

The Ontology of Economic Things

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In August 2011, Mitt Romney, then running in the Republican presidential primary, shocked the public when he proclaimed that corporations were people. His words came in the wake of an earlier Supreme Court decision, *Citizens United*, which gave corporations constitutional rights of free speech, rights formerly applied only to actual human beings. Like Frankenstein's monster, the corporation, a purely artificial entity, was being endowed with the spirit of life.

Treated as a legal matter, corporate personhood has a long and contentious history. Perhaps though, Romney was offering not a legal but a philosophical argument. Specifically, he may have been addressing the corporation's ontology. Ontology is that branch of metaphysics concerned with being, with what things are. It invites us to consider the composition of social facts and social entities. What, then, do corporations consist of? If they are not people, what are they?

Historians generally, and historians of business and the economy in particular, rarely ask such questions. In part, this is because our preference is to examine causes. Ontology is not about what causes things to happen, however, but what constitutes things such that they have causal powers. A house may be constituted out of bricks, but bricks did not cause the house to be built. Whereas causation is concerned with how one thing changes or affects another, constitution is a relation among parts, about how things are so arranged or structured that they acquire their properties. Cause usually involves temporality—one

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doi:[10.1017/eso.2020.42](https://doi.org/10.1017/eso.2020.42)

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I would like to thank Finn Collin, Per Hansen, Mads Mordhorst, Christina Lubinski, Andrew Popp, Dan Raff, Phil Scranton, and members of the Copenhagen Business School Department of Management, Politics and Philosophy for their comments, criticisms, and contributions to the writing of this paper.

thing happens and then something else changes. Constitution is usually nontemporal. The fragility of glass is constituted by its molecular structure. Once the structure is set, fragility is set as well. Nothing must occur over time for glass to be fragile.¹

One reason to take a closer look at ontology is that we tend to examine and explain matters in ways that comport with our understanding of their constitution. The philosopher Brian Epstein makes an analogy with biology. When biologists realized that living organisms were comprised of cells, they believed that cytology, the study of cells, would be sufficient for the science of life. As it turns out, this was a poor assumption. Although much of the living body is cellular, much is not. Water and minerals, bones, teeth, hair, and certain nerve fibers are all necessary parts of our bodies but are not made of cells. In other words, model the body as only cells and you have a very poor model, one lacking in much of the substance of what we are. Does the same hold for society? How do we understand the composition of social “things”: groups, markets, organizations, production systems, states, laws.² Are these comprised of only people? If not, is studying just people adequate?³

Epstein and a number of other philosophers question some of our deeply held, though often poorly examined, convictions about social things. They argue against social science’s attachment to methodological individualism. Methodological individualism treats the social as purely comprised of individuals. The popular form of this claim would be Margaret Thatcher’s assertion that there is no such thing as society, only people. Implicitly, then, the only thing that we should attend to in our research programs is people, for what else is there? More precisely, we can think of methodological individualism as having two components: ontological individualism and explanatory individualism. The first holds that that all social entities are nothing but people; the second holds that any social explanation must run through the actions of individuals. We can accept both of these claims; we can reject one but keep the other; or we can reject both.

Methodical Individualism in Theory and History

Over the past century and a half, social theory has been wrestling with the following question: Does society have structures that direct the

1. Below, I relax this temporal/nontemporal distinction somewhat and propose ontologies that can have process over time.

2. I have separated material things from social things here, but this of course begs the question I will address below, showing that the social is comprised of diverse things, including material ones.

3. Epstein, *The Ant Trap*.

actions of people, or is society simply the sum total of individual interactions? The first position emerged sometime in the nineteenth century, when the availability of social data began to reveal definite, almost mathematical, patterns of social life—in births and deaths, crime, urban growth, and perhaps most famously, suicide. It was the latter that led Emile Durkheim to construct his structural functional model of society as dictated by strong norms and values that set the form and tone for how people lived and died.⁴ Suicide, for example, was not an individual, psychological matter, but a product of social forces such as alienation and anomie. The opposing view, in which society simply reduces to many autonomous individual decisions, owed something to earlier Enlightenment thinkers such as Adam Smith and his invisible hand. It was developed more strongly a bit later by the utilitarians, who presumed that universally rational beings made pain-avoiding, pleasure-seeking choices according to their (unexamined) subjective preferences.

Analytical social scientists, in economics and other fields, continue to follow this latter tradition. They accept both explanatory and ontological individualism. For them, the social world is uniquely and solely comprised of individuals, people doing and deciding things. Any explanation of social matters must proceed by studying the individuals and offering a rational path through individual behavior.⁵ Typical of this model is one proposed by sociologist James Coleman, the so-called Coleman's Boat. We explain large-scale social phenomena, such as capitalism, through the Protestant Spirit only by showing how religion operates on individuals and alters their values and behaviors (Figure 1).⁶

When economists argue that purposeful rational choices of homogenous actors are what comprise markets, they are following the same model.⁷ In business and economic history, we see it manifested in principal-agent theory, or the New Institutional Economics, or the

4. More precisely, we project upon life the underlying features of the society in which we are living, and our actions thereby conform to this social structure. See Abbott, "The Causal Devolution." For Marx, the same basic position would be expressed as the dominance of class interests on politics, knowledge, culture, and ideas.

5. Much of my discussion in this section draws on Little, *New Directions in the Philosophy of Social Science*. See also Little, *Varieties of Social Explanation*.

6. The question remains: What are individuals bringing to the social? Is it their beliefs, their cognitive processes, internal mental states, or physical skills that matter? It cannot be identity (Protestantism, for example), as that must be broken down further into the parts that actually affect outcomes—values to economic behavior, for example. However, to the extent that identities are themselves social constructs, it is hard to say what is the cause and what is the effect.

7. For a discussion and critique, see Epstein, "Why Macroeconomics does not Supervene on Microeconomics."

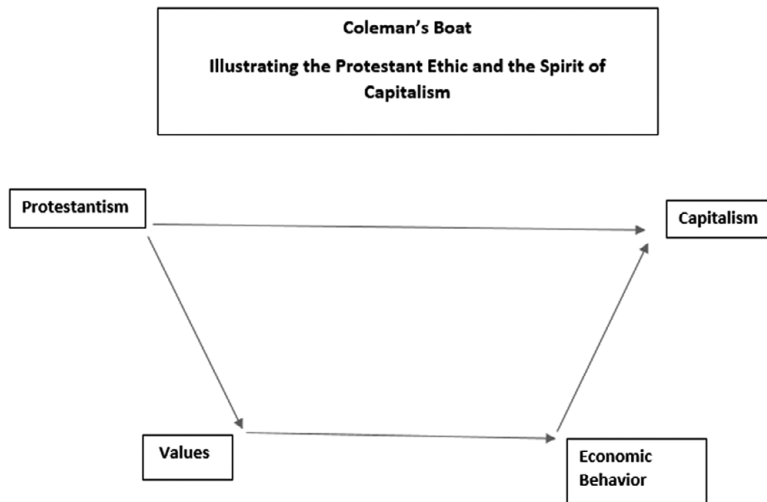


Fig. 1 Coleman's Boat

Chicago School law and economics program. In each, individual interests, intentions, and interactions produce and direct the actions and outcomes of firms and other institutions.

