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Introduction to the Douglass C. North Memorial Issue

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ABSTRACT

This introduction considers the highly influential contribution of Douglass C. North to economic history and institutional economics, as it developed from the 1960s until his death in 2015. It sketches the evolution of his arguments concerning the roles of institutions, organizations and human agency. North's conception of the economic actor became progressively more sophisticated, by acknowledging the role of ideology and adopting insights from cognitive science. Eventually he abandoned the proposition that institutions are generally efficient, to propose instead that sub-optimal institutional forms could persist. A few noted criticisms of North's work are also considered here, ranging from those which are arguably off the mark, to others that retain some force. The contributions to this memorial issue are outlined at the end of this introduction.

1. Biography and overview

Douglass C. North was born in 1920 in Cambridge, Massachusetts, USA.¹ In 1942 he graduated from the University of California, Berkeley, majoring in politics, philosophy and economics.

¹ The author is very grateful to John Groenewegen, Claude Ménard, Itai Sened, Mary Shirley, John Wallis and Barry Weingast for very helpful comments on earlier drafts of this introduction.

Because of his opposition to the Second World War he joined the Merchant Marine. At that time he held Marxist views. But, unlike most others of that creed, he did not change his opposition to the conflict when the Soviet Union entered the war. He once said that the war gave him time for reading, and it was then that he decided to become an economist. Subsequent influences on him included Simon Kuznets (whom he knew personally) and Joseph Schumpeter. He obtained his PhD from the University of California, Berkeley in 1952 and then took up a position at the University of Washington in Seattle. In 1983 he moved to Washington University in St. Louis. In 1993 he was co-recipient – with Robert Fogel – of the Nobel Memorial Prize in Economic Sciences for his path-breaking work on economic history. He died in 2015 in Benzonia, Michigan, USA.

North authored or co-authored more than fifty articles and eight books. He was editor of the *Journal of Economic History* for five years and president of the Economic History Association in 1972. Until 1986 he was a member of the Board of Directors of the National Bureau of Economic Research. He was a fellow of the American Academy of Arts and Sciences and of the British Academy. With Ronald Coase and Oliver Williamson, North helped to found the International Society for the New Institutional Economics (ISNIE).² He was also an Honorary President of the World Interdisciplinary Network for Institutional Research (WINIR), of the European Association for Evolutionary Political Economy (EAEPE) and of several other learned societies. He was on the International Advisory Board of this journal, among several others.

North's achievement has been massive and his work has been hugely influential. For example, the impressive stream of work produced by Daron Acemoglu and his colleagues has a strong Northian inspiration (Acemoglu et al. 2005, Acemoglu and Robinson 2012). North has also had an important policy influence over the World Bank and other major institutions involved in economic development. His ideas continue to permeate institutional economics and economic history, showing his enormous contribution to these fields.

North is rightly credited for his major role in the revival and development of the study of institutions in economics. With full justification, Robert Bates (2014: 50) wrote: 'If anyone can lay claim to be the founder of the new institutionalism, it would be Douglass North.' North brought institutions back onto the agenda in post-war economics, after decades of neglect.

This introduction has three following sections. The coming section outlines North's work as a whole, as it evolved chronologically. Another section considers some criticisms of North's work. This is followed by a section focusing on the problem of defining institutions and organizations in North's work. A final section outlines the contributions to this memorial issue and concludes the introduction.

2. North's long journey

North's analytical system developed gradually but unceasingly. In the 1960s he was well known for his leading role in the development of cliometrics, which pioneered the application of quantitative methods to economic history. Originally he favoured standard models of economic growth, with estimates of labour, capital and technology.

North's earliest work was in American economic history, where his central question was to understand how the American economy grew from a marginal colonial settlement to the largest and most productive economy in the world. He saw the spread of the export trade and the

² Now named the Society for Institutional and Organizational Economics (SIOE).

development of internal markets as major factors in the explanation. But while the stress on markets pointed to the need to examine their institutional underpinnings, neither the word ‘institution’ nor ‘property’ appear in the index of his North’s (1961) book on *The Economic Growth of the United States, 1790–1860*.

During the 1960s, North visited a maritime history museum in the Netherlands (Ménard and Shirley 2014: 19). He noticed that the ship models did not display any major technological improvements through time, but did carry fewer and fewer armaments. North argued that instead of technology, the increasing productivity of these merchant ships could be partly attributed to a decline in piracy and privateering, which permitted these vessels to reduce heavy armaments and manpower, and lowered insurance costs. In addition, the development and expansion of markets and the aggregation of goods in fewer ports, allowed ships to transport goods in both directions and reduced time spent in ports.

These insights led to a breakthrough paper on ‘Sources of Productivity Change in Ocean Shipping, 1600-1850’ (North 1968). This paper overturned the fashionable idea that technology was the supreme driver of economic development and instead pointed to institutional factors, including reductions in transaction costs. As North (1971: 120) put it in a subsequent paper: ‘The development of more efficient economic organization is surely as important a part of the growth of the Western World as is the development of technology, and it is time it received equal attention.’

North’s work continued to undermine the priority that was routinely assigned to technology as the major explanation of economic development. But his alternative emphasis on the role of institutions faced the problem of explaining institutional persistence or change. His early attempts prioritised the role of prices, expected revenues and expected costs. His book with Lance Davis on *Institutional Change and American Economic Growth* proposed that institutional innovation occurs when the expected net gains exceed the expected costs (Davis and North 1971).

Then North widened the scope of his inquiry beyond America. His book with Robert Paul Thomas, *The Rise of the Western World* further highlighted the role of organizational and institutional change in economic development: ‘Efficient economic organization is the key to growth ... Efficient organization entails the establishment of institutional arrangements and property rights that create an incentive to channel individual economic effort into activities that bring the private rate of return close to the social rate of return’ (North and Thomas 1973: 1).

North and Thomas argued that institutional arrangements that helped to secure property rights and enforce contracts promoted European economic development. These particular institutions helped to reduce transaction costs, realise economies of scale, encourage innovation and improve the efficiency of factor markets.

North’s shift in focus from economic growth in the United States to the earlier development of private property in Europe and elsewhere provided further major challenges. In the case of the United States the basic institutions supporting property, exchange and markets were already assumed. In his study of medieval Europe and elsewhere the problem was to explain the genesis of these institutions. It was necessary to explain evolving institutions such as property and markets, which are required to generate meaningful and explicit prices.

North did not take the institutional structure of markets lightly. North (1977: 710) wrote: ‘It is a peculiar fact that the literature on economics and economic history contains so little discussion of the central institution that underlies neo-classical economics – the market.’ North (1977: 710, 1981: 42) followed Karl Polanyi and noted that the earliest evidence of markets in

Europe or the Middle East is in Athens about 2500 years ago. North (1981: 41) was fully aware that ‘hierarchical organisation forms and contractual arrangements in exchange predate the price-making market’.³

North’s shift in focus from the modern United States to medieval Europe posed some conceptual challenges. He understood that the world before 1600 could not be described by the economics of price-making markets. But he believed that we could explain earlier human societies by applying a general economic theory of costs and benefits, even when these costs and benefits were subjective evaluations, rather than explicit prices.⁴

His theoretical framework still assumed that emerging institutions were relatively efficient, and that institutions changed when the perceived benefits from change outweighed the perceived costs. Some of the problems in this argument are illustrated in an article where North (1978) suggested that the United States opted to use some political regulation, rather than unregulated markets, because of the lower cost of the first option. But how are these relative costs to be appraised, and by whom? As Philip Mirowski (1981: 609) pointed out, such an approach might suggest a ‘meta-market’ allowing someone ‘to buy more or less market organization’, but the structure of this ‘meta-market’ is unclear. If the ‘lower cost’ criterion is a subjective evaluation, it is unspecified who is doing the evaluating, and how.

