

www.cambridge.org

CAMBRIDGE JOURNAL OF ECONOMICS

Volume 31 Number 5 September 2007

Published on behalf of the Cambridge Political Economy Society



CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, United Kingdom
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
Dock House, The Waterfront, Cape Town 8001, South Africa
100 Brook Hill Drive, West Nyack, NY 10994-2133, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia

Browse issues

Year

Issue

[Browse by volume](#)



Volume 31, Issue 5

September 2007

[Cover image](#)

ISSN 0309-166X

EISSN 1464-3545

[< Previous](#) [Next >](#)

Volume 31, Issue 5, September 2007

ARTICLES

Cultural globalisation, institutional diversity and the unequal accumulation of intellectual capital 🛒

[Ugo Pagano](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 649–667, <https://doi.org/10.1093/cje/bem015>

[Abstract ▼](#) [View article](#)

Inadequacy of technology and innovation systems at the periphery 🛒

[Eduardo da Motta e Albuquerque](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 669–690, <https://doi.org/10.1093/cje/bel045>

[Abstract](#) ▼ [View article](#)

Is demand-pulled innovation equally important in different groups of firms?

[Mariacristina Piva, Marco Vivarelli](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 691–710, <https://doi.org/10.1093/cje/bem010>

[Abstract](#) ▼ [View article](#)

Stagnation or transformation of a dual economy through endogenous productivity growth

[Codrina Rada](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 711–740, <https://doi.org/10.1093/cje/bem004>

[Abstract](#) ▼ [View article](#)

Keynes's Z function, heterogeneous output and marginal productivity

[MG Hayes](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 741–753, <https://doi.org/10.1093/cje/bem007>

[Abstract](#) ▼ [View article](#)

A structural economic dynamics approach to balance-of-payments-constrained growth

[Ricardo Azevedo Araujo, Gilberto Tadeu Lima](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 755–774, <https://doi.org/10.1093/cje/bem006>

[Abstract](#) ▼ [View article](#)

The impossibility of a perfectly competitive labour market

[Bruce E. Kaufman](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September

2007, Pages 775–787, <https://doi.org/10.1093/cje/bem001>

[Abstract](#) ▼ [View article](#)

Institutions as knowledge capital: Ludwig M. Lachmann's interpretative institutionalism

[Nicolai J. Foss](#), [Giampaolo Garzarelli](#)

Cambridge Journal of Economics, Volume 31, Issue 5, September 2007, Pages 789–804, <https://doi.org/10.1093/cje/bem003>

[Abstract](#) ▼ [View article](#)



[Table of Contents](#)

[All issues](#)

Online
ISSN
1464-3545

Print
ISSN
0309-166X

Copyright

©

2020

Cambridge

Political

Economy

Society

Reprints

Us

Europe

China

Librarians

Academic

Societies

Careers

Older Journals

Help

&

Privacy

Advertisers

Backlist

Press

Worldwide

YouTube

Media

University

Tumblr

&

Agents

Permissions

*Oxford University Press is a
department of the
University of Oxford. It
furthers the University's
objective of excellence in
research, scholarship, and
education by publishing
worldwide*



Copyright

© 2020

Oxford

University

Press

Cookie

Policy

[Privacy](#)
[Policy](#)
[Legal](#)
[Notice](#)
[Site](#)
[Map](#)
[Accessibility](#)
[Get](#)
[Adobe](#)
[Reader](#)

Cultural globalisation, institutional diversity and the unequal accumulation of intellectual capital <i>Ugo Pagano</i>	649
Inadequacy of technology and innovation systems at the periphery <i>Eduardo da Motta e Albuquerque</i>	669
Is demand-pulled innovation equally important in different groups of firms? <i>Mariacristina Piva and Marco Vivarelli</i>	691
Stagnation or transformation of a dual economy through endogenous productivity growth <i>Codrina Rada</i>	711
Keynes's <i>Z</i> function, heterogeneous output and marginal productivity <i>M. G. Hayes</i>	741
A structural economic dynamics approach to balance-of-payments-constrained growth <i>Ricardo Azevedo Araujo and Gilberto Tadeu Lima</i>	755
The impossibility of a perfectly competitive labour market <i>Bruce E. Kaufman</i>	775
Institutions as knowledge capital: Ludwig M. Lachmann's interpretative institutionalism <i>Nicolai J. Foss and Gianpaolo Garzarelli</i>	789

Institutions as knowledge capital: Ludwig M. Lachmann's interpretative institutionalism

Nicolai J. Foss and Giampaolo Garzarelli*

This article revisits the socioeconomic theory of the Austrian School economist Ludwig M. Lachmann. By showing that the common claim that Lachmann's idiosyncratic (i.e., eclectic and multidisciplinary) approach to economics entails nihilism is unfounded, it reaches the following conclusions. (1) Lachmann held a sophisticated institutional position vis-à-vis economics that anticipated developments in contemporary new institutional economics. (2) Lachmann's sociological and economic reading of institutions offers insights for the problem of coordination.

Key words: Comparative institutional analysis, Coordination, Expectations, Institutional evolution, Interpretative institutionalism

JEL classifications: B31, B52, B53, D80

1. Introduction

To this day, the principal substantive socioeconomic contribution of the Austrian School economist Ludwig M. Lachmann (1 February 1906–17 December 1990) remains, to many, ambiguous at best.¹ Aside from perhaps a few specialists, those who are aware of Lachmann's work seem to have difficulties with it and, in the main, consider it as a minor disturbance in the otherwise smooth development of the theoretical trajectory of modern economics since Arrow and Debreu (1954). Langlois (1986A, p. 171) synthesises this dominant conception of Lachmann's contribution well when he writes that

Lachmann [was] the scourge of determinism, the apostle of disequilibrium, the prophet of the kaleidic. Thus, in many, if not most, eyes, [his] role appeared as that of gadfly—or, at best, of methodological conscience—to his fellow theorists. His [was] the salutary albeit annoying task of

Manuscript received 9 June 2006; final version received 2 October 2006.

Address for correspondence: Giampaolo Garzarelli, School of Economic and Business Sciences, University of the Witwatersrand, Private Bag X3, WITS 2050, Johannesburg, South Africa; email: giampaolo.garzarelli@wits.ac.za

*Copenhagen Business School and Norwegian School of Economics and Business Administration, Bergen; and School of Economic and Business Sciences, University of the Witwatersrand, Johannesburg and University of Catanzaro, Italy, respectively. The authors thank Roger Koppl, Peter Lewin, and Bjørn Thomassen as well as seminar participants in the Lachmann Room at the School of Economic and Business Sciences at Wits on September 20, 2006 for feedback, and David Gordon for an important point. We are also grateful for the comments of an anonymous reviewer and the Editors of this journal. GG would like to thank Copenhagen Business School for its support and hospitality in January 2005 and also acknowledge CLM Faculty Research Committee Funding, University of the Witwatersrand.