At the most extreme, analytical models are reductionist. All explanations fall back to the smallest level of rational calculation by the individual. Because any observed social structures are the outcome of prior individual behaviors, we can dispense with structure and go right to the individualized processes. In essence, individuals create social structures or institutions *de novo* at each instant. In this form of "eliminative" reduction, only the parts, not the resulting wholes, exist. The market is just a metaphor for many buying and selling decisions of individuals. Of course, the road of reduction need not stop at fully constituted individuals. Perhaps individuals should be further reduced to their cognitive processes or brain chemistry or genes. Here we might end up in the realm of behavioral economics or sociobiology or eugenics. However, we need not specify any internal thought process either, following the insight of Gary Becker that even irrational consumption choices will still yield a downward sloping demand curve as long as actors are subject to a budget constraint.⁸

Still, there is no reason we must go so far as reductionism, even if we insist on methodological individualism. For example, a technique of growing interest in economics and related fields is agent-based modeling. Agent-based models explain how individual choices generate all

8. Gary Becker, "Irrational Behavior and Economic Theory."



Fig. 2 Agent Based Modeling

sorts of complicated social outcomes, but not because everyone follows the same logic and intends the same results. Rather, heterogeneous actors follow simple decision rules, generating elaborate but often unintended outcomes. Thomas Schelling showed, for example, how a decision rule about race and residency could generate strong patterns of segregation. If individuals choose to move out of neighborhoods once those neighborhoods contain a certain percentage of members of a different race, the result will be a self-reinforcing dynamic of racial segregation. We do not have to posit anything about the mind, intentions, or subjectivity of the actors beyond adhering to this rule.⁹

Agent-based models work to explain patterns in nature as well. Flocks of birds in flight that seem to swoop and dive with amazing precision, or schools of fish that form intricate shapes as they elude predators, are not the result of thinking activity and purposeful individual behavior. Instead, each member of the flock or school follows a simple rule. For fish, it is hide behind the nearest object when a predator appears, that nearest object almost always being an adjacent fish. The results can look like this: [Figure 2](#)

Although agent-based models work with nothing more than individuals, plus a rule for behavior, the outcomes they create are not reducible to individuals, as with rational choice theory.¹⁰ Segregation does not

9. Schelling, *Micromotives and Macrobehavior*, and Little, *New Directions*, 150–155

10. Conversely, agent-based models do not work well or are not needed when we believe that each individual has a clear preference for the outcome and pursues that preference in a means-ends way. The decisions are thus homogenous—institute racial segregation. Here, a rational choice model will do, and indeed we can

result from intentional actors trying to achieve segregation; it is the artifact of many separate choices, no one of which may reflect a desire for the outcome. At the same time, agent-based models, like rational choice theory, preserve both ontological and explanatory individualism. They dispense with the idea of a structure above the heads of individuals directing their actions—a norm or cultural precept or identity concept—and substitute a simple behavioral decision rule.

Another position that avoids the extreme of eliminative reductionism is path dependency. People may create social facts and institutions, but after they do, those facts and institutions lock them into patterns that cannot be easily changed, even if it is rational to do so. This was the claim Paul David made in his famous QWERTY example. This typewriter keyboard is no longer the most efficient design, but we cannot escape it.¹¹ Much depends in this sort of argument on the locked-in patterns being, in some sense, suboptimal. If, as others have claimed for the QWERTY keyboard, it simply makes sense to type this way, all costs considered, then we are back to a pure rational choice model.¹²

We can also expand the scope of methodological individualism by looking more deeply at human motivations, rather than just assuming a narrow, instrumental rationality. Critiquing economic models for treating people as “rational fools,” economist Amartya Sen points out that people in fact have a wide range of goals, strategies, and desires. They may be interested in loyalty, solidarity, and morality, all things that subordinate self-interest and own-goal seeking to the interests of the group or a shared principle.¹³ More generally, people take all sorts of actions for all sorts of reasons that are not narrowly rational. They act out of emotion, or follow tradition, or do what they were taught to do,

represent the choice of a large number of homogenous individuals by means of a representative agent.

11. Or applied at a more macro level, different societies of the New World brought with them preexisting cultural and institutional patterns that helped to shape how they responded to the material conditions they found, creating long-term economic and social patterns. This is the narrative of Engerman and Sokoloff in *Economic Development in the Americas since 1500*, as well as in Douglass North's many writings about institutions.

12. David, “Clio and the Economics of QWERTY”. Leibowitz and Margolis, “The Fable of the Keys.” Likewise, if the institutions themselves always adapt to the parameters of the current environment, then we are again back to a pure rational choice model. North at times argues that the basic institutional context itself is the creation of powerful individualized rational behavior. See Daunton, “Rationality and Institutions: Reflections on Douglass North.” Path dependency can thus be seen as a compromise, allowing a locked-in path to be set by rational behavior in a prior period that then constrains rational choice in a later period.

13. Sen, “Rational Fools;” Mary Douglas, “Why do People Want Goods?”

what they see others around them doing, from habit and practice. Indeed, they act without thinking at all.

Andrew Abbott offers a way to think about people that gets around our presumption that individuals are stable, constituted subjects. Rather than having preexisting, let alone universal, natures, people are made through their interactions and event experiences, a continual process through which they draw on their past to act in the present.¹⁴ To a degree, this follows ideas that Mark Granovetter proposed as “embeddedness” and social networks. However, it takes Granovetter a step further. People are not merely embedded in networks and social relationships that assist them in doing things, a common way to think about social capital, for example. The relationships and experiences fundamentally make who a person is, in Abbott’s view. Acts occur in time, and the meaning of those acts only becomes apparent over time. Someone in time X is not the same person in time Y. What we call personalities or preferences are really outcomes of continual processes of reflection on acts and of bringing those acts forward in our minds.

