, 'Rather than being an interpreter, the scientist who embraces a new paradigm is like the man wearing inverting glasses. Confronting the same constellation of objects as before and knowing that he does so, he nevertheless finds them transformed through and through in many of their details' (Kuhn, 1970a, p. 122). Thus, because theories are paradigm laden, theoretical statements get interpreted through the prism of a particular paradigm. When theories are rooted in substantially different paradigms, they will be largely if not wholly incommensurate (Kuhn, 1970a, pp. 119–21). As a result, a theory viewed through the prism of a foreign paradigm may appear to be blurry, and in need of clarification, or translation. Unfortunately, the resulting translation may have (and is in fact likely to have) little if anything to do with meaning intended by the author of the theory being translated. The intended meaning of concepts often gets lost, in other words, in the process of translation (Kuhn, 1970b, pp. 267–78). 'Translation, in short, always involves compromises which creates difficulties in communication. The translator must decide what alternatives are acceptable' (Kuhn, 1970b, p. 268). Kuhn goes on to note that,

> The sorts of communication breakdowns now being considered are likely evidence that the men involved are processing certain stimuli differently, receiving different data from them, seeing different things or the same things differently…What the participants in a communication breakdown have then found is, of course, a way to translate each other's theory into his own language and simultaneously to describe the world in which that theory or language applies… In the absence of a neutral language, the choice of a new theory is a decision to adopt a different native language and to deploy it in a correspondingly different world (Kuhn, 1970b, pp. 276–77).

Carsten Kollmann has argued that while New Classical misinterpretations of Keynes are the result of difficulties related to inter-paradigm translation, he attributes much of

[4] Joseph Schumpeter (1955) once reminded us that 'analytic effort is of necessity preceded by a preanalytic cognitive act that that supplies the raw material for the analytic effort' (p. 41). The central message of this paper, expressed in these terms, is that the preanalytic cognitive acts of Keynes and Walras were fundamentally different, one 'vision' (Schumpeter, 1955, p. 41) concerned with the real and the other with an imaginary ideal, and thus one vision capable of yielding an economics that is relevant, and another that is not.

the blame to Keynes (as others have done)—specifically, Kollmann criticises Keynes's 'vague' theoretical descriptions.[5] He writes, in particular, that

> …it was far from clear to anybody what the General Theory really meant, and this gave rise to several attempts at interpretation and clarification by framing Keynes's propositions in the much more lucid language of neoclassical General Equilibrium. By casting the Keynesian ideas into the well-understood framework of General Equilibrium theory, several 'semantic squabbles that dominated much of the debate' (Blanchard, 2000, 1378) were resolved, among them conceptual confusions regarding distinctions like ex ante and ex post, the notion of an equilibrium with unemployment or the content of Say's Law. In retrospect, the macroeconomist Olivier Blanchard appraised these contributions by recognizing how this 'systematic, General Equilibrium, approach to the characterization of macroeconomic equilibrium became the standard, and, reading the literature, one is struck by how much clearer discussions became once this framework had been put in place' (Blanchard, 2000, in Kollman, 2008, p. 585).

Thus, while some New Classical economists have translated Keynes in terms amenable to their own preconceptions in order to excise them, or provide grounds for rejecting them, others have translated his ideas in these terms in order to absorb them. From Kollmann's perspective, the most palatable translation of Keynes's ideas, and the one that has produced *progress* in macroeconomic theory (Kollman, 2008, pp. 590–92), even though it directly contradicts Keynes's intention to 'escape from habitual modes of thought and expression', is one in which they are a special case in the clear context of WGE. The question, of course, is whether the motive to translate in these terms is more a matter of producing greater clarity or of making them less subversive to 'habitual modes of thought and expression'.