¹ For overviews of Lachmann's life and work see, e.g., Grinder's 'Introduction' to Lachmann (1977A), Mittermaier (1992), Boettke (1994), Lavoie (1994, pp. 1–19), Vaughn (1994, ch. 7), Koppl and Mongiovi (1995), and Laurence Moss (2004); an online Lachmann biography penned by one of his students—Peter Lewin—is available at <http://www.mises.org/content/Lachmann.asp>. For a portrait especially focused on his years at the University of the Witwatersrand see Murray (1997, pp. 228–30).

reminding us that the future is unknowable, that expectations must diverge, and that there are forces of discoordination as well as of coordination.¹

Lachmann was indeed an economist who insisted that capital was essentially a subjective (rather than physical) category and therefore could not be aggregated and measured; who promoted a radical subjectivism derived from the post-Keynesian economist George Shackle (1972); who fused this radical subjectivism with the thoughts of interpretative sociologist Alfred Schütz and the German interpretative movement in philosophy and sociology; and who introduced Edmund Husserl's phenomenology to economics discourse. What is more, that same—purportedly Austrian—economist thought approvingly of John Maynard Keynes and Paul Davidson, especially because of their critiques of equilibrium theory (Lachmann, 1971, 1978[1956], 1986A). What does one do with someone like this?

Usually, people of this kind are described as 'idiosyncratic' or even 'nihilistic'. Clearly, Lachmann was idiosyncratic if by that is meant that he stayed far away from the mainstream in economics,² borrowed ideas from other disciplines (notably sociology), and used these to develop his own approach to subjectivist economics. We can all agree that he was idiosyncratic in this sense. However, as we argue in this article, Lachmann was no nihilist. In this regard, let us flag at the outset that, in the context of discussing and criticising Lachmann's ideas, the term 'nihilist' refers to his scepticism about the market system being *inherently* equilibrating, and not to the more familiar usage of a person who denies that any prescriptive ethics are possible and desirable. As such, Lachmann's position stands against a central tenet of the Austrian School of economics, as perhaps most meticulously expounded by Kirzner (1973).³

Critics thus argued that Lachmann's insistence that, since future actions are based on future knowledge and since future knowledge cannot be had beforehand, the future is inherently unpredictable, is tantamount to negating the possibility for rational, future-oriented action. That is to say, within Lachmann's theoretical system it would be impossible, the critics asserted, for rational decisions to be made. Social interactions would display no systematic tendencies, no causal laws—in short, *no order*.⁴

Now, one may retort that the existence of genuine uncertainty does not at all mean that we are somehow cut off from analysing the emergence of ordered states.⁵ Indeed, we have known, since Alchian (1950) at least, that we can also rely on evolutionary forces as the relevant order-producing forces.⁶ However, there is a limit to how much we can do this—some measure of rationality has to be claimed for any tendency towards equilibrium to exist. Thus, there must be some agents who react in a rational (which is not to say perfect) way to relative price signals and arbitrage opportunities, as Kirzner (1962) clarified.

¹ Quoting Shackle (1972, p. 76), Lachmann often uses the metaphor of the kaleidoscope in juxtaposition to that of the clock. For example: the 'kaleidic society [intersperses] its moments or intervals of order, assurance and beauty with sudden disintegration and a cascade into a new pattern' (Lachmann, 1986A, p. 48). The appendix to Lachmann (1986A, pp. 157–65), which essentially discusses Keynes's subjectivism, is the English translation of an article originally published in 1984 in German entitled 'The Market is not a Clockwork'. For some context on the matter, see Garrison (1987).

² Of course, what was 'mainstream' in Lachmann's times may not be so today. See Colander *et al.* (2004), which claims that today's mainstream is no longer orthodox.

³ For example: Lachmann's 'colleagues and friends [at New York University] did apparently (and presumably in good spirit) dub him a nihilist. But while he liked the label *Radical Subjectivist*, he did not consider himself to be a nihilist. There was another [namely, a historical and institutional] dimension to his intellect which gave him a quite different perspective on the question of what economists should do' (Mittermaier 1992, p. 18; original emphasis).

⁴ Cf., Lavoie in Lavoie (1994, pp. 1–2).

⁵ Cf., Langlois (1986A).

⁶ Cf., also Langlois and Koppl (1991).

Cutting the basis for rational action away completely would mean chaos. That much is certain; but was it what Lachmann argued in favour of?

It cannot be denied that Lachmann flirted with what the majority of contemporary economists, including Austrian economists, would regard as rather extreme ideas (e.g., Lachmann, 1976). However, the reason Lachmann is no nihilist is that he 'anchors' knowledge and expectations in institutions, that is, in the conventions, mores, norms, laws, etc. of society. More precisely, Lachmann explains how it is our stylised conceptions of each other and of social phenomena—which in time become anchored in institutions—that simplify our actions in society (Schütz, 1972[1932]; Lachmann, 1971). His overall aim can thus be described as the wish to build an institutional economics that is grounded in the *Verstehende Soziologie* (sociology of understanding) of Max Weber and Alfred Schütz—an *interpretative institutionalism*, as it were (Lachmann, e.g., 1971, 1977B, 1991).¹

We shall argue that this interpretative institutionalism is Lachmann's important contribution. To do so, we shall try to free Lachmann of the charge of nihilism by arguing that he developed a perspective on institutions and on how institutions assist action in society through time. This institutional perspective—though within the Austrian tradition and with some affinities with new institutional economics—in important ways must be considered as a distinctive approach.² It is precisely by pointing to the presence of institutions in Lachmann's thinking that we shall be able to exonerate him of the above charges, for institutions stabilise the social landscape by stabilising actions and expectations. Hence, there is not necessarily an inconsistency in Lachmann's thinking: it is possible to be sceptical as to whether the market process is everywhere and always equilibrating, and at the same time argue that there is order on account of the role of institutions as a stabilising factor.

Our search for what we consider to be the essence of Lachmann's thought is therefore not motivated merely by doctrinal concerns, but by theoretical ones as well. As we shall also see, to Lachmann institutions are ultimately that intersubjectively and intertemporally understood *knowledge capital* that allows us to coordinate, align or orient our actions, expectations or plans with some measure of success. Indeed, Lachmann also informs us that all agents ascertain the meaning of institutions, that is, that they hold (sometimes even unconsciously) a mental model of how a particular institution works (or not).

2. Knowledge and expectations

For Lachmann, as for most economists, the essential feature of economics is the exploration of purposeful action and the examination of the consequences of the interaction of many acting individuals. The mainstream economist will not necessarily disagree; but mainstream economics adopts its own conception of what 'purposeful action' and the 'interaction of many acting individuals' mean. Thus, the meaning of the first phrase is captured by postulating utility maximising behaviour (which also underlies profit maximising behaviour); the second meaning is captured by claiming that social

¹ In an important recent contribution, Koppl (2002, p. 8) identifies *the* central 'Lachmann problem' as 'the need for a theory of expectations in which each person's actions are animated by the spontaneous activity of a free human mind'. Koppl's analysis is very much congruent with our own. But whereas Koppl focuses on both coordination (the role of institutions) and discoordination (disruptions by so-called 'big players'), we mostly focus on coordination.

² By new institutional economics we have in mind the body of modern literature that uses economic tools to analyse real-world institutions by means of the method of comparative institutional analysis, such as Coase (1960), North (1981), Williamson (1985), Langlois (1986A, 1986B, 1992), and Eggertsson (1990).

interaction—the aggregation of behaviours—can be represented in terms of equilibrium. In much of mainstream economics, the two levels of analysis, that of the individual and that of interaction, are conflated by focusing attention on a representative agent.¹

To the Austrian economist, this standard analytical procedure is, at best, limiting, since it effectively suppresses many, perhaps most, interesting economic problems, not least all sorts of coordination problems. And it is in fact hard to think of any economist as far removed from the representative agent methodology as Lachmann (e.g., 1986A, ch. 2 and ch. 3). To Lachmann, understanding the meaning of ‘purposeful behaviour’ must involve thinking in a sophisticated way about thought processes, about the interpretations of agents, about how individual knowledge grows and changes, etc. And doing this must surely lead to a complete rejection of extreme representative agent methodology, for it cannot but lead us to the recognition that diversity in terms of the knowledge people hold, how the process of knowledge acquisition take place, etc. is a crucial feature of the economic landscape.