Abbott’s view that people are not fixed but always in flux pushes back against the reductionist view of the individual as the solid bedrock of society. Because people are constantly in formation, any prediction based on some notion of fixed preferences or personality is bound to be misleading. Humans are actually bundles of connections and relationships, not self-contained atoms of the social universe. The social is thus not a matrix of solid individuals but a chain of events that moves forward through time as we make sense of what we do.¹⁵

Here we come to a major question in the ontology of individualism. How far do “people” extend? Individualism is usually taken to mean people in the sense of our internal mental processes and our bodily capabilities. However, what about qualities extrinsic to us? As Brian Epstein notes, that Andy is six feet tall and Phil is only five feet five inches tall are facts intrinsic to each of them. That Andy is taller than Phil is an extrinsic fact, but it does not seem a stretch to call this extrinsic fact individual, as it relates to characteristics intrinsic to each person. What about other extrinsic matters? People are born and raised into systems of social values, norms, roles, and expectations that precede their arrival on the earth. These in some sense may be created by people, but they cannot properly be ascribed to or radically altered by any individual. Are these things still part of our individuality? What about material conditions, or political or geographical facts pertinent to our lives? Can these be said to adhere to the individual as well? At some

14. Abbott, *Processual Sociology*; Abbott, “Mechanisms and Relations.”

15. Abbott, *Processual Sociology*, 24–27.

point it seems we will stretch the properties that comprise us beyond what can be realistically termed individual.

One consequence of more carefully considering the extent and dimensions of the individual is to question the need for explanatory individualism. Consider, for example, social networks. Networks can enhance, or restrict, individual life chances. Whom one knows, for example, may determine one's ability to get a job or access capital. Networks may also contribute to the identities, beliefs, desires, and subjective preferences of individuals. Although consisting of nothing more than people, networks are a structure higher than the individual that shape social outcomes.¹⁶ In this formulation, we retain ontological individualism—networks are people. However, we also recognize that some social structures exhibit a degree of stability that permits them to have effects independent of the actions of the individuals comprising them. Just as one does not have to return to first principles of physics to calculate the trajectory of a projectile or the stress on a bridge, so, too, we may keep our explanations at a level higher than interacting individuals.

The limits of explanatory individualism are even clearer when we deal with larger meso-level entities. Let us assume that organizations are comprised simply of people—many people in an extended division of labor interacting in multiple ways according to an elaborate set of rules or codes. Some organizations, argued Herbert Simon, are quite complicated but still “decomposable.”¹⁷ Decomposable organizations are hierarchical in structure, so we can see how different levels relate. We can predict the interactions between people because they are structured by commands, rules, and authorities. We can map the pathways between the people at different levels who perform the work or tasks of the organization. The classic managerial corporation might be a decomposable organization. Higher-level actors issue orders, set policies, and monitor and audit the behavior of lower-level actors who carry out the instructions. The work process is complicated, but not necessarily obscured. Of course, sometimes organizations do not operate according to plan. However, if the problems are traceable back to individuals, as with principal-agent conflict, opportunism, incomplete information, shirking, and the like, we do not necessarily have to abandon explanatory individualism.

Other organizations, though, are not amenable to such explanatory strategies. These Simon termed not merely complicated but complex. They produce opaque, difficult to foresee interaction effects. With true

16. Granovetter, “The Strength of Weak Ties,” Granovetter, “Economic Action and Social Structure: The Problem of Embeddedness.” For a critique, see Callon, “Actor-Network Theory—The Market Test.”

17. Simon, “The Architecture of Complexity.” For a discussion, see Little, *New Directions*, 166–172.

complexity, explanatory individualism is easily frustrated. Outcomes are hard to predict from structures; results are not easily traceable back to individuals. The classic example may be the failure of the Three Mile Island nuclear reactor in Charles Perrow's *Normal Accidents*. As Perrow discovered, tightly linked organizational parts led to outcomes no one could have forecast, even though all actors were following the rules. A tightly coupled structure allowed one problem to cascade unstoppably into another. The "error" was not the mistake of the operator but the way that the structure created a high frequency of single point failures in critical parts.¹⁸ The frequencies and interactions were products of the system as a whole, not the individual parts or the people running the machines.¹⁹ Humans may design the structure, but they do not have full control or responsibility for what ensues when it is put together. The correction of problems in these cases requires redesigning the organization and not simply changing the actors or the incentives around the actors.²⁰

In these cases we learn more and explain more by studying the organization rather than the people. Meso-level organizations can be stable enough, enduring enough, to be treated as actors in their own right. The danger when we do this, however, is reification—treating an abstraction as if it were a thinking being. In the case of meso-level entities like complex organizations, the chance of reification is worth taking.²¹ We can still believe that there is some pathway between and among actual individual people in the organization that notionally explains what is going on, so ontologically individuals are all that exist. However, we have no access to this pathway. So rather than try to map inscrutable human interactions, we focus on the organization itself, a better way to avoid meltdowns like that at Three Mile Island.

For business historians, treating an organization, the firm, as actor is commonplace. We speak of firms taking strategic action, or innovating, or lobbying in the political sphere. This is no different than the way other historians might write about the actions of the state or an administrative agency. We could, of course, be merely using shorthand, and

18. Perrow, *Normal Accidents*. Epstein, "Social Objects without Intentions." Arbesman, *Overcomplicated: Technology at the Limits of Complexity*.

19. Later we will consider the issue of emergence. It is not clear if Simon and Perrow are pointing to an epistemological problem of the limits of reduction or an ontological issue of holism in contrast to individualism.

20. Often in such cases, the tendency is to revert to a vague "operator failure," but the operator is to blame only in the trivial sense that we conventionally assign agency to people, not machines. In fact, the agency needed to prevent such accidents is beyond the scope of the individuals in this situation. It makes more sense to locate the problem, explain the outcome, at the level of the organization, not the individual.

21. It is less likely that still higher-level macro entities, capitalism, for example, can be so treated. With these, the danger of reification is likely to be too great.

actually mean to attribute all this action to individuals or to the leader. Perhaps, in some cases, a single leader, a CEO or key group of executives, are what really matter. It would be misleading to attribute all action to such individuals, however, when the process that leads to the action involves a group or organizational entity as a whole, as with Simon's or Perrow's examples.²²

Sticking to methodological individualism often requires a heroic ignoring of these organizational effects. For example, with principal-agent theory, the principals are presumed to act as one rational being with a single goal—maximum return on shareholder value.²³ Even though agents complicate the story a bit, the assumption is that in well-run firms, managers will respond more or less mechanically to the will of the principals. Any variance and variety in the human element is seen as a deviation from the norm, one to be eliminated in the name of efficiency. Likewise, when we speak of hold up costs or information asymmetry, it is the firm that seeks strategies to eliminate such costs, as though it were a single rational human being.²⁴ The firm has been reduced to a “monobrain,” to use Fritz Machlup's derisive term.