3. 'Rigor' in Keynesian and Walrasian paradigms

New Classical economists equate 'rigor' with a type of logical axiomatic reasoning which takes the form of deduction from the postulates of WGE (Davidson, 2003, p. 531). In doing so, they echo Milton Friedman's Instrumentalist Methodology in rationalising the lack of realism in their assumptions (Friedman, 1959, p. 15; cf. Prescott, 1986, p. 10). However, the term 'rigor' historically pertained in science to a theory's direct relationship to reality (Davidson, 2003, p. 531). Thus, while Keynes engages in a significant degree of deduction, the postulates he uses correspond much

[5] Again, it would be difficult if not impossible to name a text which has precisely the same meaning, or is interpreted in precisely the same way, by every one of its readers. This does not mean that every text ever written is vague or unclear in its entirety, even though it may contain elements that are one, the other, or both. There is some vagueness in the language that Keynes uses. This is due in part to his use terms specific to particular historical/cultural context (Davis, 1999, pp. 509–10). Moreover, Keynes was comfortable with the degree of vagueness associated with language, versus the precise (though perhaps precisely wrong) language of math, because this vagueness could allow for a constructive flexibility in application given the change inherent in reality, thus yielding greater 'factual precision' (Coates, 1996, pp. 83–87; Davis, 1999, p. 510). The question in the case of *The General Theory* is whether the text really is vague or whether it appears to be vague as the result of a misplaced allegiance to a fundamentally different paradigm, a perspective that is inconsistent with its intended meaning. Interpreting Keynes's work in terms that are consistent from the perspective of General Equilibrium may make things clearer to those who are unwilling to think about things in any other terms, but this may also make them less rather than more consistent with Keynes's plainly stated meaning, and thus obfuscate rather than clarify the matters at issue. An economist who stated plainly, for example, that the 'system is not self-adjusting' (Keynes, 1935, p. 86) would surely not agree that a 'General Equilibrium approach to the characterization of macroeconomic equilibrium' could make for 'clearer' [or particularly helpful] discussions of the economic world in which we actually live. Translation for the sake of consistency with a particular conception of the system is not necessarily translation for the sake of greater clarity regarding the economy as it actually is.

more closely with reality, and thus contain more 'rigor' as scientists have historically used the term (Davidson, 2003, p. 533). In Keynes's methodology, the postulates which form the basis for deduction follow from inductive inferences made from that which is empirical. As Keynes writes, '[O]ur knowledge of propositions tends to be obtained in two ways: directly, as the result of contemplating the objects of acquaintance; and indirectly, *by argument*...' (Keynes, 1921, p. 12). 'That part of our knowledge which we obtain directly, supplies the premises of that part which we obtain by argument. From these premises we seek to justify some degree of rational belief about all sorts of conclusions' (Keynes, 1921, p. 111).

Indeed the methodological approach of Keynes more closely resembles that of the sciences, physics included, than the approach associated with WGE. Janos Kornai reminds us, specifically, that in physics

> ...a theory is a systematic description of the essential interrelations between the variables of reality. That is, only those theorems and propositions (deduced from assumptions not in conflict with reality) which describe the real world more or less accurately may be considered acceptable (Kornai, 1971, p. 9).

Kornai also reminds us that, according to Einstein,

> Physics constitutes a logical system of thought which is in a state of evolution ... The justification (truth content) of the system rests in the verification of the derived propositions by sense experiences.
> The skeptic will say: 'It may well be true that this system of equations is reasonable from a logical standpoint. But this does not prove that it corresponds to nature'. You are right, dear skeptic. Experience alone can decide on truth (Einstein, 1960 cited in Kornai, 1971, pp. 9–10).

Unlike the more inductive approach described by Einstein, the methodology associated with WGE is more closely aligned with that of the 'logical-mathematical sciences', in which 'a theory consists of a theorem or body of theorems logically deduced from a set of mutually consistent axioms' (Kornai, 1971, p. 9). In fact, for New Classical economists, *mathematical sophistication* often seems to represent the measure not just of rigor but of legitimacy. Robert Lucas has written, for example, 'Economic theory is mathematical analysis. Everything else is just pictures and talk' (Lucas, 2001, p. 9).[6] Proponents of WGE have, nonetheless, utilised *tools* from physics, such as the 'method of thermodynamics' (Samuelson, 1947, cited in Lo and Mueller, 2010, p. 4).[7]

4. Methodology and inter-paradigm translation

Lucas underscores the problems associated with inter-paradigm translation when he describes his use of the WGE framework as utilising a *language*, writing that 'We want to claim ourselves to be right in the mainstream of the language that is shared by the best economic theorists and econometricians', and that 'We think we're using the language of modern economics that, sooner or later, everyone will be using' (Klamer,

[6] Ironically, Lucas has been criticised as being unscientific, and for 'academic politics' by providing theoretical terms with imprecise mathematical meaning (Romer, 2015, p. 89). Of course, Keynes' theoretical assumption of 'uncertainty' in the knowledge base of economic agents does create a challenge for mathematical tractability. However, Keynes' views on uncertainty and probability can be formalised (Zappia, 2016, p. 9): and some have started to approach Keynes' definition of 'uncertainty' in their mathematical modeling (c.f. Dutt, 1991–92).

