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DOI:

[10.1093/cje/bex048](https://doi.org/10.1093/cje/bex048)

Document Version

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Citation for published version (APA):

Pratten, S. B., Faulkner, P., & Runde, J. (2017). Cambridge Social Ontology: Clarification, Development and Deployment. *CAMBRIDGE JOURNAL OF ECONOMICS*, 41(5), 1265-1277. <https://doi.org/10.1093/cje/bex048>

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Cambridge Social Ontology: Clarification, Development and Deployment

Phil Faulkner, Stephen Pratten and Jochen Runde

1. Introduction

Social ontology—the study of the nature and basic structure of the social realm—is currently enjoying a period of sustained growth and development, both as a field of study in its own right and as a project concerned with under-labouring for a variety of different social scientific disciplines including economics. One of the most active streams in this area emanates from Cambridge and a group of researchers operating at the interface between social ontology and heterodox economics whose work is sometimes identified as Cambridge Social Ontology. The central figure in this project is Tony Lawson, whose work has provided much of the impetus for Cambridge Social Ontology over the last thirty years.

This Special Issue of the *Cambridge Journal of Economics* is intended to mark the contribution Lawson has made to the study of social ontology and to the application of its results to economics and the social sciences more widely. It does so by presenting a range of new papers whose authors were invited to engage with the work of Lawson and his colleagues in the Cambridge Social Ontology project. The intention was to encourage new work, whether it be critical or constructive in orientation, and thereby hopefully to advance the themes that Lawson has pursued over the course of his career.

Very broadly, the greater part of Lawson's writings are split between identifying and explaining the problems of mainstream economics, and contributing to the project of constructing a viable alternative. With respect to the former, the broad thrust of his critique is that the widely recognised explanatory failures and lack of realisticness of the discipline are ultimately due to a pervasive ontological neglect. He argues that the profession, operating with a flawed conception of scientific method, has been more concerned to be seen to conform to proper scientific method than to ensuring that its tools of analysis are appropriate to the nature of the material under investigation. Lawson has led the way in showing how the neglect of ontological issues and accompanying scientism made the failings of modern economics pretty much inevitable.

The alternative, constructive programme Lawson sets out is guided by the idea that method and substantive theory can benefit from explicit, systematic and sustained social ontology. This constructive programme sees advances in method, substantive theory and ontology as best produced together with developments in each informing the others.

Lawson's own work tackles many different aspects of social ontology. As well as demonstrating the viability and significance of ontological analysis of the social realm in general terms, Lawson offers a particular socio-ontological conception—what he calls a *socio-philosophical* ontology—concerned with accommodating all phenomena of the social realm. He has contrasted this account with prominent alternatives,¹ and explored its implications for understanding methodological strategies and prominent contemporary and historical projects and contributions in economics (see Lawson 1997a, 2003a and 2015f). Most recently he has developed conceptions of certain key social existents (in his terms undertaken projects in *socio-scientific* ontology) including the corporation, money, gender, technology, power and institutions (see respectively, Lawson 2015d, 2016a, 2007, 2014, 2016d and 2015c).

Lawson has devoted considerable energy over the years to the dissemination of his ideas. This activity has taken various forms, including a string of publications demonstrating why and how ontology matters for heterodox economists, economic methodologists and historians of economic thought (Lawson 1992, 1994e, 1994c, 1996a, 2001e, 2004c, 2005c, 2006 and 2015e) and setting up and leading two of the main institutions that support Cambridge Social Ontology, namely the *Cambridge Realist Workshop* and, more recently, the *Cambridge Social Ontology Group*. The Cambridge Realist Workshop has been running continuously since October 1990 and provides a testing ground for new research in heterodox economics, especially that with an explicit philosophical or methodological focus. The Cambridge Social Ontology Group, established in October 2002, aims more specifically to advance social ontology. Both initiatives have had international impact in the generation of new research.²

As its title suggests, the collection of papers in this Special Issue aims to clarify, develop and deploy some of the ideas advanced by Lawson and the Cambridge group. Authors were asked to provide contributions in specific areas of social ontology and encouraged to build on topics suggested by, constructively criticize positions defended in, or apply the results of Lawson's various contributions. Proposed topics included emergence, power, human flourishing, community, norms, rules, custom and convention, identity, uncertainty,

¹ See especially Lawson (2015a). One of the most prominent alternatives to the Cambridge approach is that developed by John Searle and his colleagues at the University of California, Berkeley. The Berkeley Social Ontology Group (BSOG as it is known) is run on similar lines to its Cambridge counterpart, and there are close links between the two groups. See Lawson (2012a and 2016c) for comparison of the two programmes.

² For a brief history of the Realist Workshop and the Cambridge Social Ontology Group see Pratten (2015). For further background on the development of the Cambridge group see the interviews with Tony Lawson in Hirsch and DesRoches (2009) and Dunn (2009).

technology, money, gender, markets, the corporation, institutions and development. The papers that were submitted for the special issue all went through the usual *Cambridge Journal of Economics* review process.

To provide some context for the papers that were accepted for publication, we begin with a brief overview of Lawson's contribution in which we distinguish three broad, if sometimes overlapping, stages in the development of his ideas. This is followed by a section in which we provide short descriptions of the individual contributions, arranged in rough accordance with the order in which the subjects they address came to the fore in Lawson's work.