There are some less reductive explanatory strategies we can use with organizations. Evolutionary economics, for example, provides a means to connect the behavior of the firm as a whole to changes in its external environment. We study how actions and reactions in a population of firms allow some to expand and cause others to disappear. We do not have to discern the processes at work within firms that produce these results. It is enough to believe that firms contain adaptive or maladaptive organizational routines and capabilities relative to their selection environments. On the other hand, if we want to understand why some firms adapt and others do not, if we want to know the causal processes that result in differential outcomes, we need to break down the black box further. How do firms acquire their causal powers? That is a question of ontology. However, to answer it, should we stick with methodological individualism?²⁵

22. To the extent we are only speaking metaphorically of the firm when we really mean the CEO or the executive officers, then we are simply in an individualist model. There are ways we can think of some collectivity—as distinct from the members, as an actor—without the metaphor of the firm as a thinking being, though this seems most applicable to small groups, not complex organizations. See Pettit, “Three Issues in Social Ontology.”

23. Machlup, “Theories of the Firm: Marginalist, Behavioral, Managerial.” If we speak of organizational behavior, then we do not have to deal with the issues of intelligence, learning, or action, but we then must place intentionality and action solely in the hands of the people of the organization.

24. The same is true of game theory. When we take the game to be played among firms, we again assume that “the firm” somehow processes information and comes to a rational decision, the way a living human being might.

25. Nelson and Winter, *An Evolutionary Theory of Economic Change* Nelson; Dosi; Helfat; Pyka, *Modern Evolutionary Economics : An Overview*.

Good-Bye Ontological Individualism

So far, we have maintained at least one part of methodological individualism, the ontological, while relaxing or abandoning the explanatory side when confronting things such as complex organizations. However, there are good reasons for abandoning the ontological aspect as well, particularly if we want to further understand the workings of organizations without assuming it is all just about explaining the people. What happens to our picture of social things and our explanatory strategies if we break completely with methodological individualism? What, in turn, are the proper methods to use for studying the social world if we make the shift to a nonindividualist ontology?

Brian Epstein argues that we stay married to ontological individualism out of a fear of dualism. Dualism runs like a heresy through modern thought. Without limiting social things to individuals (even if in complex interactions), we may end up with formulations such as this: Organizations are comprised of individuals and something “organizational” separate from the parts, or nations are composed of their members but also some deeper spirit or essence, as Hegel once proposed.²⁶ Most scientific thinking rejects dualism. As we have seen, we can get at quite a bit of the complicated, collective side of social things through individuals alone. We can also study the behavior of higher-level structures without claiming those structures are constituted by anything more than interacting people. Epstein argues, however, that we should think twice about what ontological individualism commits us to. We can gain new insights about social entities and social facts, he maintains, without such a commitment.

Ontological individualism can be restated as a variant of a more general claim: that higher-level entities—meso and macrostructures—*supervene*, or depend upon, lower-order entities. How strongly this is expressed is the difference between believing you can reduce every higher-level entity precisely to a set of lower-level ones, or simply being content with the weaker claim that the whole is in some sense grounded by the parts. At a minimum, supervenience mandates that for any change in a higher-order social entity (a group, an organization, a state), there will be a change at the lower level as well. It is this latter, weaker form that most philosophers adhere to now. This form does not require

26. Mind-body dualism is the more well-known variant, in which we might believe that the body is corporal (material), but the mind is distinct (nonmaterial). A nondualist would argue that the mind exists, though it arises from neural and chemical processes in the brain. A reductionist would argue that the mind is an illusion and really nothing more than the neural or chemical process of the brain. To say that complex things like hurricanes and houses can be made of simpler components or objects—atoms, bricks—is not dualism.

eliminative reduction, in which we ignore the whole because knowledge of the parts is sufficient. The parts and the whole both exist, in the way water is both a substance in its own right and comprised of hydrogen and oxygen. People and organizations both exist, but organizations supervene upon people, so that “facts about people exhaustively determine social facts.”²⁷

If we commit to ontological individualism, we commit to this supervenient relationship between people and the higher-level structures. However, if we do we find ourselves in the position of the cell biologists who treated living organisms as only cells. We leave quite a bit out. If we were studying Walmart, would it be sufficient to only look at the people—the cashiers, shelf stockers, the managers? What about the shelves and products, the shopping carts and cash registers, the store itself? Can they and other material objects be safely put aside, bracketed off as not components of the firm? What about the rules, policies, and procedures, the labor laws and environmental regulations, the natural world? For a business to exist, not in the abstract but in real space, are these things not also important?

Many nonhuman things matter, even when speaking of very human activities. Consider a sport or a game. Baseball exists only because people, equipment, rules, indeed traditions, and strategies of play are brought together. A ball game without rules or equipment is just not the same thing. Likewise, the person, the ballplayer, cannot exist outside of there being a game. Cellists did not exist before there were cellos. Even nature counts. Insurance policies and other contracts are written on contingencies that depend on natural events such as storms and floods. Nonperson entities matter in all these cases.

Indeed, even in cases in which only people are present, it may not be sufficient to speak of people alone. Epstein offers as examples certain positions that people occupy, such as being president of the United States, or the Pope. The holders of these offices conform to specified rules and requirements—winning an election, being chosen by the College of Cardinals. They must also possess certain characteristics, such as being at least thirty-five years old and a natural-born citizen for president. No action by an individual or group of

27. Quote from Epstein, “Ontological Individualism Reconsidered.” In this global form, supervenience is related to people as a whole rather than being traced specifically, locally, to some people or group. Eliminative reduction might be an explanation for planetary movements; we only need to know the laws of motion. By contrast, noneliminative reduction would say the fact that glass is fragile depends on its molecular structure, but the fragility of glass nonetheless exists; it does not disappear into molecules. See Collin, “Who are the Agents? Actor Network Theory, Methodological Individualism, and Reduction,” 215–216.

individuals can make someone president outside of these rules and requirements.

