



Finch, J. H. and McMaster, R. (2018) History matters: on the mystifying appeal of Bowles and Gintis. *Cambridge Journal of Economics*, 42(3), pp. 285-308. (doi:[10.1093/cje/bex002](https://doi.org/10.1093/cje/bex002)).

This is the author's final accepted version.

There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

<http://eprints.gla.ac.uk/135174/>

Deposited on: 24 April 2017

Enlighten – Research publications by members of the University of Glasgow
<http://eprints.gla.ac.uk>

History matters. On the mystifying appeal of Bowles and Gintis¹

Abstract

Sam Bowles and Herb Gintis have made a broad and sustained contribution to many areas of contemporary economic thought and policy discussions, centring on human interactions in economic settings. Since the mid-1980s, their work, collectively and individually, has developed from a concern with contested exchanges to analyses of behavioural repertoires pursued through evolutionary game theory in which they claim that 'history matters'. Despite their alignment with the mainstream they retain an appeal to some heterodox economists. We argue that this appeal is misplaced. Their theoretical work and knowledge claims rest on methodological individualism and equilibrium reasoning, which fosters an obtuse reductionism. They present a confused methodology, which seems to be motivated by a desire to remain coherent to standard economics. We show how their acceptance of methodological individualism and ergodic modelling undermines their knowledge claims as well as their declaration that history matters in their analysis.

Keywords: Methodological individualism; history; game theory; contested exchange; Walras' fiction

JEL Classifications: B24; B31; B50

¹ We are grateful for the advice, criticisms, and insights of three reviewers for this journal. We also thank the journal's editors for their advice and patience. The review process has undoubtedly enhanced our arguments and analysis. Of course our acknowledgement and gratitude does not implicate either the reviewers or editors for remaining errors.

1. Introduction

Sam Bowles and Herb Gintis have made broad and substantial contributions to debates over egalitarian reforms, the analysis of production relations, education under capitalist arrangements, Marxist and Radical economics' relations with neoclassical or what they term 'Walrasian' economics, the nature of agency and evolution in economics, the evolution of human co-operation and attempts to unify behavioural theory, and beyond. They have acted as a catalyst of much discussion in economic and social theory and policy reforms². In short, they are prolific and notable scholars, who have made and continue to make a significant contribution that is worthy of scrutiny.

They are controversial figures in heterodox economics. In the 1960s Bowles and Gintis were central figures in establishing the Union of Radical Political Economics (URPE). URPE was founded on the basis of the promotion of an essentially Marxian vision, and that if the inherent flaws of capitalism were to be successfully addressed, then a priority was to challenge the dominance of neoclassical economics, which was generally perceived to provide an intellectual defence for capitalism (see <http://www.urpe.org/>). During this period, Bowles and Gintis contributed extensively to this radical agenda, most notably in the publication of *Schooling in Capitalist America* in 1976. They set out to demonstrate that the US educational system perpetuated inequality, and that schooling principally socialised people to the requirements of corporations and had little to do with human development in a sense beyond the acquisition of skills for work.

² Erik Olin Wright's (1998) edited volume on Bowles and Gintis' (1998A, B) egalitarian market reform proposals; especially the commentaries by Hausman, Levine, Brighthouse, and England; see also Spencer (2000, 2001).

The tenor of Bowles and Gintis' activities shifted markedly from the mid-1980s and into the 1990s with their adoption of a more mainstream theoretical and methodological path. This is well documented and acknowledged by Bowles and Gintis repeatedly. Despite this, they retain an appeal for some heterodox economists: witness Bowles' 2014 Veblen-Commons Award by the Association for Evolutionary Economics (AFEE). The Association made the award on the basis of Bowles', "contributions to the coevolution of preferences, institutions and behaviour (including culture), plus the causes and results of inequality" (<http://www.afee.net/>). For us, such recognition is contentious as both Bowles' and Gintis' approaches, separately and collectively, have little resonance with the economics that the *original* institutionalists seek to advance. Bowles and Gintis, we argue present a stylized version of institutionalism: redolent of new institutionalism, a *faux* heterodoxy.

In this paper we focus on Bowles and Gintis' recent contributions and investigate their analysis of institutions and behaviour referenced by AFEE. In particular, we attempt to trace their 'Post-Walrasian'³ emphasis and later embrace of evolutionary game theory. In this they accuse 'Walrasian economics' of perpetrating a "fiction" of human behaviour through its atomistic analogy. They advocate a "richer" conception of human behaviour, subject to institutional constraints in an evolutionary context with power differentials (Bowles and Gintis, 2000a). Nonetheless, as they accept, they remain inspired by the mainstream approach (for example, Bowles and Gintis, 2002A), and following their critique of the Walrasian scaffolding, their work, as they readily state, represents an attempt to theoretically develop Walras. Post Walrasianism retains methodological individualism, and introduces frictions to the Walrasian model in the form of imperfect information and departures from *homo economicus*. In Bowles

³ Bowles and Gintis initially described their approach as 'Post Walrasian.' However, there is an air of ambiguity surrounding the term and it is not unique to Bowles and Gintis. Colander (2006) and Stiglitz (1993) have also employed it in different ways. Bowles and Gintis' employment of the term is increasingly sporadic.

and Gintis' theorising this develops from their notion of contested exchange to mathematically more sophisticated evolutionary game theory.

We argue that Bowles and Gintis' approach exhibits a reductionist tenor and provides, and makes a virtue of limited accounts of power, institutions and human behaviour. We consider that their framework propagates a new fiction that restricts potential explanatory depth by, for example, adhering to a restrictive methodological individualism to accommodate their upgraded mathematics. Their recent analyses offer less analytical insight than their work of the 1970s. We briefly refer to *Schooling in Capitalist America* and their subsequent revisit (2002A) to illuminate our argument. Whilst our focus is on Bowles and Gintis' recent work, we feel that reference to *Schooling in Capitalist America* is pertinent since Bowles and Gintis themselves chose to revisit the subject and apply their 'new' analytical tools in the form of a game theoretic approach to human capital.

We do not seek to provide a comprehensive or inclusive review of Bowles and Gintis' recent work; that would be an undertaking beyond the scope of this paper. Rather, our references to Bowles and Gintis' applications, through a series of vignettes, are indicative and with a clear focus on surfacing their theoretical commitments. As such, we acknowledge that we sacrifice depth for breadth. We feel this is appropriate given the scope of Bowles and Gintis' application of their theoretical framework. Indeed, this scope reveals a further alignment with the mainstream in their work: the universalism of technique. Despite claims to the contrary, their application of evolutionary game theory across history (Bowles and Gintis, 2011) may suggest otherwise. Thus, despite the 'evolution' of their theoretical approach since the 1990s, Bowles and Gintis have essentially retained a compatible method to their "Post-Walrasian" phase; centring on equilibrium reasoning and methodological individualism. Yet, from our perspective, there has been an intriguing turn in Bowles and Gintis' endeavour. Gintis (2009A) in

The Bounds of Reason, criticises methodological individualism and subscribes to a stratified ontology with emergent properties. In our view both represent a recantation of notable significance; the extent to which undermines the basis of Bowles and Gintis' recent approaches. That they seem to be unaware of this is interesting. In their 2011 work, *A Co-operative Species*, Bowles and Gintis appear to offer an inconsistent methodological stance, veering from methodological individualism to a position recognising human malleability. It is such methodological inconsistency that reveals the inadequacy of their approach from a heterodox perspective⁴.

The remainder of the paper adopts the following structure: section 2 sets out Bowles and Gintis' theoretical positions from the early 1990s. Section 3 outlines their methodological and ontological commitments over this period. Section 4 examines and critiques their methodological approach, noting its inconsistency and confusion. Section 5 then analyses how these methodological inconsistencies impact on Bowles and Gintis' theoretical contributions. Section 6 offers some brief concluding thoughts.

2. Bowles and Gintis' evolving theoretical approach(es) since the early 1990s

In this section we trace the evolution in Bowles and Gintis' theoretical approach before assessing their methodological perspective in Section 3, below. We appreciate there is some overlap, but presenting their contributions in this way enables us to interrogate the nuances of their approach as well as attempting to avoid the conflation of theory

⁴ We mainly draw upon Institutional and Post Keynesian traditions in developing our argument. We recognize and acknowledge the saliency of a Marxist informed line of criticism, such as around Bowles and Gintis' limited analysis of class and value, but we feel that adopting a Marxist approach would extend the paper well beyond the bounds of toleration. We acknowledge this limits our analysis, but given that we emphasise the role of AFEE in our critique, we feel that it is fitting to apply institutionalist-informed analysis.

and method. Bowles (2004, p. 17) has stated that his motivations have included, “an interest in the impact of economic institutions on human well-being”, and a desire to design institutions to enhance well-being. Bowles and Gintis (for example, 2011), draw upon historical cases to demonstrate the centrality of institutional arrangements to economic performance and the explanatory power of their approach. In this they emphasise that history matters (for example, Bowles and Gintis, 2011). They have written extensively on the institutions of capitalism, commencing with the conceptualisation of contested exchange, then what they see as the appropriate complementary roles of communities, markets and the state, and latterly the ambitious project of tracing and analysing the evolution of human co-operation (Bowles and Gintis, 2011). Theoretically, this has been reflected in their break with what they term as ‘Walras’ fiction’ and an increasing recourse to game theory. They are explicit in their desire to address what they conclude to be the Walrasian break from reality.