Indeed, Lachmann argued that, if taken seriously, the doctrine of methodological individualism leads to a thoroughgoing subjectivist position (Lachmann, 1973; cf., also Langlois, 1986D).² And, as Lachmann was furthermore eager to emphasise, a thoroughgoing subjectivist position is naturally correlated with an interpretive method. In fact, he argued that ‘the main contribution the Austrians made to the “subjective” revolution of the 1870s ... [lies] ... in the “interpretative turn” ... [that] they managed to impart to the evolution of economic thought at that critical period’ (Lachmann, 1991, p. 277).³

Though claiming to be methodological individualists, mainstream economists have not followed the subjectivist and interpretative implications of the individualist stance. Moreover, the representative agents are cognitive supermen, being able to solve maximisation problems with a Lagrangian the size of a telephone directory. All this is defended, of course, by an Ockham’s razor argument: by pointing to the useful predictions that these ‘simplifying assumptions’ allow.⁴ To Lachmann (e.g., 1986A, ch. 2), however, these are not ‘simplifications’, but gross distortions. As a result, the portrayal of human action⁵ to be found in mainstream economics represents a too serious affront to realism.⁶

¹ In situations of interaction (think, e.g., about principal-agent analysis) the problem is (as hinted) in actual fact no different, for the parties involved are postulated to share many of the important attributes, e.g., share the random variable and the density function of the probability distribution. Identically to its profit maximizing counterpart, there is a loss of genuine population thinking: one assumes agents having the same characteristics and then sums these characteristics up to obtain the representative agent; rather than assume agents with different characteristics and build up from that. See for example the Marshallian population thinking versus Pigovian representative firm thinking discussion of industry composition in Moss (1984) and O’Brien (1984).

² Lachmann’s argument may be challenged on the grounds that 1) it is somewhat unclear what exactly the doctrine of methodological individualism exactly entails (thanks to the editors of the present journal for pointing this out); 2) other positions than methodological individualism may be consistent with subjectivism; and 3) methodological individualism does not imply subjectivism with necessity. Thus, it is possible to be a methodological individualist but not a subjectivist. Sociologists who follow a behaviourist methodology (e.g., George Homans) may be methodological individualists, but they are not subjectivists (we owe this point to David Gordon).

³ Take note that Lachmann began to think about the ‘hermeneutic’ as opposed to subjectivist label only around the mid-1980s. See Lachmann’s unsorted letter to Shackle April 30, 1986, University of the Witwatersrand Archives (Lachmann, 1986B).

⁴ A legacy that is arguably traceable to the famous ‘F-twist’ by Milton Friedman: the belief that one should not worry about a theory’s assumptions, but about its *predictable* conclusions. Lachmann’s critique of such instrumentalist method is in Lachmann (1971, pp. 27 and 35).

⁵ In fact, Lachmann follows Shackle in thinking that ‘human re-action’ would be a more fitting expression for economic action as portrayed by the mainstream. See for example Lachmann (1973, p. 19).

⁶ Philosophers would call Lachmann a *representational realist*: it ‘does matter which features of reality we accentuate in our schemes, and which we abstract from’ (Lachmann, 1986A, p. 42).

Lachmann additionally asserts that 'time and knowledge belong together. As soon as we permit time to elapse, we must permit knowledge to change. The pattern of knowledge never stands still' (Lachmann, 1978[1956], p. 3).¹ Mainstream economics actually telescopes this time–knowledge problem that Lachmann sees as central: in practice, it lets time elapse without allowing knowledge to change. This is what lies at the heart of the search for predictability. But predictability is inherently problematic, since predicting individual actions and/or future aggregate states would imply predicting the knowledge on which actions are based. And it is a well-known epistemological impossibility theorem that future knowledge cannot be foreseen (in detail)—if it could, it would cease to be future knowledge and would turn into present knowledge.²

Lachmann also rejects mainstream attempts to actually model changing knowledge with the argument that if 'we were to include the state of knowledge in our model . . . [w]e should have to introduce it either as a datum or as a dependent variable . . . to treat it as a dependent variable would mean to treat processes of thought as though they were predictable' (Lachmann, 1986A, p. 28). No two minds acquire and process knowledge in the same way (*ibid.*, ch. 3).

But do differences in individual learning also imply that individual expectations will also always differ? Not necessarily, answers Lachmann (1976, p. 59):

The future is unknowable, though not unimaginable. Future knowledge cannot be had now, but it can cast its shadow ahead. In each mind, however, the shadow assumes a different shape, hence the divergence of expectations. The formation of expectations is an act of our mind by means of which we try to catch a glimpse of the unknown. Each one of us catches a different glimpse. The wider the range of divergence the greater the possibility that somebody's expectation will turn out to be right.

Notice how Lachmann's message in this passage is far from being nihilistic. Although future knowledge cannot be obtained, expectations in the sense of reasoned conjectures are still possible. Thus, individual rationality in the general sense of having reasoned expectations and motives for behaviour and acting on these is possible, notwithstanding a radically subjectivist position. What is perhaps more interesting is that the passage reveals that systemic rationality is also a possible substitute for individual rationality, because there is an allusion to an innate evolutionary mechanism that sorts among divergent expectations ('The wider the range . . .').³ The passage thus shows that it is incorrect to assert that Lachmann propounded the view that action is random, or whimsical at best, and that there are no possible social regularities.

This notwithstanding, what many commentators have taken from Lachmann's thinking are not these more positive facets, but rather the devastating effects for most of mainstream economics if his ideas were suddenly to be taken seriously. That is to say, the critiques were often rooted in the sociology of the profession, for reasons of self-preservation of the *status*

¹ In more than one contribution, Lewin (e.g., 1994, p. 239) refers to this as 'Lachmann's axiom'.

² As Knight synthesised it, the 'existence of a problem of knowledge depends on the future being different from the past, while the possibility of the solution of the problem depends on the future being like the past' (Knight, 1946[1921], p. 313). Another *locus classicus* of the notion that we cannot anticipate future knowledge is the work of Karl Popper. In general, compare O'Driscoll and Rizzo (1985).

³ An evolutionary reasoning *per se* puts into question any 'F-twist' reasoning, for it questions the assumption that survival in any landscape must necessarily imply maximising behaviour in every point in time – see the classic contribution by Winter (1964).

quo of the discipline, and not necessarily for inherent fallacy of argument.¹ It should, then, not be too surprising that Lachmann was placed by many in the ‘nihilist’ category.

But *does* Lachmann truly paint himself into a corner? Or does he actually try to offer a concrete alternative to mainstream economics? It may very well be, in our view, that he has not attacked and demolished a well-established theory of the order-producing properties of markets: Lachmann tried to stimulate the development of a different approach.