Now, one might respond that the rules or requirements are social facts because people have said they are. Similarly, material and physical things count only because they reflect the meanings and uses we assign. This way of thinking, however, gives too little presence to the nonhuman, nonindividual side of the social. Following Epstein, we can distinguish between the anchoring facts or conditions that, for example, determine what makes someone a president or what makes some pieces of paper money, and the actual fact of the presidency or money. People may well set the anchors.²⁸ However, once we decide how being president is determined or what sort of pieces of paper are money, then ontologically neither money nor presidents supervene upon individuals. Individuals matter in the anchor sense, but we will not fully understand the social if we do not go beyond ontological individualism when we ask what constitutes social things.²⁹

Latour and Actor-Networks

How might we think about an ontology of social things that does not supervene upon individuals alone? Perhaps the most ambitious attempt here has come from Bruno Latour and the actor-network theorists.³⁰ They argue that what we call the social is merely an effect of the interactions by multiple, heterogeneous parts, or *actants* in their nomenclature. Actants include people, materials, objects, expressions and language, models and theories, indeed pretty much anything that can have an effect on something else. Latour insists on a “flat” ontology that treats human and nonhuman parts the same. Nothing is more basic than anything else, nothing sets or determines anything else in a supervenient-subvenient relationship.

A flat ontology clearly discards methodological individualism. The social world consists of many parts, far more than methodological individualists would allow with their narrow focus on people. Instead, the social world is constituted by relations among parts of many types, which ground, give rise to, and provide the causal powers of the social facts and things we typically observe—organizations, technologies, scientific knowledge. These larger entities are real, as are the actants that comprise them. The individual and the social are not levels, categorically different,

28. Although, even here it is a question of regress. Does the anchoring devolve to individuals alone, or do other things also count?

29. Epstein, *The Ant Trap*, 74–87; 101–114; Epstein, “What is Individualism in Social Ontology?”

30. Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*. Callon, ed., *The Laws of the Markets*.

but simply different scales of the same thing. We thus have a world that is multiscaler, with every part itself a composition, including people. There are no base or natural kinds to reduce to for the answers.³¹

Perhaps the most radical feature is Latour's refusal to make any categorical distinction between subject and object, rejecting modern Western thought at least as far back as Descartes.³² Almost all social science has insisted on a distinction between the knowing human subject and the objects of study. We might decide that, following Marx, it is human labor that allows us to grasp the world, or we might tread the idealist path laid out by Kant and look to the mind, to language, to symbols and discourses. Either way, we start with the subject who seeks to figure out the world.

Even theories of social construction proceed this way. The social construction of science and technology, for example, simply argues that there is nothing privileged about scientific knowledge; it should be treated in the same way (symmetrically) as any other form of knowledge. People, subjects, are presumed to grasp the world through social categories, categories that are either linguistically or materially comprised. Our knowledge and our practices will reflect these categories, and that includes science.³³ Although Latour's early work examined the subjectivity of scientific knowledge, he broke with the social constructivists and embraced the nondichotomous flat ontology. Social categories did not account for science, technology, or anything else. Rather, the social was built up by the interactions of actants of all sorts, including scientists, their experiments—and inscriptions thereof—technological devices and their users, and more. All actants form strategies and make connections, gathering force to support one or another version of what the social should be.

This shift in perspective raises many questions for traditional social science practice. For one, it completely changes how we think of agency. The actants apparently can form strategies, even though the nonhumans among them do not have intentionality. Agency is traditionally the preserve of people—humans who have minds and can take intentional actions. However, the actor-network does not require such intentionality. Latour dispenses with the agency-structure debate. All

31. The rejection of reduction, Latour argues, means that we cannot rename one thing as another, or claim that “at base” society is people or ideas or material interests.

32. This is an extreme formulation, though others, like Barad, *Meeting the Universe Halfway*: argue that we cannot separate physical reality from ourselves, not simply in the sense that we construct it in the mind in some Kantian fashion, but in the sense of quantum physics: Reality does not exist until we study and “cut” it in some fashion. The problems of Latour's position here, its possible incoherence, are discussed in Elder-Vass, “Disassembling Actor-Network Theory.”

33. See Bloor, “Anti-Latour,” and Latour, “For David Bloor... and Beyond.”

actants, human and otherwise, have a “quasi agency,” in the sense that they can make things happen. Things happen when parts are brought together in a sustained relationship. Even people, similarly to Andrew Abbott’s ideas, are not stable but made in time and in relation to other parts of the network. For this reason, it is important to study the lines of connection more than the things connected.

One way to see what is being proposed is to imagine a city.³⁴ Would a city be a city if it were just buildings and no people? Perhaps not, but would it be a city if it were just people and no buildings, no roads, street corners, neighborhoods, and other infrastructure (not to mention rules, practices, and traditions)? Take a group of people, put them in a desert, and you have not constituted a city. Even if they could *cause* a city to arise, they would need things—money and finance, machines and materials, water and food. However, they would be building a city of people and things coming together, constituting something that is not reducible to them as individuals. Once they built the city, they would become city people, different than just a group in a desert or individuals who just happened to be milling about in the same location.

Even the most basic of human interactions is not reducible to people alone, through this way of thinking. Communities thrive via street corner or neighborhood interactions, but only if there are street corners and neighborhoods or city blocks, as in Jane Jacob’s Greenwich Village.³⁵ People interact face-to-face, but even these meetings need an actual physical place to occur. Manuel DeLanda, a theorist, whose writing on assemblages shares much with Latour’s on actor-networks, offers the example of neighborhood sociability in an urban setting. As a social entity, a neighborhood works through reputations—who to trust, who is a good neighbor. Reputations are spread by social interaction on the street. People who come together as a group can make or break reputations by their connections with one another. However, we cannot reduce this to self-interested individualism or to social capital or some other socially embedded behavior. On the one hand, the physicality of the city makes these interactions possible. At the same time, they only occur because people are living in the neighborhood and so can think of themselves as having a neighborhood relationship, a social norm, and hence a reason to patrol and monitor the behavior of others. Without their actions, the neighborhood breaks down, but without there being a neighborhood, they have no reason to interact.³⁶

34. This example is used extensively by another theorist, Manuel DeLanda. DeLanda, *Assemblage Theory* DeLanda, *A New Philosophy of Society*.

35. Jacobs, *The Death and Life of Great American Cities*.

36. Andrew Abbott favors an “ecological” perspective on the social, with many actors and institutions competing over areas of social life. They compete in the sense of defining, for example, what constitutes diseases or health, or who is responsible

Wherever we choose to begin our study, from the smallest communities to the most complex modern cities, we are looking at assemblages of parts coming together and interacting and “making” that which we eventually term a stable social fact or institution. No one part has precedent over another. Indeed, reality is not just multiscale, but multi-temporal as well. The social is composed of different and overlapping temporalities and rhythms. A city, for example, has an infrastructure of a certain vintage; a population with a certain demographic signature; a natural environment that changes at its own speed, or indeed the different speeds of storms, floods, and landforms. The economy is comprised of global, national, regional and local patterns, and interactions only partly synchronized.