2.1 *Contested exchange*

As a central part of their Post Walrasian approach, in the early 1990s Bowles and Gintis developed a construct of ‘contested exchange’ contrasting it with Oliver Williamson’s (1993, 2000) transaction cost economics and with Walrasian general equilibrium.

The “contest” in contested exchange is over the extra-contractual – and hence Post Walrasian – conditions that enable production and exchange activities to occur (Bowles and Gintis, 1993; 2000A). They use three paradigmatic examples (labour, goods and credit markets) to develop their theory. In their analysis of what they consider to be archetypical capitalist exchanges, they argue that power is the ‘ability to further one’s interests by credibly threatening to impose sanctions on another agent

when the converse is not also true' (Bowles and Gintis 1992, p. 325, 1993, p. 90). Bowles (2004) further characterises power as: interpersonal, in that it involves human relationships; its exercise involves the threat and use of sanctions; it is normatively indeterminate, which may or may not be Pareto-improving; and, "to be relevant to economic analysis" (2004, p. 244), power must be sustainable as a Nash equilibrium. Hence, "as an enduring aspect of social structure, it should reflect best response behaviours" (pp. 244-245).

Bowles and Gintis identify 'short side' and 'long side' agents in contested exchange, where power is allocated disproportionately to short-siders, who are not "quantity constrained". For instance, in the markets identified as contested, they outline situations where employers are "short-siders" when there is 'equilibrium' unemployment, or where employees possess particularly sought-after skills, and/or lenders in capital markets where there is equilibrium credit rationing. The exercise of power by short-sider agents is associated with "endogenous enforcement strategies", such that markets act as "disciplinary institutions" (Bowles and Gintis 1998A; Bowles 2004). In this they also contend that there is no inevitability that agents will continually occupy a particular position. Exogenously determined trends may benefit current long-siders to the expense of current short-siders (Bowles and Gintis, 1993: 91).

2.2 *From Homo Economicus to Homo Reciprocans*

With contested exchange, Bowles and Gintis claim to offer a richer theoretical exposition of human behaviour than the Walrasian approach, which they argue perpetuates "Walras' fiction". The Walrasian conception of self-interested behaviour rests on narrow confines, which they dismiss as a, "charmingly Victorian but utopian world in which conflicts abound but a handshake is still a handshake" (Bowles and

Gintis 1993, p. 83). They argue that the Walrasian framework is only capable of affording a highly mechanistic representation of behaviour redolent of 'as if' reasoning. They also note Alfred Marshall's unease with this aspect of the Walrasian system and his preference for biological analogies, but chastise him for what they consider his failure, "to make much of these modern ideas" (Bowles and Gintis, 2000A: 1411). By contrast, they identify a range of behavioural repertoires, which they argue does engage with 'these modern ideas' (Bowles, 2004; Gintis, 2000A, 2009B). In doing so, they claim to recognise the contexts of human behaviour, where they define contexts in terms of institutions as conventions (Bowles, 2000, and Bowles, *et al.*, 2002), and as such they may be represented as games.

Drawing from Axelrod (1984), in addition to a more strategic variant of *homo economicus*, Bowles and Gintis identify *homo reciprocans*, *homo equalis*, and *homo parochius*. Both *homo equalis* and *homo parochius* appear to be specific manifestations of *homo reciprocans*. *Homo equalis* "emerges" in non-market situations and institutions and displays a proclivity for aversions to inequality, especially when the individual is disadvantaged. The aversion is said to be weaker when the individual is advantaged, implying self-regard, with the individual preferring to be equal, second-best is advantaged, and least favoured is disadvantaged. Gintis (2000A) claims anthropological support for *homo equalis*, contending that this is likely to be an inherent human characteristic. By contrast, *homo parochius* emerges from a community or group context, or institution. Members of such networks act in a 'prosocial' (or favourable) fashion towards other members and correspondingly 'antisocially' towards non-members.

Homo reciprocans possesses three ideal typical behavioural traits: (s)he is 'nice' in that (s)he is never the first to defect from a co-operative strategy; punishing of those who engage in non-cooperative behaviour, even if this is costly to her/himself; and

forgiving of those who engaged in non-cooperative behaviour and subsequently re-engage in co-operation (Bowles and Gintis, 1998B, p. 371). *Homo reciprocans* is then distinct from Bowles and Gintis' conception of *homo economicus*. "Nice" is incompatible with the "uncompromising" and thorough pursuit of objectives, and there is less self-regard with the strongly reciprocal individual. It is here that context matters, emphasising that *homo reciprocans* and *homo economicus* are both separate and hence non-universal. Bowles (1998) refers to this contextual sensitivity as "construal effects". For example, given the nature of contested exchanges, Bowles and Gintis argue that *homo economicus* is the dominant behavioural type, and *homo economicus* contributes to the reproduction of contested exchange. In contrast, communities encourage other-regarding *homo reciprocans*. In Bowles and Gintis' (1993, 2002A) conception of 'new' economic persona, the on-going conflictual orientation of relationships indicates an absence of trust between parties. Yet this is not the case with *homo reciprocans*.

Community governance is founded on social capital, which is claimed to be based on other-regarding properties, including, "a willingness to live by the norms of one's community and to punish those who do not" (Bowles and Gintis, 2002A: F419). Communities refer to any group where the members interact in a multi-faceted fashion, so could encompass professional networks, gangs and groups formed around ethnicity (Bowles 2004, Bowles and Gintis 2002A, 2004; Bowles, *et al.* 2002). A clear, albeit under-elaborated, association is established between *homo reciprocans* and trust. Bowles and Gintis (2000C: 7) define trust as a strategic alternative to 'defection' and 'inspection' in a one-shot prisoner's dilemma and as unconditional co-operation with all trading partners. From this they assert that community networks support the enforcement of 'prosocial' behaviour by reducing information costs (2000C, p. 22).⁵

⁵ Throughout this paper Bowles and Gintis employ, without any explanation, scare quotations around the term 'trusting'.

Moreover, Bowles and Gintis (2002A, F425) argue that norms are enforced in communities via 'strong reciprocity' in a 'considerable fraction' of their members, defined as individuals who are willing to engage in the costly punishment of shirkers even where there is no prospect or expectation of individual reward, and where those individuals may incur costs for their actions. Indeed, through game theoretic simulations and experiments, Bowles, *et al* (2002) and Gintis (2000B; 2009B) seek to demonstrate that acts of altruism can enhance group 'fitness.' In contrast to contested exchange, power does not feature in the development of this theory.

In more recent work – *A Cooperative Species* – Bowles and Gintis (2011) continue to develop their analysis of social interaction. They invoke references to early forms of human society to support their emphasis on the co-operative property of human behaviour. This they consider involves mutualism, where net benefits are conferred on all parties to an activity, and also altruism, where some individuals may be other-regarding despite experiencing personal costs. Both are characteristics of their *homo reciprocans*, and again are demonstrated through a game theoretic approach.

2.3 *Schooling in Capitalist America*

Bowles and Gintis (2002B) revisited *Schooling in Capitalist America*, where they assert that evidence since its publication in 1976 substantiates their claims concerning the inter-generational persistence of economic status. Heritable IQ and the effect of schooling on cognitive development are both unimportant in 'explaining' how agents with more schooling experience higher earnings. Rather, higher earnings are more likely to be a consequence of personality traits than skills. Their "correspondence principle" was central to their original explanation: schools structure social relations and interactions to correspond to work situations. In presenting a model of the

acquisition of cultural traits by children through parents and schooling, Bowles and Gintis highlight two principles: schools influence the cultural models to which children are exposed; and children are subject to rewards and sanctions. They demonstrate the effects of this in a model where cultural transmission is either vertical (through parents) or oblique (through school). They identify two cultural traits, A and B, where B has a payoff of 1, and A less than 1. They argue that education can impact on cultural transmission in the following way: if teachers are A, then the children of A parents will tend not to switch. However, B children will face a choice. If the structure of education incentives is such that trait A is rewarded to a greater extent than B, then a “significant number” of B children will convert to A even though the payoffs of B are higher in adult life (Bowles and Gintis, 2002B, p. 14).

In this Bowles and Gintis (2002B) are critical of “socialization theory”, which they argue articulates the process of cultural transmission such that schools socialise students to accept values and forms of behaviour on the basis of authority as opposed to individuals’ own judgements. Socialization theory is further criticised for projecting the adoption of different types of behaviours as a, “black box; it does not explain how individuals learn what” (Bowles and Gintis 2002B: 12). Hence, for them, socialization theory is incompatible with, “widely accepted notions of human agency” (*Ibid*) that highlight rationality and choice making capabilities. They appeal instead to “framing effects”. In this, again, institutions are viewed as constraints and institutional stability equates to Nash equilibrium.