2. Social Ontology and the Contribution of Tony Lawson

The first stage of Lawson's contribution comprises two strands, one concerned with the labour process, (industrial) power relations (especially paternalism) and UK industrial decline (Kilpatrick and Lawson, 1980; Lawson 1981b), the other with the theorisation of knowledge. The latter strand focuses on conceptions of knowledge, the manner of its transformation, probability, modelling, uncertainty and expectations (Lawson 1980, 1981a, 1983, 1985a, 1985b, 1987, 1988), as well as on processes (including paradoxes) of confirmation (Lawson 1985c). This second, knowledge-oriented, strand is the more philosophically oriented of the two and while there were few explicit references to ontology at this stage, it connects most obviously with the work that came later.³

The second stage of Lawson's work marks his turn towards explicit and systematic ontological theorizing. While his earlier work was already critical in nature, especially with respect to specific forms of mathematical economic modelling, in this second stage he began to mount a full scale, ontologically informed, critique of mainstream economics and its reliance on mathematical modelling. This work also comprises two parts. The first constructs a socio philosophical ontology already mentioned above, an account of the general nature of all of social reality (Lawson 1997a, 2003a, 2012a, 2015a and 2016b). The second part shows that the dominant methods of mainstream economics presuppose an implicit ontology quite inconsistent with Lawson's own or any realistic conception (Lawson 1997a, 1997d, 2001b, 2001f, 2003a, 2004a, 2005b, 2005c, 2009b and 2015f). The two parts together provided the foundations for both his explanation of the failings of modern economics and the

³ From time to time Lawson has returned to the former studies as a way of illustrating particular methodological issues (see Lawson, 1997a, chapter 15 and 1998, 2014).

development of an alternative and potentially more fruitful approach to social theorizing/science and ethics.⁴

The ensuing work has been developed in numerous directions. One has focused on fashioning alternative methods of analysis consistent with his social ontology, the centrepiece of which is a dialectical account of contrast explanation (Lawson, 2003a, chapter 4, 2008 and 2009a). Another has focused on providing arguments for a greater integration of separate strands of social theorising, with a view to promoting a single social science with economics serving at best as a division of labour within it (Lawson, 2003a, chapter 6). And yet another involves various projects in the history of the discipline. These include articulating a programme for studying the place of ontology in the history of economic thought (see Lawson, 2015e and Arena and Lawson, 2015), developing a history of how economics arrived at its current state with mathematical methods so dominant (Lawson, 2001c, 2003a, chapter 10 and 2016b), and investigating and revealing the ontological presuppositions of earlier contributors—Kaldor, Keynes, Hayek, Menger, Veblen and Marx amongst others—and examining the extent to which these coincide with his own account of social ontology (he finds the overlap is greatest with Veblen, Keynes, Marx and the later Hayek, see Lawson, 1989a, 1985b, 1991, 1993, 1994f, 1995a, 1996b, 1997a, 1997b, 2002, 2003e and 2015e).

Lawson has also devoted considerable effort to examining the nature of modern heterodox economics (Lawson 1994a, 1994b, 2005a, 2006, 2007c), arguing that the most prominent contemporary heterodox traditions are broadly united in their (often implicit) ontological commitments, and that these are generally consistent with the social ontology he defends. The differences between these traditions, he argues, lie in the various emphases adopted and questions and concerns pursued (Lawson, 2006). There remain, however, some notable points of dispute on ontological matters with certain heterodox traditions. For example, while acknowledging how much he has learned from feminist economics, Lawson has devoted considerable effort to persuading feminist economists who have sought to distance themselves from explicit ontological theorising that they are making a mistake (Lawson, 1999a, 2003b, 2003c). Further, he worries that the emphasis on mathematical modelling in

⁴ During the course of the second stage Lawson joined with others from different disciplines but working on similar lines under the banner of *critical realism* (Margret Archer in Sociology, Alan Norrie in Law, Andrew Collier and Roy Bhaskar in Philosophy). This group formed the *Centre for Critical Realism* and the *International Association for Critical Realism*, which led many to associate the work of Lawson and those linked with it as *critical realism in economics* (see in particular Fleetwood, 1999, Lewis, 2004, Downward, 2003). However, the projects pursued by Lawson and the Cambridge group on the one hand and those pursued within critical realism on the other developed in different ways over the years, and Lawson now tends to avoid the label and to argue that clarity is best served by elaborating precisely what each project involves rather than presuming that all fit neatly within a single homogeneous framework (see Hirsch and DesRoches 2009).

some parts of heterodox economics is misguided. Lawson's recent study of Veblen's notion of the term neoclassical is interesting here, where he proposes the term be interpreted as referring to an inconsistency between a conception of social reality that is along the lines that Lawson defends (as open, processual, and relational, etc.,) on the one hand, and the use of methods Veblen terms taxonomic that are concerned with empirical/surface regularities that are quite inconsistent with that conception on the other. On this interpretation, of course, there are heterodox economists who use the term neoclassical in a pejorative sense but are themselves guilty of this very inconsistency.

In sum, then, the second stage of Lawson's contribution is his elaboration of a broad socio-philosophical ontology and drawing out its implications for all aspects of social theorizing.