Even in his breakthrough book, *Structure and Change in Economic History*, while citing Armen Alchian’s (1950) famous article on evolution through competition,⁵ North (1981) suggested that the more efficient arrangements are generally the ones that survive the pressures of market competition, North (1981: 7) wrote: ‘competition in the face of ubiquitous scarcity dictates that the more efficient institution ... will survive and the inefficient ones perish.’

Other writers have made similar arguments to suggest that we can infer from the existence of prominent institutional forms that they are likely to be more efficient than rare or non-existent ones. Similar views, had been expressed by Michael Jensen and William Meckling (1979: 473) and by Oliver Williamson (1980: 35, 1985: 23). But none of these authors made their presumed competitive, evolutionary mechanisms sufficiently clear.

Showing his characteristic intellectual honesty and adaptability, North worried that these explanations were flawed. How could he explain the obvious fact that many countries suffered persistently inefficient institutions and persistently poor economic performance? So immediately after his statement that ‘competition ... dictates that the more efficient institution ... will survive and the inefficient ones perish’, North added : ‘in a world of non-market decision making inefficient forms of political structure do exist for long periods of time.’

³ Trade pre-dates markets by tens of thousands of years. Polanyi (1944: 56) and others defined markets more narrowly as arenas where regular, organized exchange of commodities take place. The earliest evidence we have of such organized markets is in China over 5000 years ago (Hodgson 2015a: 133).

⁴ Ironically, North (1977: 714) obtained help from Polanyi to extend the concept of ‘price’ beyond markets through occasional trade, and beyond to mere customary or fiat arrangements. North (1977: 714) quoted Polanyi et al. (1957: 20) thus: “‘Prices’ took the form of equivalences established by authority of custom, statute or proclamation’ and ‘eventual departures towards market trading were likely to originate from here’. Polanyi kept ‘price’ in inverted commas in these contexts, but North removed this punctuational clutter.

⁵ Alchian (1950) was followed by a similar argument by Friedman (1953). See Winter (1964) for a strong critique of Friedman’s argument.

This opened the door to an understanding of the possible endurance of inefficient institutions. This became a major theme in his later work. Furthermore, while much of his previous work had treated institutions as exogenous, North made questions of institutional origin and persistence more prominent, and sought to explain why different countries had different institutions.

He highlighted the role of ideology in promoting or hindering changes in institutional rules, including ‘large group action’ where free-rider behaviour is kept in check by systems of beliefs. North (1981: 12) argued that something more than the individual calculus of costs and benefits is needed ‘to account for change and stability.’ In addition, individuals may try and change structures ‘because of deep-seated ideological convictions that the system is unjust. Individuals may also obey customs, rules and laws because of an equally deep-seated conviction that they are legitimate. Change and stability in history require a theory of ideology to account for these deviations from the individualistic rational calculus of neoclassical theory.’

North (1981: 58) came to the conclusion that it was impossible to develop an adequate theory of institutional persistence or change solely on the basis of a rational individual who responds principally to changes in explicit relative prices. In addition, it was necessary to take into account ‘evolving ideological perspectives’ that promote notions of justice or fairness, as well as conceptions of pecuniary self-interest, upon which individuals and groups may act.

North (1981: 11, 54) rightly criticized Marxism for assuming that social classes could become cohesive actors, with insufficient analytical attention to the individual incentives or motivations that are necessary to sustain large-group cooperation and overcome the free-rider problem. But North (1981: 61) also credited Marx for emphasizing ‘the tension between an existing body of property rights and productive potential of a new technology’.

In another influential article, published three hundred years after the major English constitutional settlement of 1689, North and Barry Weingast (1989) argued that institutional changes following the Glorious Revolution of 1688 had been crucial in extending the security of property rights and promoting economic growth. Although their thesis has since remained controversial, it has provoked much further discussion and research.

In a book entitled, *Institutions, Institutional Change, and Economic Performance*, North (1990a) moved further away from ‘neoclassical’ assumptions concerning efficiency and rationality. This has become his most cited work, where he delved deeply into the causes of institutional change, particularly those which could heighten the clarity and security of property rights. He argued that institutional change occurs when economic or political ‘entrepreneurs’, who have the bargaining strength to change institutions, perceive some advantage in doing so. This perceived advantage is ultimately in terms of subjective evaluations of costs and benefits, which need not be reflected in explicit (market) prices.

Entrepreneurial ‘perceptions crucially depend on both the information the entrepreneurs receive and the way they process that information’ (North 1990a: 8). Citing several authors, including Herbert Simon (1957) on bounded rationality, North (1990a: 17-26) argued that the information held by actors is generally incomplete, their mental models are highly imperfect, and information feedbacks are often too weak to rectify major errors.

Furthermore, because the existing set of institutions and associated incentives bear upon and constrain their actions, institutional change is often path dependent: it tends to follow a trajectory that is limited by its previous evolution in time. Even if agents are aware of the sub-

optimality of these institutions, the costs of improving them may be too great. Consequently, institutions could remain stuck in relatively inefficient developmental paths.⁶

This was a radical development, abandoning North's (1981: 7) assumption that competitive market forces eventually eliminate inefficient institutions and promote efficiency. By 1990, in emphasizing path dependence, North fully established a different view. Inefficient institutions could in principle survive, even with competitive markets, largely because of the costs and difficulties of moving from one developmental path to another, including the impediments to changing ideologies that are deeply-rooted in existing structures.⁷

Once he had accepted the important role of ideology, North (1981: 18, 58, 1990a: 20-21) argued that notions of justice, fairness, moral self-constraint and even altruism could govern human behaviour, alongside the selfish maximization of wealth. Hence in his Nobel Prize Lecture, North further consolidated and developed his argument. North (1994: 362) wrote:

It is necessary to dismantle the rationality assumption underlying economic theory in order to approach constructively the nature of human learning. History demonstrates that ideas, ideologies, myths, dogmas, and prejudices matter; and an understanding of the way they evolve is necessary for further progress in developing a framework to understand societal change. ... The analytical framework we must build must originate in an understanding of how human learning takes place.

North followed Frank Hahn (1991) and others in viewing the standard rationality assumption, involving fixed preference functions, as incompatible with an adequate notion of learning. North turned to cognitive science to help explain the nature and role of learning in the acquisition of beliefs.

Another step established a link between beliefs and institutions. North (1994: 363) wrote: 'Belief structures get transformed into societal and economic structures by institutions – both formal rules and informal norms of behaviour.' This created a two-way positive feedback loop between institutions and beliefs, often making it difficult to escape a particular institutional and cultural configuration. This in turn helped to explain path dependence in history. As North (1994: 364) put it:

most societies throughout history got 'stuck' in an institutional matrix that did not evolve into the impersonal exchange essential to capturing the productivity gains that came from the specialization and division of labor that have produced the Wealth of Nations. ... It is culture that provides the key to path dependence ... Societies that get 'stuck' embody belief systems and institutions that fail to confront and solve new problems of societal complexity.