[7] Others such as Mirowski (1989, 1991) have discussed the attractiveness to economists of certain tools from physics.

1983, p. 49). It is not surprising to find, given this perspective, that Keynes's tendency to use words rather than the 'language' of mathematics to express his ideas makes it difficult for economists like Lucas to understand the *General Theory* (Chick, 1998, pp. 1859, 1864). This would explain why Lucas has written that he cannot understand the *General Theory* because of its incomprehensible language (though he has also claimed, when pressed, that was only kidding about this). Lucas has written,

> …when Leijonhufvud's book came out and I asked my colleague Gary Becker if he thought Hicks got the *General Theory* right with the IS/LM diagram. Gary said, 'Well I don't know, but I hope he did, because if it wasn't for Hicks I never would have made *any* sense out of that damn book.' That's kind of the way I feel, too, so I'm hoping Hicks got it right (Lucas, 2004, p. 13 cited in Kollman, 2008, pp. 585–86).[8]

He is quite clear, however, when he says, 'But I don't like that book. It is not a very congenial book to read' (Klamer, 1983, p. 50). As we demonstrate in this paper, these points have nothing to do with incomprehensible language, or language that is difficult to translate, but rather with a message that is disagreeable because it cannot be reconciled with strongly held preconceptions.

Dow has described Kuhn's concept of a paradigm, which governs the structure, logic and language of a theory, as '…the body of thought and scientific practice adopted by a social network with a shared world view and a shared set of methods' (Dow, 1999, p. 19). Every aspect of this paradigmatic description is apparent in the comments of Lucas referred to above. The preconceptions based on a foreign paradigm inevitably influence the extent to which theories, and their language, 'speak' to particular economists. Paradigms that are difficult if not impossible to reconcile will invariably make accurate translation problematic. This does not mean, however, that the ideas in competing paradigms are so incommensurable as to completely preclude the adherent of one paradigm from understanding competing arguments present in another. The difficulty seems to lie, in at least some important cases, in the absence of a either a capacity or a willingness to set aside strongly held preconceptions when encountering ideas and arguments which challenge these preconceptions. The mindset of economists such as Robert Lucas, for whom competitive General Equilibrium is (as already noted) the only 'engine for the discovery of truth,' is not, however, readily amenable to accurate understandings or translations of ideas incompatible with this view. It is clear at a minimum that not everyone has found it impossible to make '*any* sense out of that damn book' written by Keynes, and that problems in this regard may have less to do with the clarity of its arguments and more to do with the content of its arguments.

5. Keynes's depiction of uncertainty: rejected, then recast

'Uncertainty' as characterised by Keynes is fundamentally incompatible with the WGE requirement that agents not only consider, but in essence possess, all relevant probabilistic information regarding current and future prices (Tobin, 1980, pp. 23–24). Uncertainty, according to Keynes, is an existential condition rooted in the fact that we cannot know the future, and is thus something that cannot be reduced meaningfully

[8] This, despite Hick's own admission that he had mischaracterised Keynes in his IS/LM model (Hicks, 1980–81, pp. 139–41).

to probabilistic calculations. This fact did not mean, however, that sensible or rational decisions were simply impossible. According to Keynes, even in the presence of existential uncertainty, agents make rational decisions in the sense that they are the best decisions possible given the information at their disposal (Keynes, 1937, pp. 213–15; Lawson, 1985, p. 918), as tenuous as this information might be. This point was clear to Keynes as early as his 1921 *Treatise on Probability*, where he writes that as 'soon as mathematical probability ceases to be the merest algebra or pretends to guide our decisions, it immediately meets with problems against which its own weapons are quite powerless' (Keynes, 1921, p. 6).[9] Or, as he wrote in 1937, 'by uncertain knowledge…I do not mean merely to distinguish what is known for certain from what is only probable', but circumstances in which 'there is no scientific basis on which to form any calculable probability whatever', or cases in which 'we simply do not know' (Keynes, 1937, pp. 213–14).[10] Even more specifically, when describing the mainstream of his day—or 'the economics of Ricardo's 'long-period equilibrium,' (Keynes, 1973, p. 114) further developed by economists such as Marshall, Edgeworth and Pigou'—he wrote that they were,