The third stage, consisting of his most recent and ongoing contributions, sees Lawson pursuing various projects in socio-scientific ontology, drawing on his account of general social philosophical ontology to theorise specific social existents such as money (Lawson 2016a), gender (Lawson 2007a), trust (2001a), technology (Lawson 2014), institutions (Lawson 2015c), the corporation (Lawson 2015d and 2015g) and power (2012a, 2015a, 2015d, 2016b, and especially 2016d). The guiding theme in these contributions is Lawson's conception of social positioning by which people and other kinds of entities become positioned as components of emergent social systems or totalities, with their capacities harnessed to serve as functions of those systems. In developing his account of emergent social systems Lawson emphasises in particular the errors, as he sees them, of causal reductionism and versions of downward causation (see Lawson 2013 and 2013d). He places particular emphasis on positional power, and so of powers that are properties of systems or organisations.

3. The papers in this special issue

As we have already noted, the papers in this Special Issue are arranged in rough accordance with the order in which the subjects they address came to the fore in Lawson's contributions. The overall coverage is inevitably somewhat partial and understandably the request for authors to engage with Lawson's work elicited rather more papers concentrating on his most recent contributions. Nevertheless, taken as a whole the papers represent a collection that serves to highlight many of the most important themes in Lawson's writings.

Stage 1 - Probability and Uncertainty

Lawson's early work on knowledge, especially probability and fundamental uncertainty (Lawson 1985a, 1985b, 1987, 1988, 1989b), provides the background to the first paper "Unknowns, Black Swans and the risk/uncertainty distinction" by Phil Faulkner, Alberto Feduzi and Jochen Runde. In the first part of the paper Faulkner, Feduzi and Runde develop a detailed conceptual framework for thinking about different kinds of uncertainty, within which the notions of known unknowns and unknown unknowns, associated with Donald Rumsfeld (2002, 2011), and Black Swans, associated with Nassim Taleb (2007), are then located and the links between them explored. The second part of the paper focuses on Lawson's Keynes-inspired interpretation of uncertainty, exploring some of the links between this and related notions such as weight of evidence and the ideas of Rumsfeld and Taleb (ideas never explicitly addressed by Lawson, or indeed Keynes or Knight).

Stage 2 - Cambridge social ontology and its consequences

We have seen how Lawson's social philosophical ontology and the way he has used this to critique certain practices of modern economics, have grounded various different lines of research. Some of these lines of research are taken up in the following papers.

Ismael Al-Amoudi and John Latsis in their paper 'The Limits of Ontological Critique: from Judgemental Rationality to Rationality' observe that whilst the Cambridge Social Ontology project has attracted significant attention and engagement from heterodox economists and those specialising in the philosophy and methodology of economics (for one collection bringing together such responses and Lawson's replies, see Fullbrook, 2009), it has been largely ignored by mainstream economists. Why so? Al-Amoudi and Latsis suggest that the framework developed by the French Convention School, with its concern with notions of situated judgement and the construction of legitimacy, provides a compelling perspective from which to address this question. They argue that proponents of the Cambridge project need to pay more attention to how justification is constructed. This leads them to discuss in some detail, using the French Convention School framework, how justification proceeds in the Cambridge Social Ontology project and mainstream economics. The paper concludes with some reflections on how the critique of the mainstream could be extended and deepened.

Lawson's critique of mainstream economics is also the subject of Nuno Martins' "Critical Ethical Naturalism and the Transformation of Economics". Martins argues that Lawson's moral theorizing provides a useful lens through which to view his attempts at transforming the discipline of economics. Martins begins by carefully describing Lawson's theory of ethics, a position known as Critical Ethical Naturalism that is grounded in the notion that

morally good actions are those aimed at removing obstacles to human flourishing (see Lawson 2001a, 2013c, 2015b and 2017; for relevant background also see Martins, 2014). Having outlined the connections between this and Lawson's broader socio-philosophical ontology, Martins then highlights implications of Lawson's ethics for a number of different topics within the fields of meta-ethics, ethical theory and applied ethics. The last of these brings Lawson's critique of mainstream economics into focus, with Martins arguing that with the mainstream paradigm understood as a barrier to human development we can appreciate his call for the wholesale transformation of economics as being wholly of a piece with his broader ethical, as well as ontological, framework.

Paul Lewis' paper "Ontology and the history of economic thought: the case of anti-reductionism in the work of Friedrich Hayek" provides a good example of a study in the history of economic thought that focuses on the ontological presuppositions of a well-known author. Lewis traces the increasingly prominent role of the concept of emergence in the arguments against reductionism in Hayek's postwar work on theoretical psychology and social theory. While Hayek's opposition to reductionism was primarily on computational grounds in his work on theoretical psychology—based on his view about the inability of classificatory systems such as the mind fully to explain themselves—Lewis shows that, by the 1960s, Hayek was advancing a more explicitly "emergentist" case against reductionism in his social theory. Lewis argues that this involved the use of an increasingly sophisticated set of ontological categories relating to organising relations underpinning higher-level system properties, and which enabled Hayek to integrate important themes in his work such as the notions of spontaneous order and evolution.

The contribution of Dimitris Milonakis "Formalising Economics: Social Change, Values, Mechanics and Mathematics in Economics Discourse" complements and provides a partial critique of Lawson's history of the rise to dominance of mathematical economics. Lawson has specifically defended an evolutionary account of this episode (2003a, chapter 10 and 2016b) and Milonakis explores a number of the social, economic, political and institutional factors involved in the process, including some which he suggests are neglected or downplayed in Lawson's account.