2.4 Residential Segregation

The breadth of the application of their recent work is worthy of note. For instance, Bowles (2004) considers an example of failure in community governance in terms of

racial residential separation in three of the most segregated US cities (Cincinnati, Los Angeles and Milwaukee). According to “surveys”, residents prefer more integrated communities (Bowles, 2004, Ch. 2). Bowles establishes an “evolutionary” model that “shows” that in a housing market with identical homes the replicator dynamics of social interaction in housing sales can lead to co-ordination failure, which finds expression as residential segregation. His model specifies random pairings between buyers and sellers of both races (blues and greens). Both agent types have preferences such that they would prefer to see their neighbourhoods populated in a mixed fashion, but with a majority of residents of their race. Further, the model specifies that the proportion of prospective buyers from outside the neighbourhood reflects the current composition of the neighbourhood. Bowles argues that his model shows that even though both greens and blues prefer mixed neighbourhoods they may end up in totally homogenous areas as opposed to areas with a 50:50 division. The latter is not a stable equilibrium, whereas the former is. In other words, given the preferences of blues and greens as specified in the model, community governance reaches a Nash equilibrium with segregation.

In our view, the foregoing brief résumé of Bowles and Gintis’ work indicates that their theoretical emphasis has shifted from power (of one person over another), as expressed through contested exchange, to co-operation as collective action. Indeed, in their analysis of co-operation, trust appears as both an alternative and a complement to power. As with their analysis of power, their later phase embodies a mainly conscious, strategic and instrumental interpretation of trust, centred on how agents relate directly to one another. Agents are expected to calculate whether a potential partner in exchange can be trusted, and this is bound up in the deliberate and strategic development of personal reputation and its deployment. More generally, they consider the Walrasian system refers to transactions that are uncontested or “solved political

problems”.⁶ By contrast, they claim that their notion of exchange is putting the “political’ back into ‘political economy’”. However, Bowles and Gintis have consistently never attempted to conceal that they view their work as contributing to the corpus of the mainstream in economics. They are committed to the Walrasian system in the sense of equilibrium reasoning. Through their use of “information economics” (Bowles, 2004, p. 9) and the ‘new analytical tools’ (Gintis, 2009B, xvii) afforded by game theory, they seek to enhance the explanatory power of standard economics (for example, Bowles and Gintis, 2002B, F423). In this respect Bowles and Gintis may be located in what Davis (2006) terms as, “the recent turn” in mainstream economics. Their approach in “contested exchange”, for example, is closely aligned to Williamson’s transaction cost economics in terms of a shared methodological orientation, which embraces methodological individualism. We expand our case further, below.

3. Bowles and Gintis’ method

Given the foregoing, it is no surprise that Bowles and Gintis’ methodological lens is decidedly mainstream. Their emphasis lies in equilibrium reasoning, methodological individualism, and the universalism of technique across a range of phenomena: witness the vignettes, above, and their 2011 game theoretic venture tracing the evolution of human co-operation. Importantly, in Bowles and Gintis’ opinion game theory has two great virtues: an emphasis on the strategic nature of many interactions, and its foregrounding of alleged, “institutional detail” (Bowles, 2004, p. 32).

⁶ Bowles and Gintis (1992: 331; 1993: 86) cite Abba Lerner as the source of the view that economic transactions were solved political problems. Lerner refers here to economics’ claim to be the ‘queen of the social sciences’ by concentrating on a narrow (idealized) domain that permits formal tractability.

Bowles and Gintis' emphasis is on reviewing experimental games, in which agents carrying one of a limited number of traits interact in either random or structured patterns over periods of time (for example, Bowles, 1998; Bowles and Gintis, 2000, 2002A; 2011, and Gintis, 2000B, 2009B). Tournaments may be constructed as simulations in which different behavioural strategies or traits play against one another in applications of games first worked out deductively. Bowles and Gintis express the dynamic nature of this system as time-discrete stochastic models, which can be captured by Markov chains (Bowles, 2000, pp. 378-379; 2004, p. 411; Gintis, 2009B, p. 297ff). The Markov process produces a (positive) 'transmission matrix', such that any particular system-state will be conveyed to any other state with a positive probability. In other words, a Markov chain is a sequence of random variables, $X_1, X_2, X_3 \dots$ with the property that given the present state, future and past states are independent (for example, Manning, *et al*, 2008; Tweedie, 1974). This may be presented formally as:

$$P(X_{n+1} = x / X_1 = x_1, X_2 = x_2 \dots X_n = x_n) = P(X_{n+1} = x / X_n = x_n)$$

Possible values of X_i form a countable set S , which is the state space of the chain. For a finite Markov chain, a system in each period $t = 0, 1, \dots$ can have any one of n states, such that if a system is in a particular state i in any given period, there is a probability p_{ij} that the system will be in state j in the following period (Gintis, 2009B). There are a number of variations of Markov chains, including; continuous-time, stationary, memory (m) chains – where future states depend on past m states – additive chains with conditional probability, and 'denumerable' chains, which possess an infinite number of states (Manning, *et al*, 2008). For present purposes these distinctions are not of central importance, beyond noting that in his major work in 2004, Bowles opts for the ergodic finite chain variant, which invokes a number of assumptions, and which we reflect on in the following section. Bowles' preference for ergodicity implies that his

game theoretic models attain long-run equilibrium. In short, ergodicity relates to systems with a stable structure over time. This is a key characteristic of closed system modelling, which is central to equilibrium reasoning (Lawson, 1997). By contrast, non-ergodicity implies that both structures and the nature of reality are to varying degrees mutable through time, giving rise to uncertainty and time irreversibility (see for example, Davidson, 2003; Dow, 2003; Dunn, 2003).

Also consistent with game theoretic reasoning, Bowles and Gintis are, at various points in their work explicit about their adoption of methodological individualism (see also, Baker and Weisbrot, 1994). For instance, in their analysis of “community governance” as a complementary and/or alternative institutional constellation to the market and/or state, they observe:

“We introduce a model using the methodological individualism and equilibrium orientation of economics (specifically, game theory)” (2002A, F424, original parenthesis).

In his 2004 book Bowles offers a more detailed reprise when he defines methodological individualism as:

“An expression of reductionism in social science that insists that explanations of group-level phenomena such as institutions or aggregate output must be built up from the actions of individuals. The approach taken in this book is consistent with methodological individualism in that it has focused on causal mechanisms connecting what individuals do to aggregate social outcomes” (2004: 478).

Later, Bowles argues his notions of endogenous preferences and cultural evolution represent a recognition that social institutions and individual preferences co-evolve: “*thereby not privileging either the lower- or higher-order entities*” (2004, p. 481, original emphasis). As with Gintis’ (2009A, B) later evolutionary emphasis noted above, Bowles appears to recognise a stratified ontology, which invites the possibility of system openness. This is of particular interest, especially given Bowles and Gintis’ avowed methodological individualism in that it suggests a tension with a more restrictive ontology associated with standard analysis (Lawson, 1997); a subject we examine in the following section.

Overall, as we have noted, Bowles and Gintis’ methodological orientation has evolved with an increasing recourse to game theoretic techniques accompanied by the employment of sophisticated mathematics. Gintis’ (2009A, B) recent works, in particular, display an analytical approach firmly grounded in mathematics. This in part reflects Gintis’ strong affinity with the view that mathematics offers the tools appropriate to apprehending complex (socio-economic) reality and facilitating the development of novel theories (Gintis, 2000A: xv). Despite such on-going allusions to theoretical novelty centring on the unification of behavioural theory, evolution, and co-operation in (late?) capitalist societies, we argue in the following sections that their framework is not as powerful as they presume, and rests on inconsistent methodological grounds. We explore the latter point initially.

4. A case of methodological incoherence and contradiction?

We concentrate on two significant aspects of Bowles and Gintis’ method – both identified in Gintis’ (2009A) work: game theory and ahistoricism, and methodological individualism. As noted, we readily acknowledge the well-established methodological

critiques of game theory in the (economics) literature (see for example, Hargreaves Heap and Varoufakis, 2004; McCloskey, 2006; Mirowski, 2002; Rizvi, 1994; Sugden, 2001), and do not seek to reproduce many of those arguments. Nor do we wish to venture directly into the territory of the use of mathematics in economics, although our concern about Bowles and Gintis' equilibrium reasoning obviously encroaches on this area⁷. Instead, we wish to critically explore the tensions in Bowles and Gintis' methodology underpinning their assertion that "history matters" (for example, Bowles, 2004: 411) in their analysis of the evolution of, for instance, the institutions of capitalism (which they attempt to capture through contested exchange) and of humans' inalienable co-operation. From here we consider their methodological individualism and Gintis' (2009A) potentially devastating recantation. Section 5 outlines our views on the implications for their framework and ontological perspective.