> …dealing with a system in which…at any given time facts and expectations were assumed to be given in a definite and calculable form; and risks, of which, tho admitted, not much notice was taken, were supposed to be capable of an exact actuarial computation. The calculus of probability…was supposed to be capable of reducing uncertainty to the same calculable status as that of certainty itself (Keynes, 1937, pp. 213–14).

No amendment is needed to describe the mainstream today. Keynes's clarity on this point, and in his discussion of decision-making under circumstances in which the future is unknown, or in the presence of *real* uncertainty (see chapter 12 of *The General Theory*), has clearly not, however, been sufficient to overcome resistance to these ideas in the current mainstream of economics. This is true not because Keynes was wrong about the true nature of uncertainty but because WGE *requires* an understanding of uncertainty that is amenable to such probabilistic calculations (Davidson, 1996, pp. 479–86). This is true in spite of the fact that, as Weintraub has noted, no 'sampling from the future is feasible to ascertain probabilities for future alternatives, so there is no philosophically sound way by which uncertainty problems can be reduced to problems involving risk' (Weintraub, 1979, p. 49).

Of course, even if New Classical economists had not ignored or failed to understand Keynes's arguments regarding the phenomenon of uncertainty entirely, it would be correct to suggest that they have been unwilling to accept the implications of these arguments. Lucas has written, for example, that

> In situations of risk, the hypothesis of rational behavior on the part of agents will have usable content, so that behavior may be explainable in terms of economic theory. In such situations, expectations are rational in Muth's sense. In cases of uncertainty, economic reasoning will be of no value (Lucas, 1981, pp. 223–24).

[9] Keynes: (i) generally sees probabilities that individuals can discern as ordinal (one proposition is more likely than another) as opposed to cardinal (Keynes, 1921, pp. 28–35, 112), (ii) questions the stability of frequency distributions (Keynes, 1921, p. 336) and (iii) sees probabilities as relativistic, as opposed to common to all individuals, although those with the same knowledge base would have some commonality in their expected probabilities (Keynes, 1921, pp. 17–18).

[10] Even knowledge of the existence of a probability distribution of future events would not mean that agents currently know what those probabilities are (Dow, 2016, pp. 4–8).

The problem, as Lucas frames it, is clearly not that Keynes's characterisation of uncertainty is not empirically sound, but rather that it is inconsistent with the sort of 'behavior on the part of agents', or the sort of 'economic reasoning' that WGE requires. From this perspective, then, 'situations of risk' are admissible theoretically because they can be reconciled with WGE while situations of uncertainty are inadmissible theoretically because they cannot be reconciled with General Equilibrium. It is difficult to imagine reasoning which more clearly supports Kuhn's argument that theoretical constructs in opposing paradigms are either transformed or rejected because their intended meaning fails to translate (Kuhn, 1970b, pp. 267–68). It is even more difficult, however, to imagine reasoning of this sort as a legitimate rationale for saying, as Lucas has done, that '…I don't think there was a Keynesian revolution in a scientific sense, in the sense of a new paradigm or a bifurcation of economic theory into two different directions' (Lucas, 2004, p. 22), or that while Keynes was 'an extremely important figure in twentieth century history…his major influence was ideological' (Snowden and Vane, 1998, p. 122), or that 'I do not consider the term 'Keynesian revolution' appropriate…It seemed to be a more political event than a scientific event' (Klamer, 1983, pp. 55–56), or finally, that students of macroeconomics should not bother to read the *General Theory* (Snowden and Vane, 1998, p. 122)! Just as Kuhn suggests, to the adherent of one paradigm, certain that it is the single legitimate paradigm, ideas rooted in another paradigm will appear to be 'unscientific', and unworthy of serious consideration.