We noted earlier Lawson's work on the identification of methods that are appropriate to investigating the nature of social reality as uncovered in his ontological analysis. In this regard Lawson has explored the nature of dialectical explanatory approaches and examined in detail the specific form that is contrast explanation (see Lawson, 2003a, chapter 4, 2008 and 2009a). Lawson himself has considered how contrast explanation relates to certain other

methodological strategies focussing in particular on the links with feminist standpoint theory (see Lawson, 2007b).⁵ Morgan and Patomaki in “Contrast explanation in economics: its context, meaning and potential” examine Lawson’s treatment of contrast explanation in the context of its earlier elaboration by van Fraassen and Garfinkel. By considering the development of contrast explanation by others in the philosophy of science and social theory they highlight what is distinctive and valuable about Lawson’s approach.

Stage 3 – Specific social existents

The final set of papers relate to Lawson’s recent work aimed at developing systematic accounts of particular social existents that are consistent with his broader social ontological conception. As already noted, the process of social positioning is a central and distinctive part of Lawson’s analysis that features prominently in these more substantive accounts.

Stephen Pratten in “Trust and the Social Positioning Process” notes that Lawson, while emphasizing the importance of trust and describing it as the glue binding society together, has yet to set out his account of trust as systematically as he has other categories associated with his ontological framework. Pratten considers three phases of argumentation where Lawson focuses on trust, shows that a consistent and coherent account of trust emerges and also identifies certain complementary perspectives that could be drawn upon to develop Lawson’s account further.

In “Materialising Social Ontology” Dave Elder-Vass considers the role of (non-human) material entities – essentially physical objects and devices – in the ontology of larger social structures. Drawing on the work of Tony Lawson (Lawson 2012a) and particularly that of Lawson’s Cambridge colleagues Phil Faulkner and Jochen Runde (2009, 2013a, and 2013b) and Clive Lawson (2007, 2008, 2010 and 2017), Elder-Vass theorises what he calls “socio-technical structures”, whereby material entities and human beings combine to form systems whose causal powers depend jointly on the causal powers of their component parts and the relations and interactions between those parts. In addition to the aforementioned Cambridge contributors, Elder-Vass also contrasts aspects of his account with the work of Wanda Orlikowski, Bruno Latour and Manuel DeLanda.

John Searle, in a paper entitled “Money: ontology and deception”, provides his most substantial discussion yet of the place of money within his well-known theory of social reality (see especially Searle, 1995 and 2010). While much of what Searle has to say about

⁵ This discussion of the links between contrast explanation and standpoint theory is just one element of a much broader engagement with feminist theory, see Lawson, 1999, 2003b, 2003c, 2007a.

the functions and “deceptions” of money will be familiar to economists, he goes deeper than standard economic accounts by proposing a set of conditions, none of which involve monetary concepts, that are required for a community to have the institution of money and for an individual within that community to have a certain amount of money. He goes on to provide a critical commentary on Lawson’s recent account of the nature of money published in this journal (Lawson 2016a) in an Appendix to the paper.

Lawson’s recent work on the nature of money is also the focus of Mark Peacock’s paper “The Ontology of Money”. Here Peacock explores the compatibility between Lawson’s account and credit theories of money, homing in especially on what credit theorists might make of Lawson’s contention that monetary notes and coins are most appropriately classified as being other than money “proper”. Peacock also reflects on the historical example of tobacco money that Lawson draws on when considering the need to accommodate the commodity theory within a broader analysis of the ontology of money.

The following two papers critically engage with Lawson’s account of the modern corporation (Lawson 2015d and 2015g). Jeroen Veldman and Hugh Wilmott in “Social Ontology and the Corporation” maintain that the social ontology of the modern corporation is radically contingent and inescapably contested. They explore the coherence of Lawson’s argument that the corporation is a community that goes through a complex process of multiple positioning, suggesting that he pays insufficient attention to the corporation and the separate legal entity as social constructs.

Simon Deakin in “Tony Lawson’s Theory of the Corporation: Towards a Social Ontology of Law” takes the recent exchange between Tony Lawson and John Searle over the nature of the corporation as a starting point and considers how ontological analysis can be useful in resolving long standing debates regarding the nature of business firms and the way they are structured by legal concepts. Deakin argues that further progress with clarifying the nature of the corporation requires the elaboration of a social ontology of the legal system itself.

The special issue closes with Doug Porpora’s paper “Tony Lawson from a Sociological Point of View”. Here Porpora spells out what he regards as some of Lawson’s seminal contributions and then uses these as a backdrop against which to explore two issues that according to Porpora look rather different from a sociological point of view. The first concerns questions of methodology, specifically Lawson’s notion of demi-regs and his views on the usefulness of analytical statistics in social research (an issue on which Porpora and Lawson disagree). The second concerns Lawson’s social ontology. Here Popora revisits and revises earlier arguments he had made about Lawson being too subjectivist in the sense of

overemphasizing intersubjective relations of which actors are aware at the expense of what Popora, following Lenin (1970), calls material relations that exist independently of actors' awareness. Popora agrees with Lawson that material relations are less ontologically fundamental than Lawson's rights and obligations, but maintains that they may be equally important causally and therefore deserving of a more prominent role than they are given in Lawson's social ontology.