3. Lachmann, interpretation, and institutions

To our knowledge, Lachmann was not aware of modern developments in new institutional economics.² However, he presents a quite acute critique of the treatment of institutions in mainstream economics that is, at an overall level, akin to that presented by modern new institutional scholars such as North (1981), Williamson (1985), and Langlois (1986A, 1986C, 1986D, 1992). Of course, there are differences, because many new institutionalists mainly emphasise the incentive aspect of institutions, whereas Lachmann emphasised the cognitive dimension of institutions. Moreover, while new institutional scholars have usually subscribed to single-exit modelling of agents, Lachmann’s thought is at variance with this approach.³

The objective of new institutional scholars is, of course, to offer an economic theory of social institutions, such as mores, customs, markets, laws, firms, etc. A social institution may generally be understood as a regular pattern of behaviours exercised by a group of individuals. For present purposes, however, a more informative definition is appropriate. A (formal and informal) social institution is a form of knowledge that some (institutionalised) group of individuals usually conforms to (even unconsciously) in order to carry out purposive action, and that if not conformed to generally leads to welfare losses for the group as a whole (see, *inter alia*, Schotter, 1981; Rowe, 1989).⁴ As a result, an institution has a double role, a positive and a negative one. The positive role concerns the ability of an institution to elicit some generally-accepted rule-following behaviour. The negative role concerns the ability of an institution to punish behaviours that contradict generally followed rules.

Notice, however, that both roles are essentially complementary, if not indeed symbiotic. That is, they both hint at the fact that one distinguishing mark of an efficacious social institution is the ability to yield cost savings in conscious ratiocination. The double role of institutions aids our limited cognition: by simplifying social reality by means of rule-following and reliability in enforceability of rules, institutions make the calculation of

¹ For instance, there may be a limited role for the central notion of equilibrium if the rationality of actors is assessed in terms of knowledge adaptations to contingencies as opposed to the axiomatic optimisation framework in which all action is considered costless and instantaneous.

² The issue is almost reciprocal: to the best of our knowledge, the only new institutionalist who is aware of Lachmann’s institutional contribution is Langlois (1986A, 1992).

³ Thanks to an anonymous reviewer for pointing this out. For excellent discussions of single and multiple-exit modelling, see Langlois (1986B) and Langlois and Csontos (1991). And see O’Driscoll and Rizzo (1985, ch. 3) for a discussion in a Lachmannian spirit of whether there can be non-deterministic situational analysis of economic agents.

⁴ Another definition of an institution would also consider ontology: it would stress the constitutive elements and filtering mechanisms that demarcate the nature of an institution as an ensemble of rules (which may or may be not known explicitly) in order to more crisply identify its uniqueness in relation to other social structures. For our purposes we need not enter the ontology of institutions, but for an elaboration, see Searle (2005) and Lewis and Runde (2007).

expected return to purposive human action much simpler.¹ Lachmann shares some common ground with the new institutional view of economics, which sees an institution as both a behavioural aid and a behavioural constraint. Mainstream conceptions of institutions such as firms and markets ignore the *cognitive* role that such institutions play, that is, their ability to coordinate different expectations through time is downplayed, and all attention is focused on how these institutions may align incentives. Yet, at the same time, Lachmann's institutional *gestalt* differs from both the mainstream and the new institutional approach along one dimension: neither the mainstream nor the new institutional approach generally considers the *interpretive dimension* of institutions (Lachmann, 1991, p. 283).

It is precisely such emphasis on 'meaning' that represents the other influence on—that is, in conjunction with Austrian economics—Lachmann's institutional perspective. The emphasis derives from the *Verstehende Soziologie* of Max Weber and Alfred Schütz. To consider Lachmann's stance, we need quickly to consider the influence of these scholars on Lachmann, in reverse order.²

3.1. Alfred Schütz and the meaning of institutions

By participating in the Mises-Kreis, Schütz was both influenced by and, more to the point, influenced Austrian economists. As Prendergast (1986, p. 11) writes, 'marginalism lacked a credible theory of intersubjective understanding; it had no way of showing how economic actors knew the motives of other actors, short of assuming universal motivation discernible by introspection. On the other hand, it lacked a viable theory of concept formation. . . . Schütz's genius lay in seeing Weber's ideal type as a solution.'³

Now, knowing 'the motives of other actors' is evidently knowledge that allows you to coordinate your actions with those other actors—but this knowledge of 'the others' comes in different forms. In fact, Schütz (1972[1932]) develops a whole theory of intersubjective understanding. The starting point of his theory is that there is a pre-given social 'life-world' into which we are socialised and which consists of typifications: all 'interpretation of this world is based on a stock of previous experiences of it, our own or those handed down to us by parents or teachers; these experiences in the form of "knowledge at hand" function as a scheme of reference.' The 'unquestioned pre-experiences are . . . at hand as typical, that is, as carrying open horizons of anticipated similar experiences' (Schütz, 1962, pp. 7–8).

Thus, many typifications are socially constructed. Usually, the more anonymous and standardised ideal types are—in terms of laws, regulations, customs, habits, etc.—the more distant they are from the individually constructed level. Schütz places such conceptualisation within a theory of intersubjective understanding, which is in turn divided into three parts: the 'we-relationship', the 'thou-relationship', and the 'they-relationship'. The underlying social reality is one of 'objective' meaning-contexts that are shared by all in society.

In the we-relationship, actors are not only aware of each other, but also know that this awareness exists. Communication allows them to understand their respective meanings, and comprehensively identify each other's motives. In the thou-relationship, the observer is

¹ Langlois (1986A, p. 175) neatly ties positive and negative roles around the central notion of entropy: a 'social institution . . . is a mechanism to reduce the entropy of the environment'.

² Our order of consideration is in reverse not just because Schütz's contribution is subsequent to that of Weber, but also because Lachmann himself studied Schütz much later than he studied Weber; see Koppl (1994, pp. 295–6).

³ There is a revival of interest, especially in the Austrian circles, in Schütz. See for example the 2001 issue of the *Review of Austrian Economics: Special Issue on Alfred Schütz* 4(2-3): September, edited by Boettke and Koppl. In an intriguing recent article, Koppl and Whitman (2004) demonstrate that in economics the hermeneutic and the rational choice approach are not only perfectly compatible but also complementary.

aware of the actor, but no reciprocal awareness exists. Here direct communication is blocked, so understanding the meanings of the actions of the observed party involves more 'objective' and more anonymous categories of meaning (for example, the meaning contexts within which a postal clerk 'normally' operates), but not only these. However, in the most anonymous relationship, the they-relationship, in which we try to understand the actions and meanings of anonymous others, we must have recourse to ideal types only; specifically to the 'course-of-action' type or the 'personal' type. The first type refers to the imputation of certain 'typical' motives to certain actors (for example, businessmen maximise profits), so that we may deduce what will follow with high probability given these motives. The personal type refers to individuals functioning in roles.

Thus, typifications bring predictability, and therefore ease action, by ascribing *meaning* to institutions, precisely what Lachmann (1971, 1991) had criticised mainstream economics for not allowing. But, as Schütz also points out, acting in the life-world is not unproblematic, primarily because anticipations are formed in terms of typicality. Thus, our expectations are broad and open-ended, waiting to be 'filled out' as time goes by¹. Lachmann fills the emptiness of expectations by changing the central element of social scientific investigation from ideal type to plan.

3.2. *From ideal type to plan—or, Max Weber modified*

Lachmann's most complete institutional statement is the *Legacy of Max Weber* (1971), a three-essay collection on Weber. And though his statement is inspired by Weber, Lachmann explicitly rejects Weber's notion of the ideal type (*Idealtypus*) in favour of the notion of *plan*. This is so because 'Weber's ideal type lacks any specific reference to human action and seems to be as readily applicable to the animal kingdom or the plant world as to the human sphere.' But the notion of plan is 'germane to human action', for it 'constitutes the natural centre of the method of interpretation'; further, 'most of the other concepts we need in order to give an account of human action and its results can be derived from it' (Lachmann, 1971, p. 29).²

Endorsing the method of interpretation through the notion of plan does not at the same time mean regressing social science to the period of the *Methodenstreit*. Allow us to quote from a relevant passage at length.