6. Keynes's views on nominal wages and the price level, aggregate demand and unemployment: rejected and recast

Similar issues pertain to the New Classical treatment of Keynes' view of the importance of nominal wages in price determination. This theoretical construct proves crucial to Keynes' view that unemployment cannot be attributed to a real wage that is too high and fails to decline (Keynes, 1936, pp. 10–13, 18, 257–81; Pernecky, 1992a, p. 131; Pernecky, 1992b, p. 46; Wojick and Pernecky, 1994). Keynes argued that because nominal wages are a prime element of costs, if unemployed workers accept lower nominal wages as the presumptive remedy for their problem, costs, prices and the price level would fall, leaving real wages essentially unchanged (as occurred in the Great Depression); moreover, real wage cuts would cause reductions in effective demand, placing further downward pressure on output and employment (Keynes, 1936, pp. 257–81). Thus, among other things, the concept of p = f(w) contributes to an idea central to Keynes' theory but foreign to New Classical economics: unemployment that is both involuntary and persistent. Indeed, Joan Robinson notes that Keynes' *primary* concern was to demonstrate that there exists no natural tendency towards a *full employment* equilibrium (Robinson, 1971, p. 24).

In chapter 19 of the *General Theory* Keynes makes, for the second time, *quite clearly*, the point that wage rigidities do not cause but help to alleviate unemployment (Davidson, 2011, p. 4). Ambiguity in language cannot be blamed for the overwhelmingly influential mistranslation of Keynes in which sticky wages are the cause of unemployment. Keynes writes,

> In the light of these considerations I am now of the opinion that the maintenance of a stable general level of money-wages is, on balance of considerations, the most advisable policy for a

closed system; whilst the same conclusion will hold good for an open system, provided that equilibrium with the rest of the world can be secured by means of fluctuating exchanges. There are advantages in some degree of flexibility in the wages of particular industries so as to expedite transfers from those which are relatively declining to those which are relatively expanding. But the money-wage level as a whole should be maintained as stable as possible, at any rate in the short period. This policy will result in a fair degree of stability in the price level; - greater stability, at least, than with a flexible wage policy (Keynes, 1936, p. 270).[11]

For Keynes, insufficient aggregate demand, rather than wage rigidity, is undoubtedly the 'failure' that prevents the economy from attaining 'full employment'. While central to the *General Theory*, this proposition is essentially ignored in WGE models, where demand in the aggregate is essentially presumed to be sufficient at all times except in the presence of wage rigidities (or other imperfections). This presumption ignores Keynes's critique of Say's Law (which is itself often misinterpreted or mistranslated) and his conviction that the Pigou (or real balance) effect could not possibly ensure that demand in the aggregate would be sufficient.[12] It should be noted, in addition, as Davidson (1996) and Rochon and Lang (2012) have argued, that *uncertainty*, as envisioned by Keynes, will also preclude an endogenous self-adjustment to a full employment equilibrium. Rochon and Lang note specifically, that 'self-adjusting properties and the related equilibria require the fundamental assumption that individuals believe they can properly assess the present and future possible consequences of their decisions' (Rochon and Lang, 2012, pp. 388–89).

The efforts to translate Keynes in terms that reflect not the conception of equilibrium that he advocated (indeed the more common conception of equilibrium)—a position of rest, or a position devoid of forces that would lead to change—but the Walrasian conception of equilibrium instead, have perpetuated substantial misconceptions regarding the nature of unemployment. It is not, for reasons articulated clearly in chapter 2 of *The General Theory*, the temporary manifestation of a deviation from full employment caused by a real wage that is too high and fails to decline.[13] It is, instead, the potentially long-term manifestation of demand that is too low and fails to increase.

The idea that the economic system lacks self-correction to full employment requires an 'escape from habitual modes of thought and expression' that New Classicals have been unwilling to make (Keynes, 1936, p. viii). It requires the adoption of a fundamentally different conception of the system. Keynes wrote a year before the *General Theory* was published that

…though we all started out in the same direction, we soon parted company into two main groups… On the one side were those who believed that the existing economic system…has an inherent tendency towards self-adjustment … Those on the other side…rejected the idea that

[11] Given the connection that Keynes makes in this statement between the wages and the price level, which suggests at least an incipient theory of the price level, it is surely worth noting, as Rogers (2013) has recently done, that there is no room logically for either money or a monetary theory of the price level (i.e. the quantity theory of money) in the construct of WGE, where the auctioneer functions in a pure barter environment (p. 3). It follows, as a result, that there is no room logically in this construct for the contention that rigid wages (either nominal or real) are the primary cause of persistent unemployment (Rogers, 2013, pp. 5–10, 12–13).