4. Conclusion

The central message in Tony Lawson's writings is that ontology is unavoidable in science and that explicit and sustained attention to ontology is a pressing need within the social sciences, and economics in particular. No one has done more to drive these points home. As Edward Fullbrook (2009: 1) has observed:

“[Tony Lawson's] chapter, “A Realist Theory for Economics”, published in [a ...] 1994 landmark collection *New Directions in Economics Methodology*, [an edited volume containing papers by the most prominent contributors of the time] stands out like someone standing alone at a party. As recently as then the ideas of three thinkers, none of them economists, none social scientists and all of them dead, dominated economics' literature on methodology. The index [to the collection] lists 47 pages that refer to Thomas Kuhn, 69 to Karl Popper and 73 to Imre Lakatos. Twelve of the book's sixteen chapters (excluding Lawson's) refer to one or more of the three and eight, as well as the back cover, to all three. Lawson does not refer to any of them. More significant, Lawson's key reference point is ontology, a word that, except in the Introduction when [the volume's editor] is introducing his collection's odd man out, appears in none of the other chapters. Notably, when Lawson first uses “ontology” he feels it necessary, despite his highly specialized audience, to explain what the word means:

Thirteen years later and anyone in economics who knows anything about methodology knows what “ontology” means.” (Edward Fullbrook, 2009: 1)

Substantial encouragement can be taken from the greater awareness of ontology highlighted by Fullbrook, as well as the many advances in social ontology made over the last thirty years that are having an increasing impact in economics and throughout social theory more widely. Nevertheless there is still work to be done. Of most concern, perhaps, is the continued reluctance of mainstream economics to even acknowledge, let alone engage in and recognise the significance of, ontological arguments. It is then difficult for the kind of arguments Lawson has made against the mainstream, highlighting the mismatch between its methods and subject matter, to find much purchase. And this last problem is not limited to the mainstream: there are heterodox economists who continue to favour methods that seem at variance with ontological insights they themselves would recognise.

In the midst of all this Lawson remains resolute in arguing that the goal of an efficacious and ultimately emancipatory discipline of economics, one grounded in the results of the kind of explicitly ontologically-oriented project he has pursued over the years, remains feasible. We hope that the papers published in this issue—both those generally supportive as well as those critical of aspects of Lawson’s approach—will be a small contribution towards this goal and demonstrate the centrality of social ontology for the productive transformation of economics in particular and social theorising more widely.

REFERENCES

- Al-Amoudi, I and Latsis, J, 2017. The Limits of Ontological Critique: from Judgemental Rationality to Rationality. *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, Vol 41, No 5.
- Arena, R and Lawson, T, 2015. Introduction to Special Issue on *Contributions to the History of Ontological Thinking in Economics*, *Cambridge Journal of Economics*, Vol 39, No 4.
- Deakin, S, 2017. Tony Lawson’s Theory of the Corporation: Towards a Social Ontology of Law, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, Vol 41, No 5.
- Downward, P, ed, 2003. *Applied Economics and the Critical Realist Critique*, London, Routledge.
- Dunn, S, 2009. Cambridge Economics, Heterodoxy and Ontology: An interview with Tony Lawson, *Review of Political Economy*, Vol 21, No 3, 481-496.
- Elder-Vass, 2017. Materialising Social Ontology, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, Vol 41, No 5.
- Faulkner, P and Runde, J, 2009. On the identity of technological objects and user innovations in function, *Academy of Management Review*, Vol 34, No 3, 442-462.
- Faulkner, P and Runde, J, 2013a. ‘On Sociomateriality’ in P. M. Leonardi, B. A. Nardi and J. Kallinkos, eds, *Materiality and Organizing: Social Interaction in a Technological World*, Oxford, Oxford University Press.
- Faulkner, P and Runde, J, 2013b. Technological Objects, Social Positions and the Transformational Model of Social Activity, *Management Information Systems Quarterly*, Vol 37, No 3, 803-818.
- Faulkner, P., Feduzi, A. and Runde, J. 2017. Unknowns, black swans and the risk/uncertainty distinction, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.
- Fleetwood, S, ed, 1999. *Critical Realism in Economics: Development and Debate*, London, Routledge.
- Fullbrook, E, ed. 2009, *Ontology and Economics*, London, Routledge.
- Hirsch, C, and DesRoches, C, T, 2009. ‘Cambridge Social Ontology: an interview with Tony Lawson, *Erasmus Journal for Philosophy and Economics*, Volume 2, Issue 1, Summer 2009, pp. 100-122. <http://ejpe.org/pdf/2-1-int.pdf>
- Keynes, J. M. 1921 [1973]. A Treatise on Probability, *The Collected Writings of John Maynard Keynes*, vol. VIII, London, Macmillan
- Kilpatrick, A, and Lawson, T, 1980. On the nature of Industrial Decline in the UK, *Cambridge Journal of Economics*, Vol 5, pp 311-326.