The constitution of the social as networks of actants or assemblages of heterogeneous parts also means that we may have to allow for emergent effects not discernable from the outset. The whole has properties different from the parts, and different by the particular assemblage of parts. Some question remains on how strong this emergence is. Can we trace back the chain of interactions through the individual parts to understand and predict what the emergent final entity will look like, as we might with elements and compounds? Or is emergence so strong that the final result is unpredictable, mysterious with respect to the components?³⁷

DeLanda makes the case for strongly emergent properties. Assemblage, he notes, is a loose translation of the French word *agencement*. The French original carries with it a sense of happening or active occurrence— assembling more than the finished product. He thus calls attention to the making process, which unfolds in time, historically, in ways that activate properties and features of things that would not be active were the parts kept separate.³⁸ A paradigmatic example is the bringing together of horse, rider, and weapon in the indomitable Mongol army. Each part existed separately, but at one point in history they combined in a formidable military assemblage—a new type of army that had repercussions for all other military assemblages across Eurasia. At the same time, the parts were

for areas of work. Nothing is predefined naturally, and no institution has fixed, preset boundaries. As they interact in the social ecology, they also define themselves and their boundaries. Abbott, “Linked Ecologies.” See also Fligstein, *A Theory of Fields*. I believe this is also what Francesca Carnevali is implying in her article “Social Capital and Trade Associations in America, c.1860–1914.”

37. Elder-Vass, “Social Entities and the Basis of their Powers.” For a more skeptical take on emergence, see Zahle, “Holism, Emergence, and the Crucial Distinction.”

38. Latour denies that actants have any hidden qualities or that one can be mapped into another. However, he too is interested in what happens when heterogeneous things come together and the effects they produce.

not fused or merged into an organic whole, as in traditional systems or structure theory. Thus it is always possible for them to detach and form connections elsewhere, creating new assemblages.³⁹ The parts remain distinct but combinable.

Latour and DeLanda, and in a different way Andrew Abbott too, are trying to understand the composition of the social world down to an ambitiously minute level of detail, specificity, and individuality (not just human individuality either), without the reductive and hierarchical assumptions of methodological individualism. As Latour emphasizes, one thing is not explained by nor can it be transformed into another thing, as social structures might be reduced to microeconomic actions. Likewise, as DeLanda argues, there are no organic relations of interiority transforming assemblages into social systems or social structures that subsume the individuality of the parts. One of the strengths of the new social ontology is that both flux and change, as well as steadiness and stability, are embodied in the same processes. Actants form connections that constitute individualized assemblages, ones that become so strong that the sense of being assembled and connected disappears so that we treat them like black boxes. At the same time, because the parts retain their individuality, competing lines of force may cause them to detach, move away, and form new assemblages. There is no need to look outside for forces that upset the functional structure or to treat change as simply a stochastic disturbance in a homeostatic system.

Those steeped in causal models of social science may be perturbed by the epistemological implications of this ontology. How can we explain, if one thing is not the root cause of another, or if there is no clear hierarchy of more basic elements yielding higher-order elements? If followed strictly, the Latour-DeLanda ontology replaces causal and reductive explanatory models with “rich descriptions of processes and assemblages aligning and reconfiguring across time and space.”⁴⁰ The work to be done is not searching for parsimonious causes but unearthing and excavating the links and relationships among entities that give rise to various experiences and phenomena.

39. DeLanda argues that things have their manifest properties but also have capacities that become manifest through connections in the assemblage. He also says we should think of each formed assemblage as an individual thing for this reason, but not think of each one as an organic entity, in which the parts lose their identity. Traditional social theory, he argues, proposes relations of interiority—like the limbs of a body or the semantic relationship between parent and child. A detached limb is not a limb anymore; parent cannot be defined without child, and vice versa. DeLanda emphasizes what he calls relations of exteriority. As with Latour, one thing cannot be reduced to or renamed as something else.

40. I am indebted to Phil Scranton for this insight and formulation of the epistemological implications of the ontology.

What Does This Mean for Business and Economic History?

We have now stripped away methodological individualism, both its explanatory and ontological aspects. The ontology proposed instead offers a different way to think about economic, technological, or organizational matters. Let us look at some of the economic institutions we commonly study and how they may be examined as actor-networks or assemblages. Michel Callon, a prominent actor-network theorist, contends that markets are not constituted by rational actors. Rather, people are made into rational market subjects by the rhetoric of economics, which then looks at the acting people and proclaims that it is merely human nature at work. Regarding financial theory specifically, Donald MacKenzie argues that the capital asset pricing model and the efficient market hypothesis perform rather than reflect reality. Financial theory orients and synchronizes people toward a particular market logic in finance, and thereby helps to bring about the market behaviors that the theorists believe they have discovered.⁴¹

In both cases, markets and market subjects are made to behave according to economic theory by assembling them through a host of tools to reduce the particularity of nature and the diversity of human actors into calculable and stable beings. This is not just a matter of language, ideas, or ideology, however. People are not cajoled or duped into market behaviors. They are aligned, a process that is both material and informational. Some of the equipment that makes people market actors, Donald MacKenzie notes, is rather durable and material.⁴² A purely microeconomic take on markets would treat prices, for example, as the outcome of individualized choices only. However, prices are constituted through physical media, from air to airwaves to light beams. Only in the purely abstract does the market immediately issue a price for everyone. In fact, given physical reality, even when moving at the speed of light, it takes time for prices to arrive. The speed, availability, and accuracy of price transmissions thus depend on a system of technical artifacts subject to natural forces and the laws of physics. We tend to ignore these realities as noise or as impurities that do not really change our theoretically based models of how markets work. In fact, as MacKenzie notes, with automated trading in the most fluid financial markets, millisecond latencies in transmitting orders over fiber-optic cables can mean the difference between profit and loss, winning and

41. MacKenzie, *An Engine, Not a Camera*: Callon, ed., *The Laws of the Markets*. According to one critic, however, what MacKenzie and others are showing is not, in fact, performativity, but rather a nonindividualist ontology to construct different causal explanations. See Mäki, "Performativity: Saving Austin from MacKenzie."

42. MacKenzie, Beunza, Millo, and Pablo Pardo-Guerra, "Drilling Through the Allegheny Mountains." A more popular version is Lewis, *Flash Boys*.

losing, in the trading game. The market one experiences depends on where one is located and what devices one can access.