[12] See Presley (1986), Dimand (1991) and Wojick (2017) for more on this point.

[13] Indeed the difference between the Classical and Keynesian models in Sargent's textbook *Macroeconomic Theory* amounts to one equation: the sticky wage equation (Sargent, 1979, pp. 18, 46). Of course, even some of those who have described themselves as 'Keynesian' have interpreted Keynes' theory as fundamentally based on the idea of sticky wages. For instance, Franco Modigliani states that '…I feel I was absolutely right in saying that the essence of Keynesian economics is wage rigidity. That is Keynes' (Snowden and Vane, 1999, p. 244).

the existing economic system is, in any significant sense, self-adjusting…Now I range myself with the heretics ... The system is not self-adjusting … (Keynes, 1935, pp. 85–86).

We still all start out in the same direction, and we still part ways along the fault line that Keynes identifies. Economists inclined irrevocably to see 'economics' and 'General Equilibrium' as essentially inseparable encounter Keynes's claim, and its supporting arguments, as alien, and thus as vague, misguided, poorly formulated and unintelligible without substantial modification. It is not that Keynes's critique of Say's Law is unclear, or that his reasons for believing that the Pigou effect would not ensure self-adjustment in reality (reasons, it must be noted, that Pigou himself shared) were undiscoverable (see Presley, 1986 and Dimand, 1991), or that the Pigou effect is sufficient to ensure self-adjustment in theory even if it is not sufficient to do so in reality.[14] It is, instead, that Keynes's arguments, encountered in unencumbered terms, upend the conception of the system at the core of orthodox economics.[15]

7. The siren song of WGE

The rejection of key Keynesian constructs has not occurred as the result of differences in political ideology but rather as the result of methodological convictions or norms (cf. Pernecky, 1992a, 1992b). The most important of these convictions is that macroeconomic theory must be rooted in the organising principle of WGE in order to be legitimate or 'rigorous'. Some of this conviction is undoubtedly related to the cost of obtaining orthodox bona fides (even though we are taught that sunk costs should be ignored), which we have all been required to do. The inertia associated with this training surely explains a large part of the common tendency to ignore, or to interpret in terms sympathetic to convention, ideas that challenge the common wisdom. Whether it should be true or not, the protection of human capital investment in a paradigm is one of the reasons for which professional methodological norms influence, whether

[14] See Wojick (2017) for a definitive argument to the effect that the Pigou effect is not sufficient to ensure self-adjustment even in theory.

[15] One locus of resistance to the idea that market systems are not self-adjusting that must at least be mentioned is attributed to Don Patinkin by Goulven Rubin (2005) but is surely shared by many other economists. Rubin tells us more specifically that even though Patinkin was initially sympathetic to Keynes's arguments, he ultimately rejected what he saw accurately as the 'more radical conception of Keynesian theory', and accepted the view that 'Keynesian theory should incorporate the real balance effect', because it seemed to him that 'a model with no equilibrium…described an economy that was breaking down' (Rubin, 2005, p. 60). Patinkin came to believe, in other words, that 'instability and the absence of equilibrium had the same meaning…both referring to an economic system that was breaking down', and thus that 'the instability scenario was unrealistic as a description of the normal state of the economic system, for the economic system was not perpetually falling apart' (Rubin, 2005, pp. 64–65). There is a large dose of irony in this view, however, given that Keynes's tells us exactly why we should *not* equate the idea that the system is not self-adjusting with the 'absence of equilibrium', with the idea that the system is wildly unstable, or with the idea that the system is 'perpetually falling apart'. He argued, instead, that even though the economy associated with 'the world in which we live' is 'subject to severe fluctuations…it is not violently unstable' (Keynes, 1936, p. 249), and that this is true because of the 'fundamental psychological rule of any modern community that, when its real income is increased, it will not increase its consumption by an equal *absolute* amount'. Given this 'psychological rule', multiplier effects will occur, but to a degree that is strictly limited. In fact, according to Keynes, the 'stability of the economic system essentially depends on this rule applying in practice' (Keynes, 1936, p. 97). What we can say, then, is that while Keynes was indeed concerned that a contraction, left unaddressed, *could* result in an 'economy that was breaking down', and that when they were left unaddressed contractions *would* last longer than necessary, he was decidedly *not* of the opinion every contraction would end in collapse.