North thus offered a partial explanation why underdevelopment has persisted in much of the world and why efforts to reform simply by establishing or changing formal (legal) rules have been so unsuccessful.

⁶ North used the term 'path dependency' as well as 'path dependence'. But among other authors, 'path dependence' is probably more common. It is also grammatically more appropriate. For seminal discussions of path dependence see, for example, Arthur (1989) and David (1985, 2001).

⁷ Similarly, although he saw institutions as subject to a Darwinian selection process, Veblen (1914, p. 25) wrote of 'the triumph of imbecile institutions over life and culture'. These and other considerations led some authors (Groenewegen et al. 1995, Rutherford 1995, Vandenberg 2002) to suggest that North had become as much a part of the original institutionalism as the new. Dequech (2002) and Hodgson (2014) argued further that the distinction between the 'old' and 'new' institutionalism is now extremely fuzzy at best, and both the 'old' and 'new' institutionalism are themselves internally diverse.

But, after underlining the way in which beliefs and mental models can be perpetuated in a given institutional set-up, North was aware that there were many questions still to be answered, including how new belief systems arose, became established, and how they change. North (2005b: 21) complained that much of economics was ‘made up of a static body of theory’ and ‘static analysis severely hinders our ability to analyze and improve the performance of economies in a world of continuous change.’ Addressing the particular question of how and why beliefs change, North (2005b: 26) turned to cognitive science to illuminate the way forward.⁸

He made further progress in his book on *Understanding the Process of Economic Change*. As before, North (2005a) argued that human institutions are motivated in large part by a drive to reduce or manage uncertainty. He advanced his institutional analysis by integrating ideas from the philosophy of mind and cognitive science. He argued that individual preferences are not exogenous, or independently fixed, as most mainstream economists assume. To underline this point, North drew on the idea of ‘embedded cognition’. Accordingly, cognition does not simply take place ‘inside the head’ but in interaction with an external, social and physical environment (Clark 1997, Donald 1991, Hutchins 1995). Through this use of cognitive science, North’s aim was to develop our understanding of how institutions and belief systems co-evolved. Although the programme he articulated in this book was not as well-developed as those in his other works, it holds the promise of major breakthroughs in understanding human behaviour, which are not possible with models using standard, static, rationality assumptions.

North had consistently stressed the interaction between economic and political institutions. His last book on *Violence and Social Orders*, co-authored with John Wallis and Barry Weingast, was a highly ambitious attempt to establish a theoretical framework to understand all recorded human history (North et al. 2009).⁹ Their analysis starts roughly ten thousand years ago in a world of warring tribes. They first explained how elites may emerge: by sharing power and reducing conflict they could create a stable environment for production and trade, thereby generating rents that they could exploit. By controlling and limiting the use of violence, these elites retained power and reaped its benefits. But in these ‘limited access orders’, adequate property rights and the effective rule of law was confined at best to the elites and their immediate allies. This often led to instability, where rival groups attempted to supplant the existing elite and enjoy the benefits of power. But when other groups managed to gain power, the new rulers would typically use the same exclusionary institutions to limit access for everyone outside their favoured circle. Despite changes at the top, the institutional structure of society often remained largely intact. Because these ‘limited access orders’ have dominated thousands of years of history, they were described as the ‘natural state’.

A key analytical problem was to explain the recent transition from ‘limited access’ to ‘open access’ orders, where political and economic rights and freedoms were dispersed much more widely throughout the population. Open access orders emerged in Europe after the Industrial Revolution and spread to North America and elsewhere. Power became legitimated through democratic institutions. These in turn channelled popular pressure for education and welfare

⁸ North (2005b: 21) also hinted at the possible use of evolutionary theory, but needlessly cluttered that route by repeating the old mistake that ‘Darwinian theory’ excludes selection when guided by intentions. For a refutation of this misunderstanding see Hodgson and Knudsen (2010).

⁹ A useful comparison can be made with the equally ambitious, two-volume work of Fukuyama (2011, 2014), which also analyses the rise of political order in modern societies, but takes a contrasting approach. Both Fukuyama and North et al. emphasise the role of political institutions but differ in other important respects.

provision, as well as for widespread infrastructure and other public goods. Autocracy was kept in check by dispersed, enduring and organized sources of countervailing power, including business corporations and political parties. These checks and balances helped to establish autonomous legal systems, protecting rights and enforcing the principle of equality under the law, irrespective of who is in power. North and his colleagues explained the transition to ‘open access orders’ partly in terms of the growing power of some interest groups in the later stages of development of ‘limited access orders’.

North’s intellectual journey is remarkable not only for its achievement, but also for the way in which he constantly challenged and attempted to rectify the perceived limitations of his preceding work. North’s writings often concluded with a statement to the effect that much more needed to be done to understand adequately the phenomena involved. He was needlessly modest, but exceptionally and commendably adaptive in his work.

North’s achievement is immense. With others he has helped to transform the subject of economic history, placing the role of institutions at the top of its agenda. He also made a huge contribution to the development of institutional economics. We have lost much by his passing.

3. Some prominent criticisms of North’s theory

Even with someone of the high intellectual calibre of North, it would be surprising that such a huge, evolving output lacked any imprecision or inconsistency. It is also to be expected that the work of any prominent scholar is subjected to a large measure of (warranted or unwarranted) criticism, as well as of praise.

Some of the criticisms of North concern historical facts and their interpretation, such as his depiction of the nature of the 1688 Glorious Revolution and its consequences (Hoppit 2011, Cox 2012, Ogilvie and Carus 2014, Pincus and Robinson 2014, Hodgson 2016b), or of the role of transaction costs in the decline of serfdom (Fenoaltea 1975).

Other criticisms concern the theoretical and conceptual foundations of this work, and these alone are the subject of this section. It would be impossible to attempt a comprehensive survey of all critical discussion of North’s ideas. Instead we shall deal with some selective examples.

North’s discussion of the historical role of property rights has been criticised on matters of historical accuracy and interpretation (Angeles 2011, Hoppit 2011, Ogilvie and Carus 2014). Additional criticism has come from Marxists. For policy reasons, Marxists are uneasy with North’s emphases on the establishment of secure property rights. But Marxist critiques tend to downplay the problem of individual incentives, neglect variation between individuals, and adopt a weak view of property that neglects the constitutive role of law.¹⁰

To take one example, Dimitris Milonakis and Ben Fine (2007) criticized North from a Marxist perspective. Milonakis and Fine (2007: 36-37) argued that in North’s work: ‘the individual remains the basic unit of analysis, the point of departure as well as the most pervasive element. Methodological individualism is his most sacred analytical principle.’ Unfortunately, they did not explain what they meant by ‘unit of analysis’ or ‘methodological individualism’. It is true that North makes much of the roles of individuals, individual incentives and individual agency. But what is wrong with that? Understanding incentives is of vital importance, both for understanding history and for practical institutional design.

¹⁰ Marxism wrongly treats legal forms as part of the social ‘superstructure’: law is seen as epiphenomenal rather than constitutive (Hodgson 2015a, Deakin et al. 2016).