- Lawson, C, 2007. 'Technology, technological determinism and the transformational model of social activity' in C. Lawson, J. Latsis and N. Martins, eds *Contributions to Social Ontology*, Routledge, London.
- Lawson, C, 2008. An Ontology of Technology, *Techne*, Vol 12, No 1, 48-64.
- Lawson, C, 2010. Technology and the Extension of Human Capabilities, *Journal for the Theory of Social Behaviour*, Vol 40, No 2, 207-223.
- Lawson, C, 2017. *Technology and Isolation*, Cambridge, Cambridge University Press.
- Lawson, T. 1980, Adaptive Expectations and Uncertainty, *The Review of Economic Studies*, vol. 47 (2), 305-320.
- Lawson, T. 1981a. Keynesian model building and the rational expectations critique', *Cambridge Journal of Economics*, 5(4), 311-326.
- Lawson, T. 1981b. 'Paternalism and Labour Market Segmentation Theory', in F. Wilkinson, ed., *Dynamics of Labour Market Segmentation*, London, Academic Press.
- Lawson, T. 1983. Different Approaches to Economic Modelling, *Cambridge Journal of Economics*, Vol 7, 77-84.
- Lawson, T. 1985a. Uncertainty and Economic Analysis, *Economic Journal*, vol. 95, pp. 909-27.
- Lawson, T. 1985b. 'Keynes, Prediction and Econometrics', in T. Lawson and H. Pesaran, eds, *Keynes' Economics: Methodological Issues*, Croom Helm, Beckenham.
- Lawson, T. 1985c. The Context of Prediction (and the Paradox of Confirmation), *The British Journal for the Philosophy of Science* 36:393-407, March
- Lawson, T. 1987. The Relative/Absolute Nature of Knowledge and Economic Analysis, *Economic Journal*, vol. 97, 951-70
- Lawson, T. 1988. Probability and Uncertainty in Economic Analysis, *Journal of Post Keynesian Economics*, vol. 11, pp. 38-65
- Lawson, T. 1989a, Abstraction, Tendencies and Stylised facts: A realist approach to economic analysis, *Cambridge Journal of Economics*, Vol 13, No 1, 59-78.
- Lawson, T. 1989b. Realism and instrumentalism in the development of econometrics, *Oxford Economic Papers*, vol. 41, no. 1, 236-258.
- Lawson, T. 1991. 'Keynes and the Analysis of Rational Behaviour' in R. M O'Donnell, ed, *Keynes as Philosopher-Economist*, London, Macmillan.
- Lawson, T. 1992. Realism, Closed Systems and Friedman, *Research in the History of Economic Thought and Methodology*, Vol 10, 149-169.
- Lawson, T. 1993. Keynes and Conventions, *Review of Social Economy*, Vol 51, no 2, 174-200.
- Lawson, T, 1994a. The nature of Post Keynesianism and its links to other traditions, *Journal of Post Keynesian Economics*, Vol 16, No 4.
- Lawson, T, 1994b. Critical Realism and the Analysis of Choice, Explanation and Change, *Advances in Austrian Economics*, Vol 1, No 1, 3-30.
- Lawson, T. 1994c. 'A Realist Theory for Economics', in R. Backhouse, ed, *New Directions in Economic Methodology*, London, Routledge.
- Lawson, T. 1994d. Why are so many economists so opposed to Methodology? *Journal of Economic Methodology*, Vol 1, no 1, 105-33.
- Lawson, T. 1994e. 'Realism and Hayek: a case of continuous transformation' in M. Colonna, H. Hagemann, and O. Hamouda, eds, *Capitalism, Socialism and Knowledge: The Economics of F. A Hayek, Vol II*, Aldershot, Edward Elgar.
- Lawson, T, 1995a. 'Expectations and Economics' in S. Dow and J. Hillard, eds, *Keynes, Uncertainty and Knowledge*, Cheltenham, Edward Elgar.
- Lawson, T, 1995b. The 'Lucas Critique': A Generalisation, *Cambridge Journal of Economics*, Vol 19, No 2, 257-276.