consciously or unconsciously, theory choice so profoundly (cf. Berger and Luckman, 1966, pp. 5–9, 42–62, 87, 95; Wiles, 1979–80, p. 168). When abandoning the dominant paradigm invites banishment from the most highly regarded departments, the most prestigious journals, and the most highly prized circles of influence, choosing to do so clearly borders on the irrational. Indeed Kuhn has suggested that the intransigence related to abandoning a paradigm and adopting another can be compared to admitting that one has formerly suffered from an illness (presumably one with a stigma attached) that has been cured (Kuhn, 1970b, p. 277). This intransigence, which in the case of New Classical economists is based on a vested interest in the General Equilibrium paradigm, can thus be seen as a primary reason for the 'conceptual confusion' that so often occurs, in spite of the clear meaning of Keynes's language and arguments.[16] The same can be said of the common tendency to ignore key aspects of Keynes's revolution, or to denigrate them as Lucas and others have tended to do.[17]

8. Conclusion

Misinterpretations, mischaracterisations and mistranslations of Keynes's arguments have become more the rule than the exception over the past 80 years. This is true as the result of the conviction that these arguments must be reconciled with a 'vision' of the system that Keynes had, for clear and compelling reasons, explicitly rejected. There is a certain appeal to the 'vision' of market economies as natural self-adjusting systems, and with the mathematical tools that provide this vision with the trappings of rigor (Mirowski, 1989, p. 235). As Joan Robinson once put it, there is an irresistible attraction about the concept of equilibrium—the almost silent hum of a perfectly running machine; the apparent stillness of the exact balance of counteracting pressures; the automatic smooth recovery from a chance disturbance (Robinson, 1962, p. 81).

For many members of the profession, the formal tractability of WGE (and the fact that efficiency and full employment prevail in the absence of impediments within this context in particular) are sufficient to trump Keynes's conviction that a theory must be rooted in the realm that we inhabit in order to provide a true and ultimately useful understanding of this realm. While those with an immutable faith in the construct of WGE seem convinced that Friedman's (1959) instrumentalist methodology (pp. 32–38), where the realism of assumptions does not matter because it is legitimate to presume that the real economy functions 'as if' it is a facsimile of the imaginary construct, provides a compelling rationalisation for their faith, this conviction would not have made sense to Keynes, and it should not make sense for us, because it makes no sense at all. The real question, particularly in light of the fact that market systems have

[16] Daniel Kahneman observed that,

> once you have accepted a theory and used it as a tool in your thinking, it is extraordinarily difficult to notice its flaws. If you come upon an observation that does not seem to fit the model, you assume there must be a good explanation that you are missing. You give the theory the benefit of the doubt, trusting the community of experts who have accepted it (Gerrard, 1991, pp. 276–77; Kahneman, 2011).

[17] Lucas has written, for example, that 'one cannot find good, under forty economists who identify themselves as Keynesian. Indeed, people often take offense if referred to as Keynesian. At research seminars, people don't take Keynesian theorizing seriously anymore; the audience starts to whisper and giggle to one another' (Lucas, 2001, pp. 18–19). In commenting on Post Keynesian economists, Lucas has said 'well, I don't know whether to take them seriously [laughter]' (Klamer, 1983, p. 35).

so frequently exhibited the 'failure to provide for full employment' (Keynes, 1936, p. 235) lamented by Keynes, is whether WGE, most recently manifest in Dynamic Stochastic General Equilibrium (DGSE) models, has really been the 'big step forward' (Prescott, in Snowden and Vane, 1999, p. 260) that so many economists seem to think that it has been. Consider, for example, the logic embodied in the following statement:

> We are now seeing models in the style of Kyland and Prescott with nominal rigidities, imperfect credit markets, and many other features that people thinking of themselves as Keynesians emphasized. The difference is that within an explicitly equilibrium framework, we can begin to work out the implications of the features, not just illustrate them with textbook diagrams (Lucas, in Snowden and Vane, 1999, pp. 156–57).[18]