4.1 Of game theory and ergodicity: does history really matter to Bowles and Gintis?

At one level history does matter to Bowles and Gintis, because they explicitly and repeatedly claim that it does. In doing so they are keen to highlight how their theories can apprehend particular historical events and processes, such as the property rights "revolution" (Bowles and Choi, 2002), the persistence of poverty, inequality, and economic decline (Bowles, 2012), and the evolution of human co-operation (Bowles and Gintis, 2011). Yet the question is begged as to whether their methodological approach justifies their claim.

As noted, in a key passage of his 2004 book, Bowles writes:

⁷ For an excellent exposition of the flaws of mathematical reductionism in economics see Dennis (2002). Dennis argues that reducing economic propositions to mathematics lacks logical rigour as these propositions cannot be apprehended by mathematics alone.

“Its state [Markov process] is path dependent: where it was in the recent past influences where it will most likely be at any moment. History matters, and it never ends” (2004, p. 411).

According to Bowles, the positive probability associated with the transition matrix of the Markov processes in an ergodic system entails that despite the independence of long-run equilibrium from initial conditions “history matters”. The nub lies in the “positive probability” of transition from one state to another over two different periods. The past reveals its future with a calculable probability.

Yet Bowles’ invocation of ergodicity in Markov chains implies that a number of conditions (assumptions) pertain. In Markov processes a state i is ergodic if it is aperiodic, irreducible, and positive recurrent (for example, Tweedie, 1974). Aperiodicity refers to the non-zero probability of returns to a certain state i at irregular times. A chain is irreducible if it is possible to attain any state from any state. Recurrence concerns the transient character of a state: if state i is the starting point, then there is a non-zero probability that state i will never occur again. These conditions indicate that ergodic Markov processes are time reversible – it is possible for state i to reoccur at some point in the future. This is literally history repeating itself. For i to recur *exactly* the same conditions and features must be replicated from the initial i . In other words, the passage of historical time has no bearing at all on the probability of transition from one state to another in a specific time frame.

In contrast to Bowles, Gintis (2009B, p. 298) writes:

“In an ergodic system, history does *not* matter: every initial condition leads to the same long-run behaviour. Nonergodic systems are history dependent” (emphasis added).

Gintis is surely correct, given the conditions of ergodicity. However, for Bowles and Gintis, we are left with a disjuncture: either Bowles (2004) is correct or Gintis (2009B) is, they both cannot. This is not a trivial point. They contend that their analysis places history as a significant dimension. Yet they make opposing observations about the relevance of history to their primary mode of analysis. Either history matters or it doesn't. Of course, the issue may be clarified by definitional precision – it could be the case that Bowles and Gintis are referring to two related, but distinctive things when they separately use the term 'history'. We understand history as pertaining to the processes by which social and economic phenomena emerge, and how humans acquire agency to develop futures from these settings. Certainly Bowles' (2004) usage seems to differ from a chronology of past events or the study of past episodes, given that events do not appear to feature in his discussion of transitions from one state to another in the Markov process. By contrast, Gintis' (2009B) discussion of non-ergodic games centres on a specific event – the death of a player at some point during the game⁸. In this way history does matter; there is an obvious event and therefore historical contingency. Rather, Bowles' employment of 'history' appears to refer to 'time', and not necessarily historical time.

Two points emerge: Bowles' employment of 'history' appears inaccurate, at least in terms articulated by Gintis. Bowles may be conflating notions of history and time,

⁸ Gintis' (2009B: 298) two examples relate to a repeated prisoners' dilemma and a trading game. In both games Gintis identifies a key dislocation in the conduct of the game – not unsurprisingly. However, in both cases Gintis outlines the adoption of an identical strategy – in the prisoners' dilemma the deceased player is replaced by a clone – and the Markov chain is complete.

where the latter may be seen as reversible. Indeed, reference to Post Keynesian accounts of ergodicity, suggest the opposite of Bowles' position. Davidson (2003), in particular, emphasises that ergodicity is a highly misleading caricature of the nature of uncertainty and dynamic processes. He argues that ergodicity implies that:

“All economic relationships are timeless or ahistoric ‘natural’ laws. *The historical dates when observations are collected do not affect the estimates of statistical time and space averages*” (2003, p. 232, emphasis added).

Second, if ergodicity is an important aspect of their method, as both appear to acknowledge, then Gintis appears to be (logically) relegating the importance of history in their analysis. If this is indeed the case, then history cannot be their analytical entry point; rather, we venture, historical episodes are selectively employed to demonstrate the robustness of their models.

An additional aspect to this argument arises in Bowles' reference to path dependency in Markov chains. As is well-known, path dependency invokes notions of lock-in, especially of technology, and that the future is to some degree the hostage of the past. This meaning suggests resonance with Bowles' emphasis on the influence of the “recent past”. Bowles' analysis of ‘history’ and evolution are peppered with allusions to path dependency (for example, the index to Bowles' *Microeconomics*, 2004, p. 579). Whilst path dependence is a significant consideration in evolutionary analysis, it is not the only one. The uncertainty of the future also highlights the potential for path creation (for example, Hodgson, 1999; MacKinnon, *et al*, 2009); yet this does not figure in either of Bowles' and Gintis' analytical approaches. Notably, Kaldor in his critique of equilibrium reasoning railed against economists' failure to sufficiently recognise the, “creative functions [of markets] – as an instrument for transmitting impulses to economic change” (1972, p. 1241). Again, we may question Bowles and Gintis'

commitment to a methodology embracing history and historical contingencies as important factors in evolutionary processes. Accordingly, we are puzzled by AFEE's reference to Bowles and Gintis' analysis of "institutions and behaviour (including culture)" as in any way compatible with the ideals of *original* institutionalism.

4.2 *Methodological individualism and reductionism: a recantation, or confusion?*

We noted in section 3, above, Bowles and Gintis' embrace of methodological individualism, and Bowles' approval of the reductionism of methodological individualism as a means of apprehending social outcomes through the actions of individuals.

Hodgson (2007) has argued that there is considerable ambiguity regarding the definition of methodological individualism, especially in economics. Indeed, even in heterodox economics there is some contention over the nature of methodological individualism: witness the exchange in the *Review of Social Economy* between Hodgson (2011; 2012) and Milonakis and Fine (2012). For our purposes we find Hodgson's delineation to be instructive.

Hodgson (2007; 2011) identifies two variants: (1) social phenomena should be solely explained in terms of individuals alone; (2) social phenomena should be explained in terms of individuals and relations between individuals. Hodgson argues that (1) is in practice impossible. Social phenomena presume some sort of relationships and interactions between individuals, and hence there is an ontological distinction between those individuals and the nature of their interactions. By contrast, in (2) social structure features in analysis. The issue, following Hodgson, is the degree to which social structure is integral to explanation. In our view, a framework is methodologically

individualistic if it privileges the role of individuals over social structure, in effect making structure passive, orthogonal or in a setting's environment. Bowles and Gintis' work falls within (2), but their methodological individualism is problematic in that it implies that the analytical entry point is some given individual. There are, however, profound ontological and epistemological problems associated with this position, which also further undermine Bowles and Gintis' claim that "history matters".

Ontologically, individuals are born into systems of institutions. Interactions between individuals, even in game theory, presuppose some social position associated with both the individuals and their interactions. As Marx and Veblen instruct, such social positions imbue the holder(s) of a particular position or role with specific rights, duties, obligations, and powers (for example, Davis, 2003; Milonakis and Fine, 2012; Hodgson, 2004; Lawson, 2012, 2015). Thus, by virtue of its title, the Prisoners' Dilemma in classic game theory is predicated on specific social roles associated with the properties of being designated as a 'prisoner' ascribed to the individual players, presumably by some legitimate authority (perhaps the institution of the state). Bowles in his methodological prescription – "explanations of group-level phenomena such as institutions or aggregate output must be built up from the actions of individuals" (2004, p. 478) – alluded to earlier, is either unaware or ignores the explanatory requirement that individuals' actions cannot be devoid of the properties of sociality. Indeed, such explanations always fail on the need to account for the social positions that individuals occupy. These social positions require some social and institutional explanation (Hodgson, 2007). For instance, Lawson (2012) in his argument that emergent phenomena are irreducible invokes historical contingency and organisation. In the context of social emergence, Lawson (2012, p. 364) argues,

"Collective practices, as emergent forms of organising structure, are efficacious in facilitating coordinated interaction in that their reality is established. And it is

because they are irreducible to the individuals and individual practices that they organise that their relative autonomy is equally grounded ...”

In *The Bounds of Reason*, Gintis (2009A, chapter 8.8) appears to recognise such methodological issues. He seems to adopt a *volte face* in his declaration:

“Methodological individualism is inadequate ... because human nature in general, and human rationality in particular, are products of biological evolution. The evolutionary dynamic of human groups has produced *social norms* ... It is a mistake ... to think that social norms can be brought within the purview of game theory by reducing a social institution to the interaction of rational agents” (2009A, p. 163, original emphasis).