- Lawson, T. 1995c, A Realist Perspective on Contemporary Economic Theory, *Journal Economic Issues*, Vol 29, No 1, 1-32.
- Lawson, T. 1996a. 'On Criticising the Practices of Economists: a case for interventionist methodology' in A. Salanti, ed, *Pluralism in Economics*, Cheltenham, Edward Elgar.
- Lawson, T. 1996b, Hayek and Keynes: A Commonality, *History of Economics Review*, 96-114.
- Lawson, T. 1996c. 'The Predictive Science of Economics?' in S. Medema, and W. Samuels, eds, *How Should Economists do Economics?*, Cheltenham, Edward Elgar.
- Lawson, T. 1996d. Developments in Economics as Realist Social Theory, *Review of Social Economy*, Vol LIV, No 4, 405-22.
- Lawson, T. 1997a. *Economics and Reality*, London, Routledge.
- Lawson, T. 1997b. 'Development in Hayek's Social Theorising' in S. Frowen, ed, *Hayek Economist and Social Philosopher: A critical retrospect*, London, Macmillan.
- Lawson, T. 1997c. Situated rationality, *Journal of Economic Methodology*, Vol 4, No 1, pp 101-125.
- Lawson, T. 1997d. 'Horses for Courses', in P. Arestis, G. Palma and M. Sawyer, eds, *Markets, Unemployment and Economic Policy: Essays in Honour of Geoff Harcourt*, Volumke II, London, Routledge.
- Lawson, T. 1998a. 'Social Relations, Social Reproduction and Stylised Facts' in P. Arestis, ed, *Essays in Honour of Paul Davidson*, Vol 3, Cheltenham, Edward Elgar.
- Lawson, T. 1998b. Clarifying and Developing the *Economics and Reality* Project, *Review of Social Economy*, Vol 56, No 3, 356-375.
- Lawson, T. 1999a. Feminism, Realism and Universalism, *Feminist Economics*, Vol 5, No 2, 25-59.
- Lawson, T. 1999b. What has realism got to do with it? *Economics and Philosophy*, Vol 15, 269-282.
- Lawson, T. 1999c. Connections and Distinctions: Post Keynesianism and Critical Realism, *Journal of Post Keynesian Economics*, Vol 22, No 1, 3-14.
- Lawson, T. 2001a. 'Evaluating trust, competition and cooperation: a realist perspective', in Y. Shionoya et al, (eds.), *Competition, Trust and Cooperation*, New York, Springer.
- Lawson, T. 2001b. Two responses to the Failings of Modern Economics: the instrumentalist and the Realist, *Review of Population and Social Policy*, No 10, 1-27.
- Lawson, T. 2001c. The Varying Fortunes of the Project of Mathematising Economics, *European Journal of Economic and Social Systems*, Vol 15, No 4, pp 241-268.
- Lawson, T. 2001d. Why should economists including (Old) Institutionalists be interested in Critical Realism? in Y. Aruka, ed, *Evolutionary Controversies in Economics: a New Transdisciplinary Approach*, Berlin, Springer Verlag.
- Lawson, T. 2001e, Economics and Explanation, *Revue Internationale Philosophie*, Vol 3, No 2, 371-93.
- Lawson, T. 2001f. 'Mathematical Formalism in Economics: what really is the Problem?' in P. Arestis and S. Dow, eds, *Methodology, Microeconomics and Keynes*, London, Routledge.
- Lawson, T. 2002. 'Should Economics be an Evolutionary Science? Veblen's concern and philosophical legacy, *Journal of Economic Issues*, Vol 36, No 2, 279-92.
- Lawson, T. 2003a. *Reorienting Economics*, London, Routledge.
- Lawson, T. 2003b. Ontology and Feminist Theorising, *Feminist Economics*, 9(1):119-150, March.
- Lawson, T. 2003c. Theorising Ontology, *Feminist Economics*, 9(1):161-169, March.
- Lawson, T. 2003d. Institutionalism: on the need to firm up notions of social structure and the human subject, *Journal of Economic Issues*, Vol 37, No 1, 175-207.

- Lawson, T. 2003e. 'Keynes's Realist Orientation' in J. Runde and S. Mizuhara, eds, *Perspectives on the Philosophical Underpinnings of Keynes's Economics: Probability, Uncertainty and Convention*, London, Routledge.
- Lawson, T. 2004a. 'Modern Economics: the problem and a Solution' in E. Fullbrook, ed, *A Guide to What's Wrong with Economics*, London, Anthem Press.
- Lawson, T. 2004b. Reorienting Economics: On heterodox economics, themata and the use of mathematics in economics, *Journal of Economic Methodology*, Vol 11, No 3.
- Lawson, T. 2004c. 'Philosophical under-labouring in the context of modern economics: aiming at truth and usefulness in the meanest of ways', in J. B. Davis A. Marciano, and J. Runde, eds, *The Elgar Companion to Economics and Philosophy*, Cheltenham, Edward Elgar.
- Lawson, T. 2005a. The Nature of Institutional Economics, *Evolutionary and Institutional Economic Review*, Vol 2, No 1.
- Lawson, T. 2005b. The (confused) state of equilibrium analysis in modern economics: an explanation, *Journal of Post Keynesian Economics*, Vol 27, No 3, 423-44..
- Lawson, T. 2005c. Reorienting History (of Economics), *Journal of Post Keynesian Economics*, Vol 27, No 3, 455-71.
- Lawson, T. 2005c. 'A Perspective on Modern Economics', in G. Steinmetz, ed, *The Politics of Method in the Human Sciences*, Durham, USA, Duke University Press.
- Lawson, T. 2006. The Nature of Heterodox Economics, *Cambridge Journal of Economics*, Vol 30, No 4, 483-505.
- Lawson, T. 2007a. 'Gender and Social Change' in J. Brown (ed.) *The Future of Gender*, Cambridge, Cambridge University Press.
- Lawson, T. 2007b. Methodological Issues in the Study of Gender, *Journal of International Economic Studies*, No 21, 1-16.
- Lawson, T. 2007c. An Orientation for a Green Economics, *The International Journal of Green Economics*, Vol 1, No 3/ 4, pp 250-67.
- Lawson, T. 2008. 'Popper and Social Explanation', in T. Boylan and P. O'Gorman, eds, *Popper and Economic Methodology: Contemporary Challenges*, London, Routledge.
- Lawson, T. 2009a. Applied Economics, Contrast Explanation and Asymmetric Information, *Cambridge Journal Economics*, Vol 33, No 3, 405-20.
- Lawson, 2009b. The Current Economic Crisis: Its Nature and the Course of Academic Economics, *Cambridge Journal of Economics*, Vol 33, No 4, 759-777.
- Lawson, T. 2010a. 'Varieties of Internal Critique' in S. Zambelli, ed, *Computable, Constructive and Behavioural Economics Dynamics: Essays in Honour of Kumaraswamy Velupillai*, London, Routledge.
- Lawson, T. 2010b. 'Ontology, Modern Economics and Pluralism' in R. Garnett, E. Olsen and M. Starr, eds, *Economic Pluralism*, Routledge, London.
- Lawson, T. 2011. 'Anti-realism or pro-something else? Response to Deichsel, *Erasmus Journal for Philosophy and Economics*, Vol 4, issue 1, 53-66.
- Lawson, T. 2012a. Ontology and the Study of Social Reality: Emergence, Organisation, Community, Power, Social Relations, Corporations, Artefacts and Money, *Cambridge Journal of Economics*, Vol 36, No 2, pp 345-87.
- Lawson, T. 2012b. Mathematical Modelling and Ideology in the Economics Academy: competing explanations of the failings of the modern discipline, *Economic Thought*, Vol 1, 3-22.
- Lawson, T. 2013a. 'Emergence, morphogenesis, causal reduction and downward causation', in M. S. Archer (ed.), *Social Morphogenesis*, New York, Springer.
- Lawson, T. 2013b. What is this 'School' called neoclassical economics? *Cambridge Journal Economics*, Vol 37, no 5.