Concerning the accusation of ‘methodological individualism’, this is a notoriously ambiguous term. It is used much more frequently, by advocates and critics, than it is clearly defined (Hodgson 2007). As Kenneth Arrow (1994) pointed out, even the most individual-oriented theories in economics cannot avoid invoking social relations and structures as well. The vague accusation of ‘methodological individualism’ might carry more weight if North had entirely downplayed the role of institutional structures and informal norms in his work. But clearly North did not do this.

Milonakis and Fine (2007: 37) themselves acknowledged ‘the prominence of the structural framework in North’s problematic’. Instead, their complaint seemed that North made too much of individual incentives and choices. They wrongly concluded that this means that ‘(individual) agency takes precedence over structural factors’. The fact is that North emphasized *both* structure and agency, and that is a vital starting point for all viable social analysis. It is untrue that North depicted institutions as influencing behaviour only ‘by acting as constraints on individual action’.¹¹

Particularly after his ‘cognitive turn’ and his adoption of ‘embedded cognition’ in the 1990s, North saw institutions as enabling as well as constraining human action. Even his earlier work on the importance of property rights emphasizes the enabling as well as the constraining role of these institutions. His turn to cognitive science meant that he appreciated the cognitive-enabling function of institutions, as well as enablement through incentives. Furthermore, North saw new or changed institutions as outcomes of individual and group actions, as well as the enabling and constraining features of existing institutions.

But one argument by Milonakis and Fine against North carries more weight. It builds on arguments developed by others (Fenoaltea 1975, Hodgson 1988: 206-8, Ankarloo 2002). It addresses North’s use of concepts such as transaction cost in contexts that lack explicit, price-forming markets. Because North (like others) extended the notion of transaction cost to historical periods and cases where there were no explicit prices, Milonakis and Fine (2007: 52) complained of ‘the ahistorical and universalistic nature of transaction costs theory’.

In the absence of prices, transaction costs can be no more than subjective evaluations. For instance, North argued that in pre-modern times the perceived high transaction costs associated with markets helped explain their absence, and the use of alternative forms of organization and allocation (North and Thomas 1973: 20-21, 31-32, North 1981: 33-44, 129). Milonakis and Fine (2007: 50) pointed out that this fails to explain the particular kind of non-market organization involved, whether it be slavery, serfdom, land rents or whatever. But North’s (1990a, 1994) mature work on path dependence provides a preliminary additional framework for the explanation of the persistence of particular, possibly suboptimal, institutions.

¹¹ In their critique of North, Milonakis and Fine (2007: 37) outlined their own view: ‘the social whole is given analytical primacy. ... The social is taken as a point of departure, and social wholes and collectivities assume an autonomous existence, independent from its individual members.’ This is at best ambiguous and at worst wrong. Trivially, social wholes cannot exist independently of *all* individual members, because if everyone died from the plague then the social whole would no longer exist. Milonakis and Fine were perhaps trying to say (rightly) that every *single* individual (considered on their own) is born into a social world of structures and rules that are not of his or her making (Archer 1995: 72; Hodgson 2004: 34-36). Consequently, social structures or wholes are *different things* from individuals, and they have properties that are different from those of the individuals that sustain them. But there is a big difference between seeing such social structures or wholes as separable from *any one* individual, or as independent of *all* individuals (Hodgson 2004: 25-26). The first proposition is valid but the second is absurd.

To some degree, ahistorical and universal assumptions are necessary for any historical social science.¹² But this does not mean that *any* concept is appropriate within the over-arching theoretical framework. The relevant question is to what extent the explanatory devices of relative prices or transaction costs can be used generally to help explain institutional and organizational change. The obvious problem in economic history is that once we move beyond explicit market prices it is much more difficult to measure costs in terms of subjective evaluations. Without explicit prices, empirical confirmations of arguments concerning institutional change are much more difficult to establish.

Some overly-extensive universal frameworks also lead to historically-specific concepts such as *property rights* being diluted (Hodgson 2015c). Accordingly, because it is seeking principles true for all human history, the standard ‘economics of property rights’ defines (economic) property principally in terms of control of an asset (Alchian 1965, 1977, Barzel 1989). If mentioned, the historically specific phenomenon of legal title to ownership is subservient to the matter of control. Consequently, transaction costs simply become the costs of enacting free choice, rather than the costs of making a legally-recognized contract or transaction (Allen 2015: 382). Such definitions of property rights are universal and ahistorical. They apply to all worlds where individuals can make choices over assets. Modern, historically-specific features of legal property and contract are diminished.¹³

On such issues, North’s own position was unresolved. While he universalized the calculation of costs and benefits, unconfined to a world of price-making markets, he sometimes discussed the importance of legal systems to enforce contracts (North 1977, 1981, North et al. 2009). His remarks concerning the importance of justice, fairness, and moral self-constraint, which are promoted by particular ideologies, dovetail with a view that people often follow the law for moral reasons, based on the perceived legitimacy of the state, rather than via a universal instrumental calculation of self-interest (Tyler 2006, Hodgson 2015c). This would tally with an approach that recognised the historical specificity of states and legal systems. It would understand the distinctive role that law – and the ideologies that support it – can play in motivating compliance, enforcing contracts, enhancing social cohesion and reducing violence. It is notable that his final book (North et al. 2009) makes relatively less use of concepts such as relative prices and transaction costs to explain institutional change.

There is a related tension between, on the one hand, North’s (1977: 710, 1981: 41-42) treatment of the market as a historically specific institution that generates explicit prices, and on the other hand, a looser and broader conception. After acknowledging the significance and historical specificity of price-making markets, North (1981: 42) added that ‘any form of voluntary contractual exchange involves a market’. This widened the definition of ‘market’ considerably, beyond organized spheres of regularised exchange, to trade in general. Many economists equate markets with trade in general: it is a matter of definitional choice and convention (Hodgson 2015a). But then North went even further, to describe interactions without legally-enforceable contracts as ‘markets’.

¹² All particular claims depend on some general concepts to establish them. All theory, even if it is historically-sensitive, depends on some ahistorical concepts and claims (Hodgson 2001).

¹³ By contrast, Demsetz (1968: 35) adopted a legally-grounded, approach: ‘Transaction cost may be defined as the cost of exchanging ownership titles. ... Transaction cost is defined narrowly in this paper ... Broader interpretations lead to extremely difficult empirical and conceptual problems.’ Similarly, inspired by Commons (1924), Hodgson (2015a) and Deakin et al. (2016) promote a historically-specific ‘legal institutionalism’, where legal foundations help constitute concepts such as property, exchange and the firm.

Consider his notion of ‘political markets’ (North 1990a, 1990b, 1994). This concept has become popular among some political scientists and institutional economists. But it is unclear what is being traded and what are the prices. In an attempt to explain the notion of ‘exchange’ on these markets, North (1994: 361) wrote: ‘What is being exchanged (between constituents and legislators in a democracy) is promises for votes.’ But voting in elections and government commitments normally involve neither exchanges of legal property rights nor enforceable contracts. It is a matter of reputation and justice, rather than contract or exchange.