This critique is of tremendous significance and, in our view, amounts to a recantation of Bowles and Gintis’ methodological individualism. Gintis appears to open the methodological door to explanatory depth in terms of the social embeddedness of the individual and a stratified ontology. In a key passage he argues:

“Game theory has progressed by accepting no conceptual constructs above the level of the individual actor, as counselled by methodological individualism. Social theory operating at a higher level of aggregation ... has produced important insights but has not developed an analytical core on which solid cumulative progress can be based. The material presented here [*Bounds of Reason*] suggests the fruitfulness of dropping methodological individualist *ideology* but carefully articulating the analytical linkages between individually rational behaviour and the social institutions that align beliefs and expectations of individuals, making possible effective social discourse” (2009A, p. 162, emphasis added).

Prima facie, Gintis presents a compelling case for the abandonment of the basis of Bowles and Gintis' analysis of contested exchange and their account of the constellation of institutions in capitalism. For Bowles (2004, pp. 47-48) institutions are defined as:

“Laws, informal rules, and conventions that give durable structure to social interactions ... Conformity to the behaviours prescribed by institutions may be served by a combination of centrally deployed coercion (laws), social sanction (informal rules), and mutual expectations (conventions) that make conformity a best response” (original emphasis)

This complements Gintis' emphasis on the linkages between institutions and individuals, save for Bowles' later endorsement of methodological individualism in the same volume. However, Bowles' conceptualisation of institutions is inadequate and is not necessarily incompatible with his rendering of methodological individualism. Bowles' definition is consistent with Hodgson's second variant, noted earlier. It is inadequate in its reductionism: institutions, according to Bowles, are constraints to individual free-will for which Nash equilibrium is conformity. The individual, especially their possession of defined and self-known preferences, and their calculating and economizing capacities, is taken as given – there is no malleability. In this, Bowles' methodological individualism can only accommodate a particular interaction between agent and structure. It cannot account for the enabling, creative, and constituting dimensions of institutions. For instance, institutions through the social roles individuals come to occupy enable those individuals to plan, anticipate, experiment, communicate, organize with others, and reflect upon certain courses of actions; constrain them from taking others; partially shape which actions are a matter of agreement to the individual, i.e., they influence an individual's proclivities, and they may also afford an avenue for

creativity. In effect, institutions partly constitute individuals⁹. Only one of the foregoing is consistent with Bowles' approach, and both variants of methodological individualism identified by Hodgson (2007; 2011).

Gintis' call for the abandonment of methodological individualism presents the opportunity for less reductionist explanations, and hence the greater explanatory richness he seems to seek. Yet, as we explore in section 5, below, it potentially undermines the theoretical scaffolding he and Bowles have constructed for over twenty years. There are, however, further inconsistencies in their methodological orientations worthy of consideration.

Bowles and Gintis (2011, p. 4) write that humans, "internalize the norms that induce cooperation". This is a clear rejection of methodological individualism as it suggests that institutions are not merely constraints to individual actions, but they also partly constitute those individual's preferences and thinking. Nonetheless, Bowles and Gintis in the same work continue to cite their previous work predicated on methodological individualism (as well as ergodic game theoretic equilibrium modelling) with approval. And yet, Gintis (2009A, xiii) has written: "game theory is not everything", but is instrumental in comprehending human social existence as a complement to "broader social theory".

Despite his seeming recantation of methodological individualism, Gintis (2009A, p. 236) continues to subscribe to and advocate the standard maximization assumption of mainstream economics. *Pace* Simon (1991), he argues that it does not follow that since individuals' rationality is bounded that they are not maximizers. So long as individuals' behaviour is routinized and their preferences are consistent then standard

⁹ Institutions are of course, following Thorstein Veblen (1969), also partly constituted by individuals.

optimization modelling is appropriate. Gintis' advocacy seems curiously at odds with his rejection of methodological individualism and the potential of individual malleability. His allusion to routines as a basis of maximising as opposed to satisficing behaviour appears redolent of Becker's rationale and reductionist 'as if' reasoning. Indeed, Gintis refers to billiards players in the same way as Friedman (1953) in his advocacy of maximization: noting billiards players, "do not solve differential equations ... even though we may use ... optimization models to describe their behaviour" (2009A, p. 236).

These inconsistencies and incompatibilities, in our view, undermine any claims Bowles and Gintis may have to methodological coherence. They appear to embrace methodological individualism at one instance only to abandon it, and then perhaps to re-embrace it. Ergodic modelling is said to ensure that history matters (Bowles, 2004); yet the other in the partnership (Gintis, 2009B) argues otherwise, whilst advocating such a method. In the following section we trace how these inconsistencies damage Bowles and Gintis' theoretical claims and analysis by referring to the cases outlined in section 2, above, and entail a muddled ontology – at once individuals are privileged over social structures and then they are not.

5. Methodological discrepancy and its effects on theory

Bowles and Gintis claim deeper insights than the Walrasian approach and to address 'Walras' fiction' by offering theoretical refinements to the Walrasian framework that consistently align to mainstream nostrums. At a theoretical level their ambition is to contribute to a unified behavioural science and to extend evolutionary reasoning. This is highly laudable. Yet they do so by finessing the Walrasian approach that they critique. In our view, their methodological inconsistencies and their interests in

equilibrium reasoning, methodological individualism, reductionism, and relegation of history undermine their ability to overcome the inherent weaknesses of the Walrasian system. In this section we re-visit the four areas of Bowles and Gintis' theorizing identified in section 2, above, where their methodological attachment to mainstream tenets and their own inconsistencies weaken the knowledge claims they make: behavioural theory, power and contested exchange, *Schooling in Capitalist America*, and racial residential segregation in housing.

5.1 Homo reciprocans and homo economicus: *Towards a unified behavioural theory?*

In Bowles and Gintis' analysis *homo reciprocans* adopts a tit-for-tat strategy and is never first to deviate from co-operation. Co-operation in community networks permits the emergence of trusting Nash equilibria (Bowles and Gintis, 2000). Following their utilisation of standard rationality and methodological individualism, trust is founded on strategic and instrumental interpretations. By reducing trust to a strategic alternative, the dualistic nature of Bowles and Gintis' behavioural analysis is exposed. Frequently in their work agents are stylised in a binary fashion – for instance, altruistic or non-altruistic – to demonstrate strong reciprocity. The reduction of calculative trust cannot account for the innateness of trust in human behaviour, the different types of trust, the extent of trust, and institutional sources of trust (see for example, Baier, 1986; Nooteboom, 2002). For instance, in the case of *homo reciprocans* there appears to be a requirement for high degrees of trust in the goodwill of fellow players involved in the initial play of any interaction. In other words, the rules of the game are such that trust is the appropriate and dominant strategy. Should a transacting party betray this goodwill, Bowles and Gintis suggest that *homo reciprocans* will retaliate by imposing some form of “punishment”. Given the miscreant will face losses, the actor will

subsequently pursue a more co-operative strategy. *Homo reciprocans* “forgives” and responds co-operatively as if nothing had happened. Perhaps reflecting the ergodic property of the modelling, this assumes a particular type of trust that is not only calculative but time-reversible, of a behavioural repertoire understood in a context as an entity being deployed, withheld and redeployed as a resource. It portrays *homo reciprocans* as possessing no memory, or being extremely forgiving. *Homo reciprocans* is prepared to transact on the same terms as before with a party that can and has deceived. *Contra* Bowles and Gintis, much of the literature on trust emphasizes its fragile, conditional and embedded nature (Nooteboom, 2002; Morgan and Sheehan, 2015). The betrayal of trust can entail irreparable damage to a relationship, and an unwillingness to entrust to the same degree in any subsequent dealings. These properties are notably absent from Bowles and Gintis’ depiction. We venture that real time and learning effects appear to be assumed away in their framework: history decidedly does not matter. If the foregoing is an accurate depiction of *homo reciprocans*, Bowles and Gintis’ analysis of trust is disconnected to the social dimension in a manner criticised by Gintis (2009A).

The problem of reductionism is further evident in Gintis’ (2000A, B) analysis of the emergence of *homo reciprocans* through the formal invocation of Price’s Equation from biology.¹⁰ Informally, this states that a trait that enhances the fitness of a particular group will emerge to out-compete other traits and so enhance the relative average fitness of the group. Bowles and Gintis deploy this in respect of strong reciprocity (altruism). In a population composed of groups of individuals, altruism is assumed as a trait that enhances the fitness of groups, but not necessarily altruistic individuals (it may be costly to the individual who is an altruist). Those groups with more altruists

¹⁰ Formally Price’s Equation is expressed:

$\bar{\pi}\Delta x = \text{cov}[\pi, x] + E[\pi, \Delta x]$, where $E[\pi, \Delta x]$ is the expectation term, $\text{cov}[\pi, x]$ is the covariance term, x is the frequency of a trait in the population, and $\bar{\pi}$ is the mean fitness of the population.

will out-compete those groups with fewer (or no) altruists, implying that as average fitness improves in groups with altruistic individuals altruism emerges as a dominant trait (see for example, Bowles and Gintis, 1998B, 2000B, C, 2002A; Bowles, *et al*, 2002; Gintis, 2000B; Heinrich, *et al*, 2001).

