

**Understanding the Process of Economic Change**

Douglass C. North

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You may know the joke about the chemist, the physicist, and the economist in a lifeboat lost at sea with a single can of food and no way to

open it. When the punch line arrives, and the economist suggests, “Assume a can opener!” the joke is on the scientific and practical pretensions of economics. And indeed, some of the “simplifying” assumptions of economic theory—such as perfect information; zero transaction and enforcement costs; and automatic, instantaneous, and veridical updating of beliefs—undercut its ability to explain, for example, why Canada is fabulously wealthy while Zimbabwe is not. In *Understanding the Process of Economic Change*, Douglass C. North—co-winner of the 1993 Nobel Prize in economics and dean of the New Institutional school of economics—sets forth a radical reconceptualization of the task and methods of the social sciences in general and economics in particular, providing a glimpse at an economics that refuses to “assume a can opener.” The result is either exhilarating or vexing, depending on one’s prior methodological commitments.

*Understanding the Process of Economic Change* proceeds in two sections. In the first section, North raises a number of methodological issues, including the nature of uncertainty and unpredictability (Chap. 2), the integration of the cognitive sciences into economics (Chaps. 3 and 4), and the way taking the mind seriously changes how we must conceive of economic and political institutions (Chaps. 5 and 6). In the second section, North attempts to illustrate how such an ambitious program might be put to use to aid our understanding of economic change. Here North dons his historian’s cap, and discusses the way in which humans have altered their environment throughout history (Chap. 7), provides updated accounts of the rise of the western world (Chap. 10), and the rise and the fall of the Soviet Union (Chap. 11), preceded by reflections on the institutional sources of order and disorder (Chap. 8), what it means to get institutions “right” (Chap. 9), and topped off with an examination of the lessons for promoting economic growth in the present day (Chap. 12).

Others are better equipped to comment on whether North’s contribution in the historical chapters marks an advance on previous scholarship in economic history. I will concentrate on the first, more methodological, section of the book, and the chapters on economics and the mind in particular, in an attempt to comment on the direction in which North aims to take economics and the social sciences.

At the outset North argues that an adequate theory of economic change will not consist of an abstract model that professes to predict the future given a complete specification of the past, or which claims the ability to determine with certainty how a change to the rules of human interaction will ramify through society. Rather, an adequate theory will range over anthropology, history, demography, and psychology as well as economics, and will be unavoidably unwieldy, even if we aspire to some kind of “consilience.”

North argues that human institutions are motivated in large part by a drive to reduce or manage uncertainty (North uses the term in Frank Knight’s sense). But uncertainty cannot be eliminated; the nature of the

human mind is such that our knowledge is necessarily partial and incomplete. North also stresses that the domain studied by the social sciences is “non-ergodic”—that is, the underlying structure of the human domain shifts (in perhaps unintended ways) as humans attempt to alter it. And as we alter it, it changes how we represent the costs and choices we face, which in turn changes how we attempt to further alter our institutional environment. And so on. The *explananda* of the social sciences are moving targets.

In the tradition of his previous work, North continues to define institutions as the formal and informal constraints on human interaction, the “rules of the game.” And he continues to argue that economic performance is a question of the quality of a society’s political and economic institutions. However, in *Understanding*, North has significantly advanced his conception of the nature of institutions by integrating ideas from the philosophy of mind and the cognitive sciences.

Following F. A. Hayek, North stresses the fact humans think and act within the context of a system of categories and assumptions that provides a necessarily incomplete model of the world. We do not represent to ourselves the full range of possible actions. And our estimation of the relative costs of our alternatives depends on how we represent them, which depends on our underlying system of beliefs. There is no understanding a society’s structure of interaction independently of the “mental models” or systems of belief that help constitute that structure.

North is particularly fascinated by the hypothesis that religious belief plays a central psychological role in human belief systems—the role of bringing a sense of order to otherwise unmanageable uncertainty—and that these beliefs will tend to have important effects on the way people represent alternatives and costs. In recent lectures, North has repeatedly argued that we cannot truly understand economic change until we can understand what can drive a group of well-educated, middle-class Muslim men to fly planes into the World Trade Center. Here, less dramatically, he promotes as a model Avner Greif’s work on the way individualist and collectivist belief systems played out in the economic activity of medieval Genoese and Muslim-influenced Maghribi traders, and stresses the role of ideology in the expansion and demise of the Soviet Union.