[We] come to the question whether the method of interpretation may be employed beyond the borders of history, namely in the analytical social sciences. . . . The answer to this question is in the affirmative. . . . It is true that in explaining recurrent patterns of action, the essential subject-matter of all social sciences, we cannot provide such explanation in terms of purposes, as elements of plans, because the purposes pursued by millions of people are of course numbered in millions. But often we are none the less able to provide explanations in terms of the elements common to all these plans, such as norms, institutions, and sometimes institutionalized behaviour, the maximization of profits, or the avoidance of the risk of insolvency. As long as we are able to account for the recurrence of patterns of action in terms of such elements of plans, we are successfully employing the classical method of interpretation. We are still explaining

¹ Cf., also O'Driscoll and Rizzo (1985).

² In some ways, as Lewis and Runde (2007) also note, if taken literally the emphasis on plan may overestimate the importance of behaviour that issues from conscious deliberation. Tacit knowledge may also play an important role in human action. Relatedly, it may be the case that the notion of plan in Lachmann loses the anonymity property that is instead a useful heuristic expedient of the Weberian ideal type [see Koppl (1994) and Koppl and Whitman (2004)]. This notwithstanding, our primary objective here is to attempt to read Lachmann on his own terms, that is, we are trying to use the *interpretative* method on Lachmann himself: Lachmann saw himself as trying to bring back in purposeful human agency in a discipline that (he saw) was losing it.

subsequent events in terms of ideas. Moreover, the line that divides concrete historical phenomena from permanent social structures is notoriously thin. . . . The plain fact is that every recurrent pattern of events, anything we should feel at all entitled to call a 'structure', requires explanation in terms of permanent forces as well as in terms of concrete historical circumstances. Interpretation is needed in the former as well as in the latter type of explanation. (*ibid.*, pp. 22–3)

Referring essentially to modern economies, that is, to economies with a sophisticated division of labour, Lachmann moreover argues that the success of any plan depends on the actions of other agents. As such, environmental constraints not only refer to physical and technological constraints, but also to the constraints posed by other purposeful actors, each pursuing his or her own plan. As a result, institutions—which, exactly as in the new institutional tradition, 'are at the same time instruments of, *and* constraints upon, human action' (*ibid.*, p. 141; original emphasis)—help realise plans by reducing the volatility in the plans of other agents.¹ In Lachmann's (very early) words,

as social scientists . . . we are concerned . . . [not] . . . with . . . individual acts but mass-phenomena. Mass-phenomena have to be made intelligible by reference to the similarity of the conditions under which different individuals have to act. The conditions, the similarity of which makes different individuals, who are subject to them, act in an identical manner, may be either of a subjective (psychological) or an objective (institutional) nature. . . . Men may act identically, either because they are subject to the same mass-psychological influences or because they all have to operate within the same institutional framework. As our knowledge of mass-psychology is rather scanty compared with our comprehensive cognition of institutions and the way they work, it might be useful to lay down as a preliminary rule that if . . . a mass-psychological and an institutional hypothesis come to compete for the role of 'cause', preference will be given to the latter. (Lachmann, 1937A, p. 296)²

On this conceptualisation, Lachmann's thought exhibits no discontinuity. And this indirectly reinforces our perception that Lachmann was not a nihilist, for continuity in thought leaves little room for ambiguity of interpretation. Consider directly the following, later, reformulation by Lachmann:

An institution provides a means of orientation to a large number of actors. It enables them to coordinate their actions by means of orientation to a common signpost. If the plan is a mental scheme in which the conditions of action are coordinated, we may regard institutions, as it were, as orientation schemes of the second order, to which planners orientate their actions to a plan. . . . The existence of such institutions is fundamental to civilized society. They enable us to rely on the actions of thousands of anonymous others about whose individual purposes and plans we know nothing. They are nodal points of society, coordinating the actions of millions whom they relieve of the need to acquire and digest detailed knowledge about others and form detailed expectations about their future action. (Lachmann, 1971, pp. 49–50)

We expand on this in what follows.

¹ Lewin (1999) pursues this Lachmannian theme from the point of view of the capital stock, where Lachmann (1978[1956]) also made clear how the inherent capital stock presents us with opportunities *and* with constraints and that we have to take account of both.

² In some ways, this passage has a non-Austrian flavour to it, particularly what seems to be a restatement of the sociological argument that institutions may somehow be efficient causes of action. But Lachmann has not endorsed (here or elsewhere) Emile Durkheim. As a result, Lachmann's point about institutions may, as noted, be interpreted differently, namely, to mean that while they do not cause behaviour, they influence choice by making available information that would not be available in their absence. In fact, this is precisely the reason why Lachmann wrote his book on Weber. For a realist social theory take on the matter, compare Lewis and Runde (2007).

4. Meaning, coordination, and asynchronous institutional evolution

Institutions 'prescribe certain forms of conduct and discourage others. It is clear that those persons who conduct themselves in conformity with them must attribute some *meaning* to them.' Thus, a 'more satisfactory treatment of institutions in economics . . . will call for the infusion of a sizeable dose of the hermeneutic spirit' (Lachmann, 1991, p. 282). This quotation synthesises the Lachmannian stance that avoids complete lack of order. That is, it epitomises what we believe to be the genuine Lachmann stance, which is not nihilistic.

By not falling into the nihilist trap, Lachmann, in fact, achieves an important shift in the object of analysis. He asserts, as we saw, that the coordination of subjective expectations is the problem that economics should focus on primarily. But at the same time he is also aware of the fact that if we place subjective expectations as such at centre stage, the social scientist would need to know not only general trends in the consequences of actions, but also the minute details attached to the consequences of such actions.¹ But if we think of institutions as lighthouses that guide action, then the problem of infinite regress disappears, for both we and social actors have an objective point of 'orientation', as Lachmann repeatedly says.

It 'is clear that . . . studies . . . concerned . . . with human action . . . require a different method of approach to their objects' than those of the natural sciences. This method is the '*praxeological* method', according to which, human 'action is not determinate, but neither is it arbitrary', i.e., completely disorderly. This method:

is bounded, firstly, by the scarcity of the means at the disposal of actors. This circumstance imposes a constraint on the freedom of action. It is bounded, secondly, by the circumstance that, while men are free to choose ends to pursue, once they have made their choice they must adhere to it if consistent action with a chance of success is to be possible at all. In other words, human action is free within an area bounded by constraints. Obstacles of various kinds further limit the area of freedom. . . . The praxeological method has to take these circumstances into account. Causal explanation in the field of action cannot hope to attain determinateness, but this does not mean that we must give up all hope of explanation. . . . *Orientation* thus emerges as a concept as fundamental to praxeological study as determinateness is to natural science. As the latter requires a 'closed' analytical system, consisting of functions like independent and dependent variable as well as constants, to warrant the determinate character of its results, so praxeology requires a more flexible form of thought, an 'open' analytical framework which will nevertheless permit us to ascertain the boundaries of action. Orientation is the pivotal concept within this framework. (Lachmann, 1971, pp. 37–8; original emphasis)

It is then only natural that:

there are certain super-individual schemes of thought, namely *institutions*, to which the schemes of thought of the first order, the plans, must be oriented, and which serve therefore, to some extent, the coordination of plans. They constitute, we may say, 'interpersonal orientation tables', schemes of thought of the second order. To them, praxeology, for which until now the plan and its structure have understandably occupied the foreground of interest, will increasingly have to turn in time to come. (Lachmann, 1977B, p. 62; original emphasis)

¹ Specifying that Lachmann is borrowing from Sir John R. Hicks, Garrison (1986, p. 92, footnote omitted) reports a nice image. 'Suppose an increase in the supply of fish results in a lower price for fish. Expectations that the price of fish will soon return to its previous level will cause demand to increase as buyers attempt to take advantage of an opportunity that is perceived to be temporary. Expectations that the price of fish will continue to fall will cause the demand to decrease as buyers wait to take advantage of an even better opportunity in the future. As Lachmann himself often recognizes, it is possible to categorize expectations as being either inelastic or elastic with respect to price changes. However, it is another matter to predict which will be the case in a particular instance.'