This account of emergence of *homo reciprocans* is formalistic and ahistorical, and arguably does not resonate with Gintis (2009A). Given the historical context of capitalism, and their paradigmatic example of exchange in capitalism (contested exchange) and its accompanying dominant behavioural repertoire (*new homo economicus*), some tensions are revealed in their account of community governance and *homo reciprocans* in capitalist society. For instance, we would anticipate that agents have a high probability of adopting the persona of *new homo economicus* in part of the employment relationship, and simultaneously resemble *homo reciprocans* in another. The personality change stems from the dualism of their approach and its corresponding discreteness concerning institutional context. Bowles and Gintis' assertions over the emergence and evolution of behavioural traits appear to rest on the crucial auxiliary assumption relating to context, which for them means the rules of the game. Yet these rules are presumed constant and exogenous. *Pace* Gintis (2009A), emergence and evolution at different scales are precluded: in effect, a stratified ontology is ruled out. While institutions are durable, they are subject to change and Bowles and Gintis' analysis cannot accommodate this. The explanatory burden rests on the pre-game specification of rules, or the institutional context.

Thus, if Bowles and Gintis' behavioural repertoire is to be rescued, there has to be some appeal to the (partially) constitutive properties of social systems and institutions. However, this would mean the abandonment of methodological individualism as they conceive it.

5.2 *Contested exchange and power*

The foregoing brings us to Bowles and Gintis' notion of contested exchange, albeit that this features far less prominently in their more recent work. Recall, this notion held that exchange under capitalist arrangements frequently involves parties with unequal power – the short-sided (more powerful) and long-sided (less powerful). For Bowles and Gintis, power is relational – it is exercised by an individual upon another individual.

By incorporating power in “relatively uncontroversial” terms (Bowles and Gintis 1993, p. 88); like new institutionalist and new Keynesian approaches they omit discussion of how power is maintained, exercised, constrained, and legitimised. Further, it is a matter of contention that power is understood as one agent's ability to impose sanctions on (an)other agent(s) when the converse is not true. An agent's power is embedded in social structures, institutions and other norms and may be multi-directional (for instance, Hodgson, 1999; Jessop 1990; Lukes 2005). Power may be dispositional – the power to act in certain ways – imbued in the capacities of social agents (Lukes, 2005: 71).

Following Bowles and Gintis, agents are more or less powerful through finding themselves on the (powerful) short or (quantity constrained) long sides of relations of contested exchange. They provide a sketch of how agents come to occupy short and long sides of contested exchanges:

“The wealthy have power ... because they tend to be located on the short side of non-clearing markets: as lenders in capital markets and as employers in labour markets – employers are more likely to be wealthy because lack of

wealth generally precludes access to funds on terms consistent with survival in business” (2000, p. 1422).

This is something of a tautology. The historical independence of the framework implies that wealth is the cumulative outcome from a previous out-of-equilibrium and non-clearing market, or is inherent from some initial distribution of assets (or ‘wealth-blocks’). In this, Bowles and Gintis’ discussion of power is rather disconnected from the notion of social embeddedness. The exercise of power is conceived within the confines of Nash equilibrium (Bowles 2004: 345). There is nothing to associate power directly with social structure and individuals to occupying roles in that structure. There is little regard for the complex interaction of power and legitimacy: the latter an enabling function of institutions. In short, Bowles and Gintis’ embrace of methodological individualism inhibits their analysis – as Gintis (2009A) seems to recognise.

Bowles and Gintis are correct in situating power as possessing a relational dimension, yet limitedly so. It is social positional rights and obligations that imbue individuals with the potential to influence the behaviours of others. Lukes (2005), for example, directs explanations of the emergence and effects of power away from agents and towards social, structured and institutionalised social situations, such as markets. Power changes from being a resource particular to one agent, to being embedded in a connection or relationship between two or more agents. Lukes states:

“Social life can only properly be understood as an interplay of power and structure, a web of possibilities for agents, whose nature is both active and structured, to make choices and pursue strategies within given limits, which in consequence expand and contract over time” (2005, pp. 68-9).

Similarly, Lawson argues:

“It thus seems reasonable to refer *both* to rights and to obligations as (positional) powers. Indeed, they are constitutive of what might reasonably be termed social, collective or positional power. Such power ... expresses positional rights and obligations to participate in specific others-affecting collective practices that are granted to accepted occupants of relevant positions” (2012, pp. 367-8, original emphasis).

This cannot be apprehended by adherence to the view that there are no conceptual constructs above the level of the individual as (again) Gintis (2009A: 162) acknowledges. Lukes’ reference to a “web of possibilities”, and Lawson’s allusion to “collective practices” are not only constraints: they possess deontological properties and articulate how positions are enabling of the exercise of power (a view endorsed by the original institutionalists; Hodgson, 1999). By contrast Bowles and Gintis’ conception rests on the narrow notion of a quantity constraint – they cannot convincingly address the question as how such a situation arose.

In this they share a striking resemblance to Williamson’s transaction cost framework. For Williamson (1993, 2000), opportunistic potential arises from a similar array of asymmetries identified in Bowles and Gintis’ Post Walrasian contested exchanges. Power, in Williamson’s framing, may be conceptualized through the prism of opportunism in that opportunism as “self-interest seeking with guile” conceives of agents manipulating their situation to their advantage. Thus, in Bowles and Gintis’ paradigmatic example of employees possessing sought after skills, for Williamson this may be expressed as asset specificity. Specific assets are the analytical “locomotive” of Williamson’s theory: asset specificity engenders situations of asymmetric information prompting bounded rationality to be experienced by one of the contracting agents (in Bowles and Gintis’ terminology the “long-siders”) and opportunistic potential

by the other (Bowles and Gintis' "short-sider"). However, Williamson's explanation is rather more appealing in that there is some development on how an opportunistic environment may emerge and recede; with Bowles and Gintis there is nothing.

5.3 Schooling in Capitalist America

In their 1976 work Bowles and Gintis recognise the importance of social embeddedness and the rights and obligations associated with position. In tones redolent of Lawson, noted in 4.2 above, they argue:

“However well they actually function technically, individuals must act, speak, and dress commensurate with their position and must actively protect their prerogatives” (1976, p. 82)

They further consider:

“The importance of legitimacy cannot be overemphasized in understanding the social relations of corporate enterprises ... US capitalism accomplishes the first of these requirements [workers' cognitive and operation skills] through the family, school, and on-the-job training ...” (*Ibid*)

Their analysis here highlights issues of power in a more meaningful way than in their contested exchange in that their analysis permits the malleability of individuals to a particular suite of values that legitimises a specific hierarchical class relations. This is not consistent with methodological individualism, where the individual is effectively taken as given. The explanatory approach adopted in *Schooling in Capitalist America* is markedly divergent from that employed in their 2002 revisit: witness Bowles and

Gintis' (1976, p. 128) argument: "Consciousness develops through the individual's direct perception of and participation in social life". Further, in outlining their "correspondence principle" they state:

"The structure of social relations in education not only inures the student to the discipline of the work place, but develops the type of demeanor, modes of self-presentation, self-image, and social class identifications which are crucial ingredients of job adequacy" (1976, p. 131, emphasis added).

The key term here is "inures", i.e. habituates. By this reckoning the individual is malleable, thereby implying a rejection of methodological individualism. For Bowles and Gintis in 1976, and Gintis in 2009A, the individual is socially embedded! Notwithstanding this, Bowles and Gintis' "correspondence principle" was criticized as being overly-simplistic and reductionist in relating the structure and content of "mass schooling" to the requirements of the capitalist economy. This view neglects the myriad of competing interests that shape school curricula by presenting a simplified production-based model of class struggle (for example, Brown and Lauder, 1991; Brighouse, 1998).

Arguably, such reductionism is more apparent in Bowles and Gintis' (2002B) revisit. Their model of the transmission of cultural traits in keeping with their Post Walrasian learning is conflated with the acquisition of information. Recall that in their reproduction of their correspondence principle they frame their model in terms of schools influencing cultural models to which students are exposed, and children are subject to a rewards and punishment regime. Their model is expressed in terms of a particular type of replicator dynamic, which invokes the student actor facing a binary choice of cultural type and having to respond to incentives in exercising their choice. Bowles and Gintis' appeal to framing effects in the same way as the mainstream

conception of information asymmetries. The adoption of cultural traits is, as they recognise, sensitive to the reward structures faced by rationally calculating school students, or as they express it,

“Depending on the specific assumptions of the model and the specific value of the parameters, there can be two stable ‘homogenous’ cultural equilibria ... or a single ‘heterogeneous’ equilibrium” (2002B, p. 14).