How exactly does it make sense to suggest that 'we can begin to work out the implications of the features' that, as Keynes defined them, are inimical to the 'explicitly equilibrium framework', within the orthodox paradigm? Moreover, if these matters are 'features' of the framework with implications important enough to 'work out', how is it less-than-misleading to characterise them as 'imperfections', implying that they are not really 'features' of the framework, and which, when they are eliminated, have no implications for the framework that need to be worked out. The significant irony present in the words above, however, is that while Keynes's arguments were expressed and meant to hold without exception 'in a world of flexible prices' (Friedman, 1968, p. 3), people who do indeed think of themselves as Keynesian are nonetheless convinced that the problems addressed in the *General Theory* can only be explained by invoking 'features' such as 'nominal rigidities' and 'imperfect credit markets'.

The foray into the world of the ideal has been both interesting and useful in identifying quite precisely the conditions that must hold in order for a WGE to prevail. The problem, of course, is that none of these conditions are not present in reality. In fact, given the lack of congruence between the ideal and the real it is hard to see how any legitimate inference can be drawn for the latter from the former. The recent crisis and its aftermath should provide the 'final straw', at long last, in convincing economists that the ideal tells us little or nothing about the economic society in which we live, the problems endemic to this society, or the actions that will best help to mitigate these problems.

The reasons for which Keynes's arguments fail to translate into the orthodox paradigm are not because they are vague, confused or poorly formulated. They fail to translate, instead, because they identify and address crucial flaws in the structure and logic of the dominant paradigm. As Keynes himself put it, what he hoped to do is 'convince [us] that Walras' theory, and all others along all others along those lines are little better than nonsense' (Keynes, as quoted in Chase, 1981, p. 12). He was able to see, like Kornai, that the Walrasian ideal is ultimately 'a special branch of mathematics', which employs 'logical reasoning [but] from arbitrary assumptions', making it more an 'intellectual experiment' than a theory in the mould of the sciences (Kornai, 1971, p. 11).[19]

[18] Among the attempts to include 'uncertainty' in a DGSE model, Ilut and Schneider assume that agents generally incorporate probabilistic knowledge: but when faced with productivity shocks to an Aggregate Production Function, they posit that these agents flee to a worst case scenario. Of course, this is a far cry from how Keynes would model uncertainty (Ilut and Schneider, 2014, pp. 2368–99). And *measurements* of uncertainty as an unforeseeable disturbance in an otherwise probabilistic information set have generally proven problematic.

[19] Nicholas Kaldor has noted, similarly, that

> Although Debreu describes the subject-matter of his book as 'the explanation of the price of commodities resulting from the interaction of the agents of a private ownership economy,' it is clear that the term 'explanation' is not used in the ordinary everyday sense of the term. It is

The real problem that far too many economists have had with understanding Keynes's arguments exactly as he expressed them is an intransigent desire to believe that, as once said by Debreu (1984) in an interview, 'the superiority of the liberal economy is incontestable and can be mathematically demonstrated'. The problem with this conviction is that the economy which Debreu had in mind has little connection with reality. It is time, if we want in the future to avoid the terrible waste not just of the past ten years, but of the many other times that liberal economies have so clearly failed to provide for full employment, that we turn our attention to understanding more accurately not the economic society in which we might wish to live but the one in which we actually live. It is in this regard that Keynes, read without the desire to adhere to the conventional wisdom of the WGE paradigm, provides a truly valuable starting point.

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intended in a purely logical and not in a 'scientific' sense; in the strict sense, as Debreu says, the theory is 'logically entirely disconnected from its interpretation'. It is not put forward as an explanation of how the actual prices of commodities are determined in particular economies or in the world economy as a whole. By the term 'explanation' Debreu means a set of theorems that are logically deducible from precisely formulated assumptions; and the purpose of the exercise is to find the minimum 'basic assumptions' necessary for establishing the existence of an 'equilibrium' set of prices (and output/input matrixes) that is (a) unique, (b) stable, [and] (c) satisfies the conditions of Pareto optimality (Kaldor, 1972, p. 1237).

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