The notion of ‘political market’ might better apply to corrupt democracies (such as India) where popular votes are frequently purchased with money, and where elected politicians are frequently bribed. But there are good reasons why such corruption is perceived as a problem. One is that it brings the moral integrity of the legislature and executive into disrepute. North’s mentions of the importance of perceived fairness and justice in the political system are relevant here. But at best his notion of ‘political market’ seems indifferent to such questions. At worst it could be used to legitimate political corruption.

In any democracy there may be tacit understandings between rulers and the ruled, amounting to a ‘social contract’. But the ‘social contract’ of political theory is not necessarily a real contract, at least not one enforceable in law. It is more like a heuristic device for political theorists, to explain the origin of society and the legitimacy of the authority of the state. It does not involve the exchange of rights to goods or services and cannot signal the existence of commercial trade or markets.

A danger in the term ‘political market’ is that it stretches the concept of the market so widely that it loses much of its meaning, particularly in relation to property and contractual exchange. Furthermore, the difficulty of assessing transaction costs in political interactions, when there are few visible prices (cost are conceived instead as subjective evaluations), makes this approach even more difficult to test empirically.

These dilemmas in North’s work subvert one of the key conclusions from his studies of Western economic development that would purportedly transfer to the developing world today – his stress on the importance of secure property rights. A problem is that his notion of ‘property rights’ is not specified with sufficient precision, and could lead to widely different policies. Before denying or asserting the importance of property rights, we need to be much clearer on what they mean. A standard ‘economics of property rights’ perspective would emphasise individual control and private ordering, and downplay the role of the state. Another perspective would emphasise the crucial role of the state and a legal system in sustaining a system of private property, properly understood (Commons 1924, Hodgson 2015a, Deakin et al. 2016).

4. The problem of defining institutions and organizations

Another problem with North’s work concerns inadequate precision with other key concepts, especially the notion of an *institution*. It is widely believed that Douglass North’s definition of institutions excludes organizations, and hence organizations are not institutions (Khalil 1995, Ménard 1995). In an often-quoted passage, North (1990a: 3-4) wrote:

Institutions are the rules of the game in society or, more formally, are the humanly devised constraints that shape human interaction. A crucial distinction ... is made between institutions and organizations. ... Conceptually, what must be clearly differentiated are the rules from the players.

North rightly insisted that rules must be ‘clearly differentiated ... from the players’. North (1994: 361) also wrote:

It is the interaction between institutions and organizations that shapes the institutional evolution of an economy. If institutions are the rules of the game, organizations and their entrepreneurs are the players. Organizations are made up of groups of individuals bound together by some common purpose to achieve certain objectives.

North rightly highlighted entities such as political parties, firms and trade unions as organizations. But these statements are otherwise ambiguous and have led to much confusion.

Consider the repeated clause: ‘institutions are the rules of the game’. Is this a *definition* of an institution? If so, then it might be reasonably assumed that institutions are sets of social rules, including laws, customs, traffic rules, table manners, rules governing our bank accounts, the rules we agreed concerning the running of our local drama society, and so on.

This clause is sometimes conjoined with another: ‘organizations ... are the players’. When the two clauses are run together, problems are created with the above-suggested meaning of an institution. For example, this conjoined clause might suggest that the kind of ‘rules of the game’ being considered *must* have organizations (rather than simply individuals) as players. Then most of the assumed institutions in the list in the preceding paragraph cannot be treated as such, because their ‘players’ are individuals, not organizations. The way North juxtaposed the two clauses led to problems of interpretation and possible confusions.

Further confusion is brought by the added ‘if’ at the beginning: ‘If institutions are the rules of the game, organizations ... are the players.’ Is this meant to be a logical statement? If so, it is not clear why the second part follows logically from the first. Individuals, as well as organizations, can play a game. In short, North attempts a concise definition – ‘institutions are rules of the game’ – but it is then spoiled by its conjunction with other confusing terms.

The most serious problem is that it becomes unclear whether organizations are regarded as institutions or not. Some of North’s formulations might support an interpretation that organizations are not institutions, such as the above ‘distinction ... between institutions and organizations’. But this is in the context of a particular discussion where the first-cited examples of institutions are constitutions and laws (North 1990a: 4). Such macro-level institutions differ in character from micro-level organizations such as firms. Did North mean to write of a ‘distinction between organizations and *other* institutions’?

The matter is further complicated because states and their legal systems can also be treated as organizations: they have boundaries, decision-making hierarchies and criteria for membership. North et al. (2009: 17, 30-31) themselves described the state as an organization of organizations, thus making other organizations ‘players’ within the state, and blurring the line between institutions and organizations, by (reasonably) suggesting that the state was both. Generally, organizations have rules, and within them individuals or other organizations are the players. This must mean that organizations are a type of institution. But insufficient clarity and wavering formulations have caused endless confusion and dispute.

The aims and context of North’s analyses are important. He established his own primary interest in macro-level economic systems rather than the internal functioning of specific organizations. Often he was not so concerned with the social rules that are internal to organizations, because he wanted to treat them as unitary players and focus on interactions at higher levels. He more often viewed ‘organizations as players’ from the outside rather than looking at the internal structures of organizations from the inside.

There is nothing in principle wrong with the idea that under some conditions organizations can be treated as single actors, such as when there are procedures for members of an organization to express a common or majority decision (Coleman 1982, Hindess 1989). But a

problem would arise if we *defined* organizations as actors. This would amount to an unwarranted universal conflation of individual agency and organization.

As North acknowledged, organizations – such as firms and trade unions – are structures made up of individual actors, often with some conflicting objectives. Even if mechanisms for reaching and acting on decisions are prevalent, the treatment of an organization as a social actor should not ignore the potential conflict within the organization.

Abstraction and definition are entirely different analytical procedures (Hodgson 2015b, 2016a). When mathematicians calculate the trajectory of a space vehicle or satellite, they often treat it as a singular particle. In other words, they ignore the spatial extension, internal structure and rotation of the entity. But this abstraction does not mean that the vehicle or satellite is *defined* as a particle.

In his published work, North did not make it sufficiently clear whether he was *defining* organizations as players or treating organizations as players as an *analytic abstraction*. This has created much confusion. But in correspondence with the present author, North explained that he treated organizations as players simply for the purpose of analysis of the socio-economic system as a whole and that he did not regard organizations as essentially the same thing as players in all circumstances. In saying that ‘organizations are players’, North was making an *abstraction*, rather than *defining* organizations in this way.¹⁴

When North assumed that organizations ‘are made up of groups of individuals bound together by some common purpose’ he was less interested in the internal mechanisms by which organizations coerce, persuade, or otherwise incentivize members to act together. This is an acceptable analytical isolation, as long as we understand its limitations. All science involves some abstraction and analytical isolation.

Crucially, these internal mechanisms always involve systems of embedded rules, including incentives and payoffs. Organizations involve structures, and these cannot function without rules of communication, membership or sovereignty. North accepted that organizations have internal players and systems of rules. The unavoidable existence of rules within organizations means that, by North’s own definition, organizations must be regarded as a *type of institution*, where *the individuals within* are players.