In fashioning their updated model of *Schooling in Capitalist America*, Bowles and Gintis substitute their class-based framing in 1976 for a human capital model based on the rational acquisition of particular cultural traits in 2002. Of course, the irony is that they were heavily critical of the conception of human capital in 1976, but by 2002 human capital was, apparently, *de rigueur*.

As noted in 2.3 above, Bowles and Gintis are critical of socialization theory on the basis that it robs the individual of agency. This, in our view, is a valid criticism; some forms of what they term as ‘socialization theory’ do indeed marginalise the individual, laying the explanatory weight, in the extreme, entirely on structure. In making this critique Bowles and Gintis claim:

“Our analysis of the capital-labor conflicts of the content and form of schooling is understandable without recourse to the theory of socialization as presented in standard sociology” (*Ibid.*).

For us, this is not a warranted assertion. Bowles and Gintis, in their attempt to consign socialization theory to the margins, throw the baby out with the bathwater. In their revisit of *Schooling in Capitalist America*, school students are instilled with considerable decision-making prowess. They are akin to consumers subject to

information scarcities. Much like goods in a market, 'cultural traits' are supplied by teachers and other agents, such as 'neighbour elders' as well as families. This information is then evaluated by the consumer/student prior to making a conscious decision about which 'cultural trait' to adopt. In selecting between two mutually exclusive traits the process of the model is mechanistic. Moreover, it presents a reductionist and contentious analysis of learning. Learning is not reacting to incentives and attaining information (to calculate future discounted payoffs). Rather, drawing from institutionalism, it has the potential to reconstitute the individual in terms of expectations, capabilities, aspirations and preferences (Hodgson 2003). In pursuing their methodological individualistic approach, Bowles and Gintis' ontological perspective is narrowed: they are unable to furnish the historically contingent and socially embedded model that their 1976 version accomplished to a greater degree, albeit with limitations. Their 2002 revisit is notable in that it serves to reduce their analysis to a problem of information asymmetries and misaligned incentives in the generation of human capital – the generic issue of much of new institutional economics.

5.4 *Residential segregation*

Bowles' (2004) modelling approach to residential segregation in US cities (section 2.1.4) reproduces the approach Bowles and Gintis (2002B) adopted in their revisit to *Schooling in Capitalist America*. Again, evolutionary game theory is called upon to reconstruct historical residential patterns. As with their 2002 revisit to schooling there is no account provided for the specification of model parameters – how do we arrive at these properties? Are we to concur that they are merely determined exogenously? Or, as Bowles (2004) would have us believe, they are based on empirical evidence, such as his allusion to "surveys" in various US cities. The evidence base seems

selective in that it appears to be confined to a statement of preferences. Indeed, given Bowles' specifications, the model's results are hardly surprising or enlightening. The burden of explanation falls on pre-simulation preferences and specified replicator dynamics. Bowles' explanatory account of residential racial segregation is contingent upon a given and stable historical context so has no requirement analytically for multiple level evolution. His model assumes away other potentially significant explanations, including; changes in property right entitlements, the constitutional and legal environment, banking practices, trust, income and wealth distributions, educational opportunities, and so forth that may offer additional or rival explanations.

6. Some concluding thoughts

At the outset of our argument we acknowledged the broad and substantial contributions to economic theory and policy that Bowles and Gintis have made over the past forty-plus years. We believe that this is an extensive and valuable body of work. Their recent economic journey, to our minds, makes fascinating reading: they do not shy away from posing big questions and the scope of their ambition is highly commendable. Nonetheless, Bowles and Gintis have, as we have endeavoured to demonstrate, attempted to contribute to economic theory and policy using a limited and confusing methodology. As we have repeatedly noted, they are explicit in readily acknowledging that their framework is embedded in the mainstream, and intentionally so. Indeed, their work reveals a strong commitment to the Walrasian system – equilibrium is retained and history and historical contingency are placed in the margin. Essentially, they tinker with Walrasianism. In any critical analysis of their work it is inevitable that more general critiques of the mainstream are, and should be employed. We have sought to exercise this in respect to their specific claims about the insight of their approach.

Throughout their work Bowles and Gintis have asserted that “history matters” in the interrogation of socio-economic reality; yet, their methods and analytical tools suggest otherwise. While they have also drawn upon and supported methodological individualism, in 2009, Gintis offered a recantation of the saliency of this approach, and hence the fundamental basis of their work over the past twenty or so years. Yet somewhat confusingly, their most recent work appears to invoke methodological individualism again. The limitations in methodological individualism are well known, and we have discussed them in the context of Bowles and Gintis’ approach; indeed, Gintis (2009A) alludes to and endorses such criticisms. Such meanderings are indicative of not only methodological inconsistency but also incoherence. To us it seems that Bowles and Gintis are keen to endorse standard economic method even if this means that they furnish limited accounts of the phenomena in which they seek to explain. Thus, in their modelling of what they depict as the quintessential form of capitalist interaction – contested exchange – they can only provide a reductionist view of power. Similarly, their account of *homo reciprocans* is constrained by the ambiguities and contradictions of their treatment of history.

So what are we to make of Bowles and Gintis? They raise important questions, but their attempts to address them are unconvincing, because of their adherence to Post Walrasianism, which contrary to their claims, provides stylized and marginal accounts of history, culture, and institutions. This, we believe, is crystallized by the two versions of their *Schooling in Capitalist America*. The 1976 version seemed to embrace historical contingency and the social embeddedness and malleability of individuals, and thereby furnished an intriguing and challenging analysis. By contrast, their 2002 revisit was preoccupied by establishing the “rules of the game” in contrasting two ideal typical and mutually exclusive “cultural traits”, where the individual was reduced to the status of a “player” subject to information asymmetries. Gone was the historical and

institutional richness of their 1976 investigation; instead they offered analytically an ahistorical game.

Despite their claims to knowledge and ambitious scope of their project, in our view they offer little more than a sophisticated mathematical modelling of a virtual world founded on stylized conceptions of Post Walrasian actors. Modelling is possible at the expense of insights and additional or alternative explanations that might be garnered from a broader array of behavioural, cognitive, habitual and broadly institutional framings.

Given the nature of our argument, it remains a puzzle as to why Bowles and Gintis appeal to some heterodox economists. The 2014 Veblen-Commons Award to Sam Bowles by AFEE seems mis-aligned, given his contributions to research. Moreover, when Bowles taught a post-graduate course in “Theoretical Institutional Economics” (Bowles, undated) during his time at the University of Massachusetts at Amherst, his extensive list of readings makes no reference to Thorstein Veblen. While Armen Alchian, Friedrich Hayek, Douglass North and Talcott Parsons feature, Veblen, the seminal contributor to institutionalism in economics, is absent. When Veblen does figure in Bowles’ work (Bowles and Park, 2001; 2005), Veblen’s name is misspelled.

In short, we believe that those interested in progressing heterodox approaches in economics should at the very least tread warily when encountering Bowles and Gintis, especially given the endorsement of various heterodox economic bodies, such as AFEE. Bowles and Gintis have made no secret of their desire to enhance the Walrasian approach. Their Post Walrasian economics progresses by means of the theoretical ‘innovation’ of information problems, and as far as we understand, have never convincingly challenged mainstream method, although Gintis’ criticisms of methodological individualism could be viewed as such. However, this is unconvincing, given that later work (2011) seems to endorse the position that Gintis criticized two

years prior. Seen in this light, Bowles and Gintis are closely aligned with New Institutional and New Keynesian approaches. Accordingly, they have, in our view, contributed little to progressing Post Walrasian economics as an alternative approach in economics.

References

- Association for Evolutionary Economics (2015) Past Veblen-Commons Award Recipients, http://afee.net/?page=institutional_economics&side=veblencommons_award&sub=past_veblencommons_award_recipients (accessed, July 2015)
- Axelrod, R. (1984) *The Evolution of Cooperation*, Basic Books: New York.
- Baier, A. (1986) Trust and antitrust, *Ethics*, 96: 231-260.
- Baker, D. and Weisbrot, M. (1994) The logic of contested exchange, *Journal of Economic Issues*, 28: 1091-1114.
- Bowles, S. (1998) Endogenous preferences: The cultural consequences of markets and other economic institutions, *Journal of Economic Literature*, 35: 75-111.
- Bowles, S. (2000) Economic institutions as ecological niches, *Behavioral and Brain Sciences*, 23: 148-149.
- Bowles, S. (2004) *Microeconomics: Behavior, Institutions and Evolution*, Princeton, Princeton University Press.
- Bowles, S. (2012) *The New Economics of Inequality and Redistribution*, Cambridge University Press: Cambridge.
- Bowles, S. (undated) Economics 797 – Seminar in Theoretical Institutional Economics, University of Massachusetts at Amherst, economics course outline (available from author on request).
- Bowles, S. and Choi, J. (2002) The first property rights revolution, Working Paper, Santa Fe Institute, October, <http://www.santafe.edu/~bowles/>.
- Bowles, S. and Gintis, H. (1976) *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life*, London: Routledge and Keegan Paul.
- Bowles, S. and Gintis, H. (1992) Power and wealth in a competitive capitalist economy, *Philosophy and Public Affairs*, 21: 324-353.