Markets come to acquire their causal powers by the way they are constituted historically.⁴³ This process, the bringing together of knowledge, people, groups, organizations, and things, is nicely illustrated in Emily Pawley's history of American apple orchards. Whereas nature yields a wild abundance of fruit, growers, arborists, nursery workers, and naturalists gradually stabilized variety into products that could be marketed and sold for profit. The process had a material aspect—grafting from existing stock rather than broadcasting seeds. It also had a conceptual side: the creation and circulation of a new category of domesticated apples differentiated from their wild cousins. Scientific knowledge filtered through elite institutions and gentlemanly societies, picked up and spread via social networks across the Atlantic, was put to work in refining nature. The otherwise variable and unpredictable natural world of land, resources, and fecundity was brought into alignment for the market.

We see that this process is performative when the problem of “fake” apples arises. Nothing in nature provides distinction between commercial and wild apple varieties, despite the efforts of naturalists to find one. However, nature could be stabilized by the devices and institutions of orchards and nursery workers, with their ideas and practices of breeding science, often then backed by law and the state.⁴⁴ The categorization of apples through devices such as books, taxonomies, congresses, and networks of relationships provided stability for what became marketable commodities, transforming the apple of nature into the apple of the market by a socio-technical, material, and expressive process.⁴⁵

Economists would treat the market for apples as comprised solely of interacting individuals with their preferences and resources. Can the constitution of markets be explained fully by this sort of methodological individualism?⁴⁶ Recall that methodological individualism refers

43. The model of how this works is provided by William Cronon's discussion of the creation of a market for wheat in nineteenth-century Chicago. Cronon, *Nature's Metropolis*. DeLanda offers as an example Braudel's history of capitalism. DeLanda, *Assemblage Theory*, 14–18.

44. Pawley, “Cataloging Nature: Standardizing Fruit Varieties in the United States, 1800–1860.”

45. For another example see Hecht, *Becoming Nuclear*. As with the apple, categorical distinctions between what gets called “nuclear” and what does not, do not derive from nature but are the constitutive process of a network of material and nonmaterial actors. The brute physical facts matter, but do not speak for themselves, alone, disconnected from these other actors.

46. I am taking the position that markets in economics are comprised only of individuals interacting with their preferences and resources. Of course, other things may be involved—locations, rules, organizations—but these are not taken to be essential to the existence of the market, only contingent facts and conditions.

to the noncausal supervenience of higher-level social things on lower-level components. However, the market for apples or wheat or financial instruments is an assemblage constituted by multiple actants, no one of which is supervenient or subvenient. All the usual features of markets are still present—competition, pricing—but they appear only once the market has been constituted, a process that cannot be treated as the rational, or even semirational, intention of individuals alone.⁴⁷ To study markets only through the intentional acts of individuals would be akin to studying the body as only a collection of cells.

From Organizational Capabilities to Organizational Assemblages

Markets are just one of the economic institutions that business history concerns itself with. Organizations of many sorts is another, with the firm often sitting at the center of the discipline. We can use the new ontology to reorient how we study firms as well.⁴⁸ Rather than reducing the firm to principals, agents, and contracting parties, we can understand it as a holistic entity comprised of many parts. Consider the classic managerial corporation. If only a collection of individuals, then we would think of it as essentially a tool or technology manipulated by managers, themselves acting mechanically for the interests of the owners. The transaction costs that the firm reduces in this case are treated as phenomena that occur between and among people—managers, workers, contractors, suppliers.⁴⁹ People, presumably top managers, improve communications channels, install surveillance and monitoring devices, and manipulate incentives, all directed at other people. This sort of firm is “decomposable,” a shell for its actors. Its parts are transparent, its technology of organization self-evident. There are no obscured, unintended, or emergent effects. In short, there is not much firmness to this sort of firm.

Such a minimal organization is at odds with our sense that business enterprise matters because it is a complex rather than a decomposable

47. Needless to say, the assumption that markets are just there is even less satisfactory. The “just there” answer is really only a disguised form of individuals interacting in abstract space until their various bids result in a price, which we then take to be the market.

48. Rather than beginning with markets, as microeconomics might propose, and looking for the answer to “Why are there firms?” as Coase did, we take a step back and recognize that both markets and firms are social entities that had to be assembled. Law, “Notes on the Theory of the Actor-Network.”

49. Some of these are organizations as well. They, too, commonly get broken down to mere individuals.

organization. The effects of organized activity become manifest over time, as firms acquire capabilities and skills and develop more effective routines that could not be predicted from the start. This is the same but positively oriented version of the organizational complexity that Perrow identified. People and objects (technologies, tools, organizational systems) are more deeply entangled than the minimal firm model supposes. Emergent capabilities allow firms to do things that individuals cannot do.

The debate between the firm as essentially just individuals and the firm as a complex organization can be found in discussions of organizational capabilities.⁵⁰ If it all came down to people then presumably no firm would ever enjoy an advantage. Differences in firm efficiency and profits would quickly disappear.⁵¹ If individuals were all that mattered, then talented people could just walk out the door and into the arms of a competitor, or firms could teach and train their people to do the same things as the most successful member of their industry.⁵² However, although mobility and imitation occur, there is plenty of evidence that productivity does not converge across firms, even in the same industry. Perhaps frustrated by the limits of existing ontological conceptions of the firm, however, the organizational capabilities literature has recently swung back to individualism, replacing the notion of the capable firm with capable people in the firm.⁵³ This is a mistake. Our critique of ontological individualism gives us warrant to explore the emergent properties of the firm as a heterogeneous collection of parts or actants.⁵⁴

50. Chandler, "Organizational Capabilities and the Economic History of the Industrial Enterprise."

51. Here, I am holding any questions of market power in abeyance.

52. An exception might be cases in which unique individual talents matter, as with a sports team or highly scientific or technical organization that must recruit people with rare abilities. There is a limit on the number of such people, presumably.

53. Helfat and Peteraf, "Managerial Cognitive Capabilities and the Microfoundations of Dynamic Capabilities" Eisenhardt and Martin, "Dynamic Capabilities: What Are They?"