These problems can be resolved by defining institutions as *systems of established, socially-embedded rules*. By this definition, language also is an institution (Searle 1995, 2005). Organizations are a subset of institutions: unlike some other institutions they also involve boundaries, criteria of membership and structures of governance. Some may object that this definition of institution is then too broad and includes very different things. Such an objection would be unwarranted. It would be like objecting to the definition of a mammal because it includes widely different things such as mice, humans and elephants. Such definitions are

¹⁴ Extracts from this correspondence with North are published in Hodgson (2006). Therein North agreed that organizations may be treated as a special type of institution. But North et al. (2009: 15) contradicted this: ‘In contrast to institutions, *organizations* consist of specific groups of individuals pursuing a mix of common and individual goals through partially coordinated behavior.’ If they had put ‘In contrast to *other* institutions, organizations ...’ then the contradiction would have disappeared. They went on to say that ‘most organizations have their own internal institutional structure’, which suggests that most organizations comprise institutions and have an institutional character (North et al. 2009: 16). North never untangled these meanings sufficiently and left a legacy of confusion in this specific area.

classificatory devices, and there is nothing to stop further taxonomic sub-classification if necessary.¹⁵

The terms *formal* and *informal* in this context also require clear definitions, which were lacking in North's work. North often implied that by formal he meant *legal*, but other writers give the term formal alternative meanings, such as *codified* or *designed*. These words have completely different meanings. To build further on North's legacy, our intended meanings of these terms should be clearer.

But, criticism aside, North's huge achievement should be underlined. He is largely responsible for placing institutions at the centre of modern research on economic development. By showing that institutions can be studied by how they affect human behaviour, North opened an entire new field of study, greatly expanding the reach of economic enquiry and the scope of political science.

5. The contents of this memorial issue

This issue contains eight essays, excluding this introduction. All of them relate to aspects of North's work and commemorate his achievements.

In their essay on 'Cognitive rules, institutions and economic growth: Douglass North and beyond', Avner Greif and Joel Mokyr (2016) underline North's insistence that institutional change depends on cognition and beliefs. Yet while he focused on individual beliefs, they argue that such beliefs are social constructs. Institutions are based on shared cognitive rules, which are social constructs that convey information, distilling social beliefs and experiences. These rules have to be self-enforcing and self-confirming, but they do not have to be correct. They illustrate their importance in two developments central to the growth of modern economies: the rise of the modern state with its legitimacy based on consent, and the rise of modern science-based technology that was the product of the scientific revolution and the Enlightenment.

In the second essay, Emmanouil M. L. Economou and Nicholas C. Kyriazis (2016) use ancient texts and other evidence to explore 'The emergence and the evolution of property rights in ancient Greece'. They cite early indications of the emergence of property rights in the writings of Homer and Hesiod. Property rights evolved, together with changes in warfare and city-states during the Archaic and Classical periods, becoming more secure and specific, based on contracts. They analyse particular case studies to explore the nature and forms of ancient property and contract law. They find evidence of legally binding procedures of law enforcement, banking services, and the extension of rights to women.

In the third essay, on '1688 and all that: Property rights, the Glorious Revolution and the rise of British capitalism', Geoffrey M. Hodgson (2016b) addresses the North-Weingast argument that the Glorious Revolution made property rights more secure and created the foundation for the British Industrial Revolution and the rise of capitalism. This thesis has been widely criticised by historians on several grounds, including the fact that there was a long delay between 1688 and the onset of the Industrial Revolution around 1760. Hodgson argues the immediate outcome of the Glorious Revolution was a series of foreign wars. Military financing and success required the 1689 accord between king and parliament. But also the needs of war

¹⁵ For more on the nature and role of definitions in social science see Hodgson (2015a, 2016a). Hindriks and Guala (2015) provided a perspective on institutions that synthesized rule-based and equilibrium-based perspectives. In response Hodgson (2015b) argued that the 'system of rules' criterion can still serve well as a classificatory definition. A fuller ontological account of the nature of institutions is a different matter.

prompted major changes in financial institutions and state administration, eventually widening collateralizable property, markets for debt, and the financial basis for industrial innovation and investment.

North et al. (2009) developed the concepts of ‘limited access order’ and ‘open access order’. In the fourth essay, entitled ‘Understanding the economics of limited access orders: Incentives, organizations and the chronology of developments’, Bas van Bavel, Erik Ansink and Bram van Besouw (2016) explore the ‘limited access orders’ that were prevalent in most of history and still endure in some parts of the world. They analyse the incentive structure of actors involved, using a formal model of the main interactions in a limited access order. They use insights from historical research to scrutinize the chronology of the rise of organizations. This allows them to refine and substantiate the insights gained by North, Wallis and Weingast.

In the fifth essay, entitled ‘Determinants of property rights in Poland and Ukraine: the polity or politicians?’ Christopher A. Hartwell (2016) notes that North affirmed the role of the state in the definition and enforcement of property rights. Hartwell traces the development of property rights in Poland and Ukraine and explores their divergence over the past three centuries, using North’s theoretical framework. Hartwell shows that the distribution of political power and political institutions had a profound impact on property rights, and this relationship persists up to present times.

In the sixth essay, entitled ‘The tortoise and the hare: How North’s institutional ideas resolved a nineteenth century Australian fable’, Darren O’Connell and Siobhan Austen (2016) use North’s institutional framework to explain why the colonies of Western Australia and South Australia, established in 1829 and 1836, respectively, had considerable disparities in economic growth up the end of 1900. They argue that the two colonies had different institutions and policies, which evolved along different trajectories, leading eventually to a convergence of economic performance.

In the seventh essay, entitled ‘Institutions and the shale boom’, Ilia Murtazashvili (2016) uses North’s ideas to help explain why fracking technology was deployed extensively in the United States, compared with other shale-rich economies. Murtazashvili argues that particular private ownership of minerals, encouraged experimentation on the barren Texas oil and gas fields, where fracking technology emerged and the rapid transfer of mineral rights to gas companies. Institutional entrepreneurs facilitated contracting between owners of mineral rights and drillers.

Finally, in the eighth essay, entitled ‘Informal norms trump formal constraints: The evolution of fiscal policy institutions in the United States’, Peter Calcagno and Edward Lopez (2016) explore the dialectic of informal norms and formal constraints, which was a major theme of North’s work. They note that two shifts of informal rules occurred in the United States in the decades from about 1880 to 1930. Spending norms in the electorate shifted to an expanded scope of the government budget, in particular to promote economic security and macroeconomic stability. Simultaneously, norms for elected office shifted to careerism. They argue that these norms affected legislation, creating entitlement programs and organizational changes to the fiscal policy process. This increased demand for federal expenditures, thus imparting strong motivations to spend through deficit finance even in normal times. Despite the last four decades of legislative attempts to constrain spending relative to taxes, the informal norms have trumped formal constraints.