North wants us to understand that although orthodox rational choice assumptions are fine in their place (their place is “competitive posted-price markets”) the general “game” of responding to incentives is historically and culturally conditioned. He refers admiringly to the work of a team of anthropologists and economists who have conducted experimental economic games in a wide variety of cultural conditions and have found that performance in those games varies systematically with cultural variables. The implication is that an understanding of the cultural background of economic interaction is necessary “if we are to account for the wide and still-widening gap between rich and poor countries” (p. 47).

In his citation of these cross-cultural experiments, North seems to endorse the idea that preferences are shaped by the existing institutional

structure, and are not exogenous, or independently fixed, as orthodox modes of economic and policy analysis assume. This should be enough to make any classically trained economist uneasy. North, however, does not stop there, but flirts seriously with the idea that learning rules and computational processes—much of cognition itself—is endogenous to institutional structure.

In “Belief Systems, Culture and Cognitive Science” (Chap. 3), North allies himself strongly with models of “embedded” cognition. Drawing on the work of Andy Clark, Ed Hutchins, and Merlin Donald, North commits himself to the view that cognition is not simply something that takes place “inside the head,” but which is done in interaction with a structured external human environment. Calculators, pens, mathematical symbol systems, the rules of first-order logic, books, Google, street signs, and so forth are not mere external aids to an otherwise self-sufficient cognitive process. Rather, our interaction and integration with these bits of technology are internal to the process of cognition. As North puts it, “much of rational choice is not so much individual cogitation as the embeddedness of the thought process in the larger social and institutional context” (p. 25). That is to say, rationality, as the economist traditionally understands it, is not a fixed human universal, but is itself a cultural, technological, and economic achievement requiring a social-scientific explanation.

Although he does not deny that the basic architecture of the human mind is structured by evolution, and that there are thus hard constraints on the malleability of human preferences and cognition (and thus a solid place to stand when constructing social-scientific explanations), North tends to side with “empiricist” connectionist models of the mind and eschew the “rationalist” or thoroughly nativist model of the mind implied in the evolutionary psychology of thinkers such as Steven Pinker.

The implications for the endogeneity of preference and cognition are so radical that one is led to wonder whether North himself has fully integrated the implications of his positions in the philosophy of mind, or fully accepts them. The question is especially pertinent given that the later historical chapters on the rise of the West and the trajectory of the Soviet Union, although characterized by an unusually deep appreciation for the role of belief systems in structuring incentives, otherwise seem like conventional neo-institutionalist economic histories.

For example, in Chapter 10, North briefly contemplates the idea that Christian religious doctrine in the Middle Ages at once (a) enabled a learning process amenable to economic development and (b) evolved in response to institutional incentives to provide ever-deeper justification for the project of increasing the stock of human knowledge, gaining command of nature, and increasing wealth. However, North’s discussion is merely suggestive, and does not dwell on the possible *mechanisms* hinted at in early chapters by which belief systems, preferences, institutional structures, technologies, and cognitive processes might interdependently evolve.

*Understanding the Process of Economic Change* is more a clarion call, announcing the opening of a new frontier, than the concluding drumbeats of a research program fulfilled. Should we stop assuming can openers, and wander with North into the tangled woods of interdisciplinary social science research? To some economists it may seem as though North is asking us to open the can with a fistful of seaweed. After all, assumed can openers at least open cans “in theory.” However, the real-world problems of poverty and economic development, for example, have not proved particularly tractable to theoretical can openers. It is best to see North’s new book as an inspiring reinvigoration of the research program of Smith, Hume, and Hayek—what used to be called “the moral sciences.” Whatever one thinks of North’s particular attempt to marry cognitive science, anthropology, political science, history, and economics, he deserves our admiration for having the vision and courage to go first, and our amazement for getting so much right.

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