Institutions, in essence, are structures that facilitate human action: they assist in partially solving the societal coordination problem, and so agents (including social scientists) do not have to be able to read each other's minds to pursue most of their actions. They are able to plan and adjust plans in a relatively coordinated way because institutions have meaning: to a large extent, institutions are, in fact, an embodiment of the most common plans that, to use a contemporary argot, *have become standardised*.¹

But standardisation does not take place overnight. Personal plans are gradually built up and communicated among generations, that is, they take time to become institutionalised. As a result, they are not susceptible to fast change. The 'central problem of the institutional order hinges on the contrast between coherence and flexibility, between the necessarily durable nature of the institutional order as a whole and the requisite flexibility of the individual institution. In other words, this central problem does not become apparent until we come to view the institutional order in the perspective of time.' It 'is impossible for all institutions to change at the same rate . . . the relative immutability of some institutions is always a necessary prerequisite for the relative flexibility of the rest' (Lachmann, 1971, pp. 13–14). Lachmann's theory of institutional evolution requires some elaboration.

The Lachmannian institutional view suggests a division of labour among 'mechanisms' of coordination. There are two types of mechanisms to coordinate, says Lachmann. On the one hand, we have individual plans, which are more varied and volatile. On the other hand, we have social-level institutions that are less varied and volatile. Social-level institutions, in turn, can be *external* and *internal* (Lachmann, 1971, p. 81).² The external institutions are the scaffolding necessary for the internal institutions to work: they include the political regime and property rights. These external institutions are the ones that are relatively immutable and that govern and discipline the relative flexibility of internal institutions, such as the firm, the market for wheat and the stock exchange.

Moreover, Lachmann claims that the most interesting socioeconomic problems arise when external and internal institutions evolve at different rates. Such asynchronous evolution creates the need for new individual plans to obviate the gaps in social institutions. Think of responses in the face of an unconstitutional law. (The evolution of social institutions can also be disrupted by exogenous factors—e.g., a natural disaster, such as an earthquake or tsunami, or an uncommon terrorist attack, such as 9/11—that also require the input of individual plans to be addressed.)³

Obviously, the emergence of new individual plans to attempt to bring external and internal institutions back into sync can, in itself, create new institutional gaps that need to be solved.

The businessman, as much as magistrates and judges, must presume the Law to be 'gapless' (*lückenlos* was the German word [that Lachmann] liked to use), but clearly it was not so and the continual flow of legislation in modern times must create problems of compatibility and thus more gaps. . . . Purposeful action is oriented towards 'the rules of the game' and therefore

¹ Standardisation can also be interpreted as that part of individual agents' stocks of knowledge at hand that is social in the sense that it consists of shared typifications of the social landscape, that is, as what Schütz, as we have seen, called 'intersubjective structures of meaning'. It is because agents come equipped with an intimate knowledge of their life-world and because much of this knowledge is social rather than private that they are able to coordinate their actions.

² Lachmann (e.g., 1962) also alludes to 'mixed institutions', namely, institutions that originate from outside the market. But this additional distinction would lead into the spontaneous versus planned origin of institutions on which Lachmann wasn't always clear, see especially Langlois (1986A).

³ For Lachmann's discussion of adaptation to non-routine change, see Lachmann (1937B).

institutions, while no more determining the outcome of social processes than the rules of chess determine the outcome of chess games, nevertheless reduce indeterminacy in a Kaleidic society.

Since everything changes, Lachmann believed that there is ‘something to be said in each concrete situation’ (Mittermaier, 1992, p. 20).

It is thanks to the existence of all three coordinating mechanisms (namely, individual plans and internal and external social institutions) at every point in time that, as society develops, we have at once enablers of and constraints on purposive human action. By acting as the tightest of system constraints,¹ the external institutions enable behaviour at the level of internal institutions and plans. The latter in their turn also act as constraints and enablers, but their task is to coordinate that behaviour, which, in time, leads to learning and greater division of labour in society. In other words, external institutions make possible the coordination of divergent expectations by letting internal institutions and plans interact in a looser yet systematic way. Stabilised by external constraints, in time this type of interaction can also lead to the institutionalisation of successful plans. The reason why external and internal institutions can evolve at different rates is because they deal with different types of knowledge: the task of the internal is mainly to stabilise individual plans, while that of the external is to stabilise the internal. And yet, there is fluidity among the levels of coordination, for individual plans and internal and external institutions can all influence one another.² See Figure 1 for a stylised illustration of coordination mechanisms in Lachmann, where the different types of dashes denote both permeability and different rates of evolution.

Lachmann’s economic theory is therefore *not* a nihilistic socioeconomic dogma. It becomes so only if we neglect and render timeless the interaction of individual plans from social-level institutions which we claim to be a misinterpretation of Lachmann’s message.

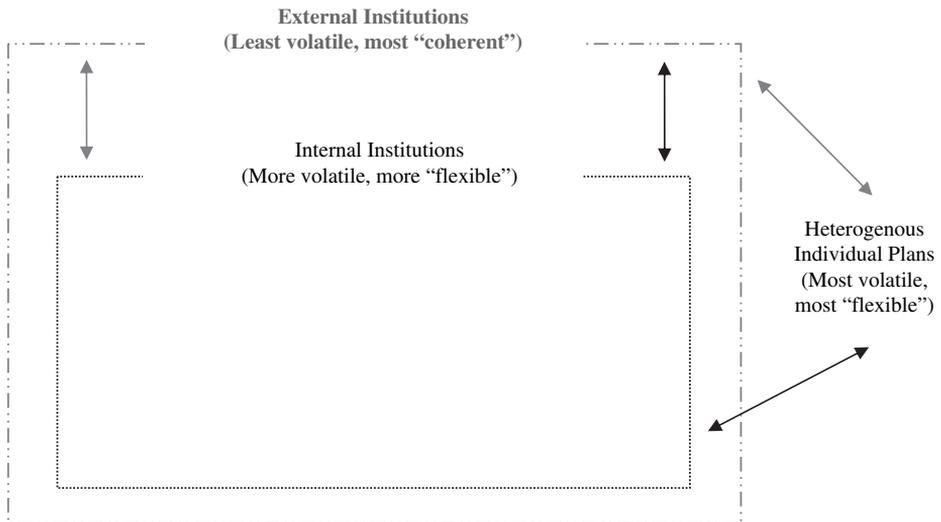


Fig. 1. Lachmann's coordination mechanisms.

¹ See, for example, Langlois and Koppl (1991).