References

- Acemoglu, Daron, Johnson, Simon and Robinson, James A. (2005) 'Institutions as a Fundamental Cause of Long-Run Growth', in Philippe Aghion and Steven N. Durlauf (eds) (2005) *Handbook of Economic Growth: Volume 1A* (North Holland: Elsevier), pp. 385-472.
- Acemoglu, Daron and Robinson, James A. (2012) *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (New York: Random House and London: Profile).
- Alchian, Armen A. (1950) 'Uncertainty, Evolution, and Economic Theory', *Journal of Political Economy*, **58**(2), June, pp. 211-22.
- Alchian, Armen A. (1965) 'Some Economics of Property Rights', *Il Politico*, 30, pp. 816-829.
- Alchian, Armen A. (1977) 'Some Implications of Recognition of Property Right Transaction Costs', in Brunner, Karl (ed.) (1977) *Economics and Social Institutions: Insights from the Conferences on Analysis and Ideology* (Boston, MA: Martinus Nijhoff), pp. 234-55.
- Allen, Douglas W. (2015) 'The Coase Theorem: Coherent, Logical, and not Disproved', *Journal of Institutional Economics*, 11(2), June, pp. 379-90.
- Angeles, Luis (2011) 'Institutions, Property Rights, and Economic Development in Historical Perspective', *Kyklos*, 64(2), May, pp. 157-77.
- Ankarloo, Daniel (2002) 'New Institutional Economics and Economic History', *Capital and Class*, 78, pp. 9-36.
- Archer, Margaret S. (1995) *Realist Social Theory: The Morphogenetic Approach* (Cambridge: Cambridge University Press).
- Arrow, Kenneth J. (1994) 'Methodological Individualism and Social Knowledge', *American Economic Review (Papers and Proceedings)*, **84**(2), May, pp. 1-9.
- Arthur, W. Brian (1989) 'Competing Technologies, Increasing Returns, and Lock-in by Historical Events', *Economic Journal*, **99**(1), March, pp. 116-31.
- Barzel, Yoram (1989) *Economic Analysis of Property Rights* (Cambridge: Cambridge University Press).
- Bates, Robert (2014), 'The New Institutionalism', in Galiani, Sebastian and Sened, Itai (eds) (2014) *Institutions, Property Rights and Economic Growth: The Legacy of Douglass North* (Cambridge and New York: Cambridge University Press), pp. 50-65.
- Bavel, Bas van, Ansink, Erik and Besouw, Bram van (2016) 'Understanding the economics of limited access orders: Incentives, organizations and the chronology of developments', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000254>.
- Calcagno, Peter and Lopez, Edward (2016) 'Informal norms trump formal constraints: The evolution of fiscal policy institutions in the United States', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000321>.

- Clark, Andy (1997) *Being There: Putting the Brain, Body and World Together Again* (Cambridge, MA: MIT Press).
- Coleman, James S. (1982) *The Asymmetric Society* (Syracuse: Syracuse University Press).
- Commons, John R. (1924) *Legal Foundations of Capitalism* (New York: Macmillan).
- Cox, Gary W. (2012) 'Was the Glorious Revolution a Constitutional Watershed', *Journal of Economic History*, 72(3), pp. 567-600.
- David, Paul A. (1985) 'Clio and the Economics of QWERTY', *American Economic Review (Papers and Proceedings)*, 75(2), May, pp. 332-7.
- David, Paul A. (2001) 'Path Dependence, its Critics, and the Quest for "Historical Economics"', Garrouste, Pierre and Ioannides, Stavros (eds) (2001) *Evolution and Path Dependence in Economic Ideas: Past and Present* (Cheltenham: Edward Elgar), pp. 15-40.
- Davis, Lance E. and North, Douglass, C. (1971) *Institutional Change and American Economic Growth* (Cambridge and New York: Cambridge University Press).
- Deakin, Simon, Gindis, David, Hodgson, Geoffrey M., Huang, Kainan, and Pistor, Katharina (2016) 'Legal Institutionalism: Capitalism and the Constitutive Role of Law', *Journal of Comparative Economics*, published online. DOI: <http://dx.doi.org/10.1016/j.jce.2016.04.005>.
- Demsetz, Harold (1968) 'The Cost of Transacting', *Quarterly Journal of Economics*, 82(1), February, pp. 33-53.
- Dequech, David (2002) 'The Demarcation Between the "Old" and the "New" Institutional Economics: Recent Complications', *Journal of Economic Issues*, 36(2), June, pp. 565-72.
- Donald, Merlin (1991) *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition* (Cambridge, MA: Harvard University Press).
- Economou, Emmanouil M. L. and Kyriazis, Nicholas C. (2016) 'The emergence and the evolution of property rights in ancient Greece', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000205>.
- Fenoaltea, Stefano (1975) 'The Rise and Fall of a Theoretical Model: The Manorial System', *Journal of Economic History*, 35(2), June, pp. 386-409.
- Friedman, Milton (1953) 'The Methodology of Positive Economics', in M. Friedman, *Essays in Positive Economics* (Chicago: University of Chicago Press), pp. 3-43.
- Fukuyama, Francis (2011) *The Origins of Political Order: From Prehuman Times to the French Revolution* (London and New York: Profile Books and Farrar, Straus and Giroux).
- Fukuyama, Francis (2014) *Political Order and Political Decay: From the Industrial Revolution to the Globalization of Democracy* (New York: Farrar, Straus and Giroux).
- Greif, Avner and Mokyr, Joel (2016) 'Cognitive rules, institutions and economic growth: Douglass North and beyond', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000370>.
- Groenewegen, John, Kerstholt, Frans and Nagelkerke, Ad (1995) 'On Integrating the New and Old Institutionalisms: Douglass North Building Bridges', *Journal of Economic Issues*, 29(2), June, pp. 467-75.

- Hahn, Frank H. (1991) 'The Next Hundred Years', *Economic Journal*, **101**(1), January, pp. 47-50.
- Hartwell, Christopher A. (2016) 'Determinants of property rights in Poland and Ukraine: the polity or politicians?' *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000175>.
- Hindess, Barry (1989) *Political Choice and Social Structure: An Analysis of Actors, Interests and Rationality* (Aldershot: Edward Elgar).
- Hindriks, Frank and Guala, Francesco (2015) 'Institutions, Rules, and Equilibria: A Unified Theory', *Journal of Institutional Economics*, 11(3), September, pp. 459-480.
- Hodgson, Geoffrey M. (1988) *Economics and Institutions: A Manifesto for a Modern Institutional Economics* (Cambridge and Philadelphia: Polity Press and University of Pennsylvania Press).
- Hodgson, Geoffrey M. (2001) *How Economics Forgot History: The Problem of Historical Specificity in Social Science* (London and New York: Routledge).
- Hodgson, Geoffrey M. (2004) *The Evolution of Institutional Economics: Agency, Structure and Darwinism in American Institutionalism* (London and New York: Routledge).
- Hodgson, Geoffrey M. (2006) 'What Are Institutions?' *Journal of Economic Issues*, **40**(1), March, pp. 1-25.
- Hodgson, Geoffrey M. (2007) 'Meanings of Methodological Individualism', *Journal of Economic Methodology* **14**(2), June, pp. 211-26.
- Hodgson, Geoffrey M. (2014) "'On Fuzzy Frontiers and Fragmented Foundations: Some Reflections on the Original and New Institutional Economics', *Journal of Institutional Economics*, 10(4), December, pp. 591-611.
- Hodgson, Geoffrey M. (2015a) *Conceptualizing Capitalism: Institutions, Evolution, Future* (Chicago: University of Chicago Press).
- Hodgson, Geoffrey M. (2015b) 'On Defining Institutions: Rules versus Equilibria', *Journal of Institutional Economics*, 11(3), September 2015, pp. 499-505.
- Hodgson, Geoffrey M. (2015c) 'Much of the "Economics of Property Rights" Devalues Property and Legal Rights', *Journal of Institutional Economics*, 11(4), December, pp. 683-709.
- Hodgson, Geoffrey M. (2016a) 'Varieties of Capitalism: Some Philosophical and Historical Considerations', *Cambridge Journal of Economics*, **40**(3), May 2016, pp. 941-60.
- Hodgson, Geoffrey M. (2016b) '1688 and all that: Property rights, the Glorious Revolution and the rise of British capitalism', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000266>.
- Hodgson, Geoffrey M. and Knudsen, Thorbjørn (2010) *Darwin's Conjecture: The Search for General Principles of Social and Economic Evolution* (Chicago: University of Chicago Press).
- Hoppit, Julian (2011) 'Compulsion, Compensation and Property Rights in Britain, 1688-1833', *Past and Present*, 210(1), February, pp. 93-128.
- Hutchins, Edwin (1995) *Cognition in the Wild* (Cambridge, MA: MIT Press).