- Bowles, S. and Gintis, H. (1993) The revenge of homo economicus: Contested exchange and the revival of political economy, *Journal of Economic Perspectives*, 7: 83-102.
- Bowles, S. and Gintis, H. (1998A) Efficient redistribution: new rules for markets, states and communities, in O. E. Wright (Ed.) *Recasting Egalitarianism. New Rules for Communities, States and Markets*, London and New York: Verso.
- Bowles, S. and Gintis, H. (1998B) Recasting egalitarianism, in O. E. Wright (Ed.) *Recasting Egalitarianism. New Rules for Communities, States and Markets*, London and New York: Verso.
- Bowles, S. and Gintis, H. (2000A) Walrasian economics in retrospect, *Quarterly Journal of Economics*, 117, 1411-1439.
- Bowles, S. and Gintis, H. (2000B) The evolution of reciprocal preferences, unpublished mimeograph, <http://www-unix.oit.umass.edu/~bowles>.
- Bowles, S. and Gintis, H. (2000C) Optimal parochialism: The dynamics of trust and exclusion in networks, Santa Fe Institute Working Paper, February, 28pp, <http://www-unix.oit.umass.edu/~bowles>.
- Bowles, S. and Gintis, H. (2002A) Social capital and community governance, *Economic Journal*, 112: F419-F436.
- Bowles, S. and Gintis, H. (2002B) Schooling in capitalist America revisited, *Sociology of Education*, 75: 1-18.
- Bowles, S. and Gintis, H. (2004) Persistent parochialism: Trust and exclusion in ethnic networks, *Journal of Economic Behavior and Organization*, 55, 1-23.
- Bowles, S. and Gintis, H. (2011) *A Cooperative Species: Human Reciprocity and its Evolution*, Princeton: Princeton University Press.
- Bowles, S. and Park, Y. (2001) Emulation, inequality, and work hours: Was Thorsten (sic) Veblen Right? Working paper, University of Massachusetts at Amherst, March.

- Bowles, S. and Park, Y. (2005) Emulation, inequality, and work hours: Was Thorsten (sic) Veblen Right? *Economic Journal*, 115: F397-F412.
- Brighouse, H. (1998) School choice: theoretical considerations in O. E. Wright (Ed.) *Recasting Egalitarianism. New Rules for Communities, States and Markets*, London and New York: Verso.
- Brown, P. and Lauder, H. (1991) Education, economy and social change, *International Studies in Sociology of Education*, 1: 3-23.
- Colander, D., ed. (2006) *Post Walrasian Macroeconomics: Beyond the Dynamic Stochastic General Equilibrium Model*, Cambridge University Press: Cambridge.
- Davidson, P. (2003) The terminology of uncertainty in economics and the philosophy of an active role for government policies in *The Philosophy of Keynes's Economics: Probability, Uncertainty and Convention*, ed. J. Runde and S. Mizuhara, 229-238. London: Routledge.
- Davis, J. B. (2003) *The Theory of the Individual in Economics: Identity and Value*, London: Routledge.
- Davis, J. B. (2006) The turn in economics: neoclassical dominance to mainstream pluralism? *Journal of Institutional Economics*, 2: 1-20.
- Dennis, K. (2002) Nominalising the numeric: an alternative to mathematical reduction in economics, *Cambridge Journal of Economics*, 26: 63-80.
- Dow, S. C. (2003) Understanding the relationship between mathematics and economics, *Journal of Post Keynesian Economics*, 25: 547-560.
- Dunn, S. P. (2003) Non-ergodicity in *The Elgar Companion to Post Keynesian Economics*, ed. J.E King, 280-284. Cheltenham: Edward Elgar.
- Gintis, H. (2000A) *Game Theory Evolving: A Problem-Centred Introduction to Modeling Strategic Interaction*, (first edition), Princeton: Princeton University Press.
- Gintis, H. (2000B) Strong reciprocity and human sociality, *Journal of Theoretical Biology*, 206: 169-179.

- Gintis, H. (2009A) *The Bounds of Reason: Game Theory and the Unification of the Behavioral Sciences*, Princeton: Princeton University Press
- Gintis, H. (2009B) *Game Theory Evolving: A Problem-Centred Introduction to Modeling Strategic Interaction*, (second edition), Princeton: Princeton University Press.
- Hargreaves Heap, S. P. and Varoufakis, Y. (2004) *Game Theory: A Critical Text*, second edition, Routledge: London.
- Heinrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., Gintis, H., and McElreath, R. (2001) Cooperation, reciprocity and punishment in fifteen small-scale societies, *American Economic Review* (papers and proceedings), 91: 73-78.
- Hodgson, G. M. (1999) *Economics and Utopia: Why the Learning Economy is Not the End of History*, London: Routledge.
- Hodgson, G. M. (2003) The hidden persuaders: Institutions and individuals in economic theory, *Cambridge Journal of Economics*, 27: 159-175.
- Hodgson, G. M. (2004) *The Evolution of Institutional Economics: Agency, Structure and Darwinism in American Institutionalism*, London: Routledge.
- Hodgson, G. M. (2007) Meanings of methodological individualism, *Journal of Economic Methodology*, 14: 211-226.
- Hodgson, G. M. (2011) Sickonomics: Diagnosis and remedies, *Review of Social Economy*, 69: 357-376.
- Hodgson, G. M. (2012) From social theory to explaining sickonomics: A response to Dimitris Milonakis and Ben Fine, *Review of Social Economy*, 70: 492-507.
- Kaldor, N. (1972) The irrelevance of equilibrium economics, *Economic Journal*, 82, 1237-1255.
- Lawson, T. (1997) *Economics and Reality*, Routledge: London.
- Lawson, T. (2006) The nature of heterodox economics, *Cambridge Journal of Economics*, 30, 483-505.

- Lawson, T. (2012) Ontology and the study of social reality: Emergence, organisation, community, power, social relations, corporations, artefacts and money, *Cambridge Journal of Economics*, 36: 345-385.
- Lawson, T. (2015) Process, order and stability in Veblen, *Cambridge Journal of Economics*, 39: 993-1030.
- Lukes, S. (2005) *Power. A Radical View*, second edition, Palgrave Macmillan: London.
- McCloskey, D. N. (2006) *The Bourgeois Virtues: Ethics for an Age of Commerce*, Chicago University Press: Chicago.
- MacKinnon, D., Cumbers, A., Pike, A., Birch, K., and McMaster, R. (2009) Evolution in economic geography: Institutions, political economy, and adaptation, *Economic Geography*, 85: 129-150.
- Manning, C. D., Raghaven, P., and Schütze, H. (2008) *Introduction to Information Retrieval*, Cambridge University Press: Cambridge.
- Milonakis, D. and Fine, B. (2012) Interrogating sickonomics, from diagnosis to cure: A response to Hodgson, *Review of Social Economy*, 70: 477-491.
- Mirowski, P. (2002) *Machine Dreams: Economics Becomes a Cyborg Science*, Cambridge University Press: Cambridge.
- Morgan, J. and Sheehan, B. (2015) The concept of trust and the political economy of John Maynard Keynes, illustrated using central bank forward guidance and the democratic dilemma in Europe, *Review of Social Economy*, 73: 113-137.
- Nooteboom, B. (2002) *Trust: Forms, Foundations, Functions, Failures and Figures*, Cheltenham: Edward Elgar.
- Rizvi, S. A. T. (1994) Game theory to the rescue? Contributions to Political Economy, 13,1-28.
- Simon, H. A. (1991) Organizations and markets, *Journal of Economic Perspectives*, 5, 25-44.

- Spencer, D. A. (2000) The demise of radical political economy? An essay on the evolution of a theory of capitalist production, *Cambridge Journal of Economics*, 24, 543-564.
- Spencer, D. A. (2002) Shirking the issue? Efficiency wages, work discipline and full employment, *Review of Political Economy*, 14, 313-327.
- Stiglitz, J. (1993) Post Walrasian and Post Marxian economics, *Journal of Economic Perspectives*, 7, 109-114.
- Sugden, R. (2001) The evolutionary turn in game theory, *Journal of Economic Methodology*, 8: 113-130.
- Tweedie, R. L. (1975) Sufficient conditions for ergodicity and recurrence in Markov chains on a general state space, *Stochastic Processes and their Applications*, 3: 385-403.
- Veblen, T. B. (1969) *The Place of Science in Modern Civilization and Other Essays*, Capricorn Books: New York (originally published 1919)
- Williamson, O. E. (1993) Contested exchange versus the governance of contractual relations, *Journal of Economic Perspectives*, 7, 103-108.
- Williamson, O. E. (2000) The new institutional economics: taking stock, looking ahead, *Journal of Economic Literature*, 38, 595-613.