² Cf., Langlois (1986A).

Differently put, the perception of Lachmann's nihilism—to repeat, the fear that all action may be rendered rudderless by the failure of expectations to be coordinated—could result from the fact that many have tended (implicitly or otherwise) to homogenise the knowledge that constitutes the elements of plans and of internal and external social institutions. If, however, we acknowledge that in Lachmann knowledge is actually structured heterogeneity, we realise that at some level expectations are, and must be, coordinated (this is the institutional level) in order that at another level they can be—and indeed must be for a dynamic economy—disparate (this is the individual plan level).¹ It is basically for this reason that we propose thinking of social institutions as knowledge capital in Lachmann.

5. Conclusions

The thesis of this article is that to recognise Ludwig Lachmann's work as being, in many ways, idiosyncratic because of its very eclectic and multidisciplinary origin *does not* simultaneously mean that he was a nihilist. This thesis yields two different lessons.

First, from a doctrinal viewpoint, there is the lesson in clarification. By returning to the principal influences at the origin of Lachmannian idiosyncrasy, namely, Weberian and Schützian sociology, it clears Lachmann of the accusation of adopting an antiscientific stance. More precisely, to assert simultaneously, as does Lachmann, that future knowledge is unpredictable and that no two minds will interpret and process information in exactly the same way, does not necessarily mean destroying economic theory or, indeed, social science. Such a 'disequilibrium or antiorder always' conclusion is an overly hasty one: it is valid *if and only if* one does not read Lachmann on his own terms. That is to say, that if and only if one reads Lachmann as conceptualising economic interaction in an institutionless world can one coherently hold such a stance. But such a stance does not do justice to Lachmann's more sophisticated institutional theory. As a matter of fact, such a stance, we show, is doctrinally imprecise. And herein lies our lesson of a second, more substantive, nature.

By trying to read Lachmann on his own theoretical terms, we suggest that his socioeconomic thought contains elements of contemporary new institutional theory. Lachmann often writes that coordination has two levels: individual (plans) and social (e.g., institutions, such as laws, markets, norms, etc.). The two levels are complementary. The social-level *recurrent patterns of conduct* are instrumental in realising individual plans in that they reduce the volatility in the plans of other agents. At the same time, the plans can contribute to changing social institutions. Consequently, the two coordination levels solve the radical uncertainty problem that Lachmann places at centre stage. Fellow Austrian economist, Friedrich Hayek, agrees with this view. It

is . . . the views people have formed of each other and of the things, which form the true elements of social structure. If the social structure can remain the same although different individuals succeed each other at particular points, this is not because the individuals which succeed each other are completely identical, but because they succeed each other in particular relations, in particular attitudes they take towards other people and as the objects of particular view held by other people about them. The individuals are merely *foci* in the network of relationships and it is the various attitudes of the individuals toward each other . . . which form the recurrent, recognizable and familiar elements of the structure. (Hayek, 1952, p. 59)

So much for points of congruency with contemporary new institutional and Austrian theory.

¹ Cf., Lewin (1997, 1999).

Within the second, substantive lesson there also lies a unique Lachmannian contribution to institutional reasoning. Lachmann informs us that agents ascertain the meaning of social institutions, that is, that they hold (sometimes even unconsciously) an understanding about institutions themselves and that these understandings of the roles of different institutions can be intersubjectively and intertemporally shared. Rational individuals understand the role of laws, firms, contracts, and the like. Moreover, most individuals are able to understand the ‘efficiency’ or ‘inefficiency’ of a particular institution (e.g., most workers understand the pliability of their labour market). If this essential hermeneutical twist to institutional analysis were missing, we should not, according to Lachmann, be able fully to understand the coordinating role of institutions. And such deficiency would be tantamount to believing that human purposefulness is, somewhat paradoxically, on a par with that of plant life and automata. To Lachmann, in fact, institutions are ultimately knowledge capital.

This is why Lachmann reverts to the *Verstehen* dimension. If institutions were all the same and did not evolve or change through time, then there would be no need for interpretation, for this would imply that all institutions could perform the same function equally well. This would contradict Lachmann’s notion of asynchronous institutional evolution. Lachmann, in fact, introduces the notion that there are two main types of social institutions—external and internal—and specifies that the two types, though interacting, may evolve at different rates. This asynchronous institutional evolution generates an interesting series of socioeconomic issues to be interpreted, investigated, and, when necessary (and possible), solved through the input of individual plans.

In the abstract, then, the policy implication of a Lachmannian institutional approach is not different from that of traditional comparative institutional analysis: the social analyst is able to understand the differences in the efficiency properties of different viable institutional alternatives. But in the detail, the difference lies in ascribing the ability to understand the value of comparative institutional analysis, not just to the social analyst, but also to the generalised social actor. This is the sociological contribution of Lachmann to contemporary new institutional economics, unbeknown both to him and to most new institutional scholars. We invite others to connect this socioeconomic conclusion more explicitly with sociology proper.¹

Bibliography

- Alchian, A. 1950. Uncertainty, evolution, and economic theory, *Journal of Political Economy*, vol. 58, no. 3, 211–21
- Arrow, K. J. and Debreu, G. 1954. Existence of an equilibrium for a competitive economy, *Econometrica*, vol. 22, no. 3, 265–90
- Berger, P. and Luckmann, T. 1966. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, New York, Doubleday
- Boettke, P. J. (ed.) 1994. Symposium: Ludwig Lachmann and his contributions to economic science, *Advances in Austrian Economics*, vol. 1, 229–324
- Boettke, P. J. and Koppl, R. (eds) 2001. Special Issue on Alfred Schütz, *Review of Austrian Economics*, September, vol. 4 no. 2–3.
- Coase, R. H. 1960. The problem of social cost, *Journal of Law and Economics*, vol. 3, no. 1, 1–44
- Colander, D., Holt, R. P. F. and Rosser, B. J., Jr 2004. The changing face of mainstream economics, *Review of Political Economy*, vol. 16, no. 4, 485–99

¹ One starting place is Berger and Luckmann (1966, particularly part 2, ch. 1).