- Lawson, T, 2013c. Ethical Naturalism and Forms of Relativism, *Society*, Vol 50, pp 570-575.
- Lawson, T, 2013d. 'Emergence and Social Causation', in R. Groff and J. Creco, eds, *Powers and Capacities in Philosophy: the New Aristotelianism*, London, Routledge.
- Lawson, T. 2013e. Soros's Theory of Reflexivity: A critical comment, *Revue de Philosophie Economique*, Vol 14, No 1, 29-48.
- Lawson, T, 2014. 'A Speeding Up of the Rate of Social Change? Technology, Resistance, Globalisation and the Good Society' in M. S. Archer (ed.), *Late Modernity: Trajectories towards Morphogenic Society*, New York, Springer.
- Lawson, T, 2015a. 'A Conception of Social Ontology', in S. Pratten (ed.) *Social Ontology and Modern Economics*, London, Routledge.
- Lawson, T, 2015b. 'Critical Ethical Naturalism: an orientation to ethics' in S. Pratten (ed.) *Social Ontology and Modern Economics*, London, Routledge.
- Lawson, T, 2015c. 'What is an Institution' in S. Pratten (ed.) *Social Ontology and Modern Economics*, London, Routledge.
- Lawson, T, 2015d. The nature of the firm and the peculiarities of the corporation, *Cambridge Journal of Economics*, Vol 39, No 1, pp 1-32.
- Lawson, T, 2015e. Process, order and stability in Veblen, *Cambridge Journal of Economics*, Vol 39, No 4, 993-1030.
- Lawson, T, 2015f. *Essays on the Nature and State of Modern Economics*, London, Routledge.
- Lawson, T, 2015g. 'The Modern Corporation: The site of a mechanism (of global social change) that is out of control' in M. Archer, ed, *Social Morphogenesis: Generative Mechanisms Transforming late Modernity*, Berlin, Springer.
- Lawson, T, 2016a. Social Positioning and the Nature of Money, *Cambridge Journal of Economics*, Vol, No 4, pp 961-996.
- Lawson, T, 2016b. 'Collective Practices and Norms', in M.S. Archer (ed.) *Morphogenesis and Normativity*, New York, Springer.
- Lawson, T, 2016c. Comparing Conceptions of Social Ontology: Emergent Social Entities and/or Institutional Facts? *Journal for the Theory of Social Behaviour*, Vol 46, No 4, pp 359-399.
- Lawson, T, 2016d. Ontology and Social Relations: Reply to Doug Porpora and to Colin Wight, *Journal for the Theory of Social Behaviour*, 46 (4): 438-449.
- Lawson, T, 2017. 'Eudaimonic Bubbles, Social Change and the NHS', in M. S. Archer, (ed.), *Morphogenesis and Human Flourishing*, New York, Springer.
- Lewis, P, ed, 2004. *Transforming Economics, Perspectives on the critical realist project*, London, Routledge.
- Lewis, P, 2017. 'Ontology and the History of Economic Thought: The case of Anti-Reductionism in the work of Frederick Hayek', *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.
- Martins, N, 2014. *The Cambridge Revival of Political Economy*, London, Routledge.
- Martins, N, 2017. Critical Ethical Naturalism and the Transformation of Economics *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.
- Milanokis, D, 2017. Formalising Economics: Social Change, Values, Mechanics and Mathematics in Economics Discourse, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.
- Morgan, J, 2016. *What is Neoclassical Economics?* London, Routledge.

- Morgan, J and Patomaki, H, 2017. Contrast Explanation in Economics: its context, meaning and potential, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.
- Porpora, D, 2017. Tony Lawson from a Sociological Point of View, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, Vol 41, No 5.
- Pratten, S, 2015. 'Introduction' in S. Pratten, ed, *Social Ontology and Modern Economics*, London, Routledge.
- Pratten, S, 2017. Trust and the Social Positioning Process, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.
- Rumsfeld, D. 2002. News briefing, <http://www.nato.int/docu/speech/2002/s020606g.htm>
- Rumsfeld, D. 2011. *Known and Unknown: A Memoir*, New York, Sentinel
- Searle, J, 1995. *The Constitution of Social Reality* New York, Free Press.
- Searle, J, 2010. *Making the Social World*, Oxford, Oxford University Press.
- Searle, J, 2017. Money: Ontology and Deception *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, Vol 41, No 5.
- Taleb, N.N. 2007. *The black swan: The impact of the highly improbable*, London, Penguin Books.
- Veldman, J and Wilmott, H, 2017. Social Ontology and the Corporation, *Cambridge Journal of Economics special issue: Cambridge Social Ontology: Clarification, Development and Deployment*, vol 41, No 5.