- Jensen, Michael C. and Meckling, William H. (1979) 'Rights and Production Functions: An Application to Labor-Managed Firms and Codetermination', *Journal of Business*, 52(4), October, pp. 469-506.
- Khalil, Elias L. (1995) 'Organizations versus Institutions', *Journal of Institutional and Theoretical Economics*, 151(3), September, pp. 445-66.
- Ménard, Claude (1995) 'Markets as Institutions versus Organizations as Markets? Disentangling Some Fundamental Concepts', *Journal of Economic Behavior and Organization*, 28(2), pp. 161-182.
- Ménard, Claude and Shirley, Mary M. (2014), 'The Contribution of Douglass North to New Institutional Economics', in Galiani, Sebastian and Sened, Itai (eds) (2014) *Institutions, Property Rights and Economic Growth: The Legacy of Douglass North* (Cambridge and New York: Cambridge University Press), pp. 11-29.
- Milonakis, Dimitris and Fine, Ben (2007) 'Douglass North's Remaking of Economic History: A Critical Appraisal', *Review of Radical Political Economics*, 39(1), Winter, pp. 27-57.
- Mirowski, Philip (1981) 'Is There a Mathematical Neoinstitutional Economics?' *Journal of Economic Issues*, 15(3), pp. 593-613.
- Murtazashvili, Iliia (2016) 'Institutions and the shale boom', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000242>.
- North, Douglass C. (1961) *The Economic Growth of the United States, 1790–1860* (New York: Prentice Hall).
- North, Douglass C. (1968) 'Sources of Productivity Change in Ocean Shipping, 1600–1850', *Journal of Political Economy*, 76(5), pp. 953-970.
- North, Douglass C. (1971) 'Institutional Change and Economic Growth', *Journal of Economic History*, 31(1), March, pp. 118-125.
- North, Douglass C. (1977) 'Markets and Other Allocation Systems in History: The Challenge of Karl Polanyi', *Journal of European Economic History*, 6(3), Winter, pp. 703-16.
- North, Douglass C. (1978) 'Structure and Performance: The Task of Economic History', *Journal of Economic Literature*, 16(3), September, pp. 963-78.
- North, Douglass C. (1981) *Structure and Change in Economic History* (New York: Norton).
- North, Douglass C. (1990a) *Institutions, Institutional Change and Economic Performance* (Cambridge and New York: Cambridge University Press).
- North, Douglass C. (1990b) 'A Transactions Cost Theory of Politics', *Journal of Theoretical Politics*, 2(4), October, pp. 355-67.
- North, Douglass C. (1994) 'Economic Performance through Time', *American Economic Review*, 84(3), June, pp. 359-67.
- North, Douglass C. (2005a) *Understanding the Process of Economic Change* (Princeton: Princeton University Press).
- North, Douglass C. (2005b) 'Institutions and the Performance of Economies over Time', in Claude Ménard and Mary M. Shirley (eds) (2005) *Handbook of New Institutional Economics* (Dordrecht: Springer), pp. 21-30.

- North, Douglass C. and Thomas, Robert P. (1973) *The Rise of the Western World: A New Economic History* (Cambridge and New York: Cambridge University Press).
- North, Douglass C., Wallis, John Joseph and Weingast, Barry R. (2009) *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History* (Cambridge and New York: Cambridge University Press).
- North, Douglass C. and Weingast, Barry R. (1989) 'Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England', *Journal of Economic History*, 49(4), December, pp. 803-32.
- O'Connell, Darren and Austen, Siobhan (2016) 'The tortoise and the hare: How North's institutional ideas resolved a nineteenth century Australian fable', *Journal of Institutional Economics*, published online. DOI: <http://dx.doi.org/10.1017/S1744137416000187>.
- Ogilvie, Sheilagh and Carus, André W. (2014) 'Institutions and Economic Growth in Historical Perspective', in Philippe Aghion and Steven Durlauf (eds) (2014), *Handbook of Economic Growth*, Vol. 2A (Amsterdam: Elsevier), pp. 403-513.
- Pincus, Steven C. A. and Robinson, James A. (2014) 'What Really Happened During the Glorious Revolution?', in Galiani, Sebastian and Sened, Itai (eds) (2014) *Institutions, Property Rights, and Economic Growth: The Legacy of Douglass North* (Cambridge and New York: Cambridge University Press), pp. 192-222.
- Polanyi, Karl (1944) *The Great Transformation: The Political and Economic Origins of Our Time* (New York: Rinehart).
- Polanyi, Karl, Arensberg, Conrad M. and Pearson, Harry W. (eds) (1957) *Trade and Market in the Early Empires* (Chicago: Henry Regnery).
- Rutherford, Malcolm H. (1995) 'The Old and the New Institutionalism: Can Bridges be Built?' *Journal of Economic Issues*, 29(2), June, pp. 443-51.
- Searle, John R. (1995) *The Construction of Social Reality* (London: Allen Lane).
- Searle, John R. (2005) 'What is an Institution?' *Journal of Institutional Economics*, 1(1), June, pp. 1-22.
- Simon, Herbert A. (1957) *Models of Man: Social and Rational. Mathematical Essays on Rational Human Behavior in a Social Setting* (New York: Wiley).
- Tyler, Tom R. (2006) *Why People Obey the Law*, second edn. (New Haven: Yale University Press).
- Vandenberg, Paul (2002) 'North's Institutionalism and the Prospect of Combining Theoretical Approaches', *Cambridge Journal of Economics*, 26(2), March, pp. 217-35.
- Veblen, Thorstein B. (1914) *The Instinct of Workmanship, and the State of the Industrial Arts* (New York: Macmillan).
- Winter, Sidney G., Jr (1964) 'Economic "Natural Selection" and the Theory of the Firm', *Yale Economic Essays*, 4(1), pp. 225-72. Reprinted in Hodgson, Geoffrey M. (ed.) (1998) *The Foundations of Evolutionary Economics: 1890-1973*, 2 vols, International Library of Critical Writings in Economics (Cheltenham: Edward Elgar).
- Williamson, Oliver E. (1980) 'The Organization of Work: A Comparative Institutional Assessment', *Journal of Economic Behavior and Organization*, 1(1), pp. 5-38.

Williamson, Oliver E. (1985) *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* (London and New York: Free Press and Macmillan).