- Eggertsson, T. 1990. *Economic Behaviour and Institutions*, Cambridge, Cambridge University Press
- Garrison, R. W. 1986. From Lachmann to Lucas: on institutions, expectations, and equilibrating tendencies, pp. 87–101, in Kirzner, I. M. (ed.), *Subjectivism, Intelligibility and Economic Understanding: Essays in Honour of Ludwig M. Lachmann on his Eightieth Birthday*, London, Macmillan
- Garrison, R. W. 1987. The kaleidic world of Ludwig Lachmann, *Critical Review*, vol. 1, no. 3, 77–89
- Hayek, F. A. von. 1979 [1952]. *The Counterrevolution of Science*, Indianapolis, Liberty Press
- Kirzner, I. M. 1962. Rational action and economic theory, *Journal of Political Economy*, vol. 70, no. 4, 380–5
- Kirzner, I. M. 1973. *Competition and Entrepreneurship*, Chicago, University of Chicago Press
- Knight, F. H. 1946 [1921]. *Risk, Uncertainty and Profit*, London, London School of Economics and Political Science (Re-issue No. 16 in a Series of Reprints of Scarce Tracts in Economics and Political Science)
- Koppl, R. 1994. Lachmann on Schütz and Shackle, *Advances in Austrian Economics*, vol. 1, 289–301
- Koppl, R. 2002. *Big Players and the Economic Theory of Expectations*, London and New York, Palgrave Macmillan
- Koppl, R. and Mongiovi, G. 1995. Introduction, pp. 1–11, in Koppl, R. and Mongiovi, G. (eds), *Subjectivism and Economic Analysis: Essays in Memory of Ludwig M. Lachmann*, London, Routledge
- Koppl, R. and Whitman, D. G. 2004. Rational-choice hermeneutics, *Journal of Economic Behaviour and Organization*, vol. 55, no. 3, 295–317
- Lachmann, L. M. 1937A. Uncertainty and liquidity preference, *Economica*, N.S., vol. 4, no.15, 295–308
- Lachmann, L. M. 1937B. Social and political revolutions, *Journal of Social Philosophy*, vol. 3, no. 1, 24–38
- Lachmann, L. M. 1962. Cost inflation and economic institutions, *South African Journal of Economics*, vol. 30, no. 3, 177–86
- Lachmann, L. M. 1971. *The Legacy of Max Weber*, Berkeley, The Glendessary Press
- Lachmann, L. M. 1973. *Macro-economic Thinking and the Market Economy: An Essay on the Neglect of the Micro-foundations and Its Consequences*, Hobart Paper 56, London, Institute of Economic Affairs
- Lachmann, L. M. 1976. From Mises to Shackle: an essay on Austrian economics and the kaleidic society, *Journal of Economic Literature*, vol. 14, no. 1, 54–62
- Lachmann, L. M. 1977A. *Capital, Expectations and the Market Process: Essays on the Theory of the Market Economy*, Kansas City, Sheed Andrews and McMeel Inc.
- Lachmann, L. M. 1977B. The significance of the Austrian school of economics in the history of ideas, pp. 45–64 in Lachmann, L. M. (ed.), *Capital, Expectations and the Market Process: Essays on the Theory of the Market Economy*, Kansas City, Sheed Andrews and McMeel Inc
- Lachmann, L. M. 1978 [1956]. *Capital and Its Structure*, Kansas City: Sheed Andrews and McMeel Inc.
- Lachmann, L. M. 1986A. *The Market as an Economic Process*, Oxford, Basil Blackwell
- Lachmann, L. M. 1986B. Unsorted letter to G. L. S. Shackle. April 30, University of the Witwatersrand Archives
- Lachmann, L. M. 1991. Austrian economics: a hermeneutic approach, pp. 267–90, in Lavoie, D. (ed.), *Expectations and the Meaning of Institutions: Essays in Economics by Ludwig Lachmann*, London, Routledge
- Langlois, R. N. 1986A. Coherence and flexibility: social institutions in a world of radical uncertainty, pp. 171–91, in Kirzner, I. M. (ed.), *Subjectivism, Intelligibility and Economic Understanding: Essays in Honour of Ludwig M. Lachmann on his Eightieth Birthday*, London, Macmillan
- Langlois, R. N. (ed.) 1986B. *Economics as a Process: Essays in the New Institutional Economics*, Cambridge, Cambridge University Press
- Langlois, R. N. 1986C. The new institutional economics: an introductory essay, pp. 1–25, in Langlois, R. N. (ed.) *Economics as a Process: Essays in the New Institutional Economics*, Cambridge, Cambridge University Press

- Langlois, R. N. 1986D. Rationality, institutions, and explanation, pp. 225–55, in Langlois, R. N. (ed.) *Economics as a Process: Essays in the New Institutional Economics*, Cambridge, Cambridge University Press
- Langlois, R. N. 1992. Orders and organizations: toward an Austrian theory of social institutions, pp. 165–83, in Caldwell B. and Boehm S. (eds), *Austrian Economics: Tensions and New Directions*, Dordrecht, Kluwer Academic Publishers
- Langlois, R. N. and Csontos, L. 1993. Optimization, rule-following, and the methodology of situational analysis, pp. 113–32, in Mäki, U., Gustafsson, B. and Knudsen, C. (eds), *Rationality, Institutions, and Economic Methodology*, London, Routledge
- Langlois, R. N. and Koppl, R. 1991. Fritz Machlup and marginalism: a reevaluation, *Methodus*, vol. 3, no. 2, 86–102
- Lavoie, D. (ed.) 1994. *Expectations and the Meaning of Institutions: Essays in Economics by Ludwig Lachmann*, London, Routledge
- Lewin, P. 1994. Knowledge, expectations, and capital. The economics of Ludwig M. Lachmann: attempting a new perspective, pp. 233–56, in Boettke, P. J. (ed.) Symposium: Ludwig Lachmann and his contributions to economic science, *Advances in Austrian Economics*, Vol. I
- Lewin, P. 1997. Hayekian equilibrium and change, *Journal of Economic Methodology*, vol. 4, no. 2, 245–66
- Lewin, P. 1999. *Capital in Disequilibrium: The Role of Capital in a Changing World*, London and New York, Routledge
- Lewis, P. and Runde, J. 2007. Subjectivism, social structure and the possibility of socio-economic order: the case of Ludwig Lachmann, *Journal of Economic Behaviour and Organization*, vol. 62, no. 2, 167–86
- Mittermaier, K. H. M. 1992. Ludwig Lachmann (1906–1990): a biographical sketch, *South African Journal of Economics*, vol. 60, no. 1, 7–23
- Moss, L. S. (ed.) 2000. Remembrance and appreciation roundtable: Professor Ludwig M. Lachmann (1906–1990): scholar, teacher, and Austrian school critic of late neoclassical formalism in economics, *American Journal of Economics and Sociology*, vol. 59, no. 3, 367–417
- Moss, S. 1984. The history of the theory of the firm from Marshall to Robinson and Chamberlin: the source of positivism in economics, *Economica*, N.S., vol. 51, no. 203, 307–18
- Murray, B. K. 1997. *Wits, The Open Years: A History of the University of the Witwatersrand, Johannesburg, 1939–1959*, Johannesburg, University of the Witwatersrand Press
- North, D. C. 1981. *Structure and Change in Economic History*, New York, W. W. Norton & Company, Inc.
- O'Brien, D. P. 1984. The evolution of the theory of the firm, pp. 25–62, in Stephen, F. H. (ed.), *Firms, Organization and Labour*, London, Macmillan
- O'Driscoll, G. P., Jr and Rizzo, M. 1985. *The Economics of Time and Ignorance*, Oxford, Basil Blackwell
- Prendergast, C. 1986. Alfred Schütz and the Austrian school of economics, *American Journal of Sociology*, vol. 92, no. 1, 1–26
- Rowe, N. 1989. *Rules and Institutions*, New York, Philip Allan
- Schotter, A. 1981. *The Economic Theory of Social Institutions*, Cambridge, Cambridge University Press
- Schütz, A. 1962, *Collected Papers, Vol.1: The Problem of Social Reality*, The Hague, Martinus Nijhoff
- Schütz, A. 1972 [1932]. *The Phenomenology of the Social World*, London, Heinemann
- Searle, J. R. 2005. What is an institution?, *Journal of Institutional Economics*, vol. 1, no. 1, 1–22
- Shackle, G. L. S. 1972. *Economics and Epistemics*, Cambridge, Cambridge University Press
- Vaughn, K. I. 1994. *Austrian Economics in America: The Migration of a Tradition*, Cambridge, Cambridge University Press
- Williamson, O. E. 1985. *The Economic Institutions of Capitalism*, New York, The Free Press
- Winter, S. G. 1964. Economic 'natural selection' and the theory of the firm, *Yale Economic Essays*, vol. 4, no. 1, 225–72