54. The organizational capabilities model is rooted in the resource-based view of the firm as a heterogeneous bundle of tangible and intangible assets assembled in unique and inimitable ways. Teece, Pisano, and Shuen, "Dynamic Capabilities and Strategic Management." Alternatively, organizational economics is rooted in a thoroughgoing methodological individualism, so takes actors, or indeed transactions, as the fundamental components of firms. Argyres, Felin, Foss, and Zender, "Organizational Economics of Capability and Heterogeneity." In a sense, the two literatures speak on different levels, one starting with compositional questions of what a firm is and moving to how it does certain things, and the other starting with individual actors and asking causal questions about why firms do certain things or make certain choices (make vs. buy, for example). The organizational capabilities literature focuses on firm heterogeneity, whereas the organizational economics literature looks at various governance structures and organizational forms and seeks to explain why different forms perform different activities. So organizational economists are interested in choices made by actors about resources, techniques, governance structures,

The possibility of a nonhuman-centric view of capabilities has been recognized for quite some time in the literature. As David Teece wrote, “While certain individuals in the enterprise may have the necessary cognitive and creative skills, the more desirable approach is to embed scanning, interpretative, and creative processes inside the enterprise itself.”⁵⁵ What, then, is the enterprise that it can have such things embedded? How and where do they embed? Of what are routines, processes, and patterns comprised? What keeps them operating; what might cause them to break apart? What makes it possible for a firm to be more than the sum of its people and material resources?⁵⁶ Here, the ethnographic and historical methods of actor-network theory could help. We should start by looking at how resources—including devices for organizing categories such as profit, loss, and throughput—are not merely taken and used by firms, but rather become part of their essential fabric. They act as grounds for firm capabilities that are only, at best, anchored by people.⁵⁷ Once we understand the firm as constituted in part by nonhuman objects, we see that any attempt to understand its capabilities, routines, and strategies must involve more than just the people parts.

Consider a simple example of an organizational level capability in action—learning by doing. Does the learning take place at the individual level? Perhaps, but when we think this way, we are thinking causally. Something occurred, temporally, in the course of production

and the like and have a method for explaining those choices, but not the things that are to be chosen from. Studies founded on capabilities questions are interested in the processes by which the resources and other things are created by firms. The criticism by economists that organizational capabilities cannot be explained via methodological individualism is, as this paper argues, not a telling critique once we accept there are alternatives to methodological individualism.

55. Teece, “Explicating Dynamic Capabilities,” 1323. The idea of embedded routines is also found in the evolutionary economics literature. Winter, “Understanding Dynamic Capabilities.”

56. Perhaps because of the failure to resolve such issues, Teece and others continually switch between discussing the firm (as a black box) undertaking the strategic acts, and managers being the actors. There is a resulting tendency toward tautologies and weak functionalism with this move away from methodological individualism without a corresponding reworking of ontology. Thus, routines are “patterns of interactions that representing successful solutions to problems,” and learning is embedded in routines. Teece, et al, “Dynamic Capabilities and Strategic Management,” 520. However, it is also clear the intent is to capture something beyond individuals, something emergent in the firm as an organization that is more the sum of its parts and does not depend on individuals, and that there are levels of complexity in organizations that no individual may actually understand. See Teece, et. al. “Dynamic Capabilities and Strategic Management,” 524–525.

57. The patterns of firm activity, in turn, give rise to systems of technologies that define industries, which are the result, not the cause, of the organization of business enterprises. Teece, “Explicating Dynamic Capabilities,” 1341, states that the enterprise and its environment “co-evolve” and “managers really do have the potential to set technological and market trajectories.”

that made the people better and more efficient—and people can obviously include line workers, millwrights, engineers, and managers. However, what constitutes the learning organization? This is a different question. Not just people, clearly, because people need machines and space and the organization of all these things. Whereas causally it is the process of doing that counts, when we think ontologically, it is the alignment of elements that counts. Organizations acquire their causal powers, the ability to inculcate learning, through more than the individuals who comprise them. It is an effect of the entire structure and organization. We might still say that the people are doing the learning, but we have to recognize equally the independent existence of the organization and the system of production that is part of the learning.⁵⁸

When we perform causal analysis with an individualist ontology, there is always the temptation to push explanations back to the individuals and assign all causal powers to people. We then ignore the interactions, miss the obscured but powerful organizational effects, and forget that neither people nor materials are fully constituted, preexisting entities but rather formed in process.⁵⁹ We revert to the position that the firm's capabilities are just the manipulation of labor, capital, technology, and management technique. We thus assume that all the necessary elements of a firm are available, off the shelf so to speak, rather than being themselves complex assemblages formed through time. If the parts are simple, then presumably any other firm could follow and imitate the best practices of a leader and thus drain away competitive advantage. We would be back to standard neoclassical economics. However, organizational capabilities were conceptualized precisely to deal with the endurance of firms and their capabilities in ways that microeconomics cannot.

A better way to think of the firm is that, like other social entities, it is deeply entangled and continually assembled. It is a lineage of many parts, which have their own histories. These long skeins of relationships stretch over time and across space. Understanding what a firm or market or commodity is requires following these lines and working through the connections to see how they make things happen and give rise to new social entities. It is a task for a historian.

58. Another way to see organizations as more than just people is to investigate how they embody publicly shared thought and value systems. On this see Douglas, *How Institutions Think*.

59. When complexity is just opaqueness hiding pathways of explanations between people and their relations, and when it is more, becomes extremely difficult to tell. Even Herbert Simon was unsure which way to go. See Little, *New Directions*, 167–168.

It also means that when studying the makeup of a firm, even one that may appear large and self-contained, we are looking “outside” of it as well.⁶⁰ There are no preset boundaries as to what a firm is (or market for that matter); rather, there are assemblages that we identify as firms, often by relying on financial or legal conventions. However, in reality, firm assemblages may vary widely one to the next, despite sharing some common features. We should think in what Latour would call “anthropological terms,” starting with all the activities that the entities we study do, and all the things they produce—not just goods and services but texts, images, buildings, meetings, reports, discussions, conflicts, groups, rules, and patterns, as well as relations with other entities—and ask, why does this entity exist; what keeps it going; what might cause it to fall apart?⁶¹ This would be the start of a new paradigm for business history research.

Consider, as an exemplar for how that paradigm looks, Foucault’s famous example of the prison. We can think of the prison not as an isolated institution, but as part of an assemblage that disciplines the prisoners as well as the guards and other actors connected with the prison’s juridical regime. Only by considering all the lines and connections do we understand the heterogeneous nature of power that Foucault is calling attention to through the prison.⁶² Thus, the convenient legal definition of a corporation really just identifies a node on a network of connections, one which changes moment to moment depending on what all the other parts are doing. There is no uninflected “core” to a firm, just a continual process of making and unmaking, brought forward in time. This ecology of continually reshaping relationships involving people, things, nature, other institutions, and many other actants is what needs to be excavated.

What I am proposing is a strategy for radically avoiding reification and abstraction, whether at the scale of an economy or a firm.⁶³ What this means for the study of economic history is to avoid both reduction

60. We more easily see the external connections and lineages with small firms, industrial districts, networked enterprises, and the like. However, we should not assume, just because the classic corporation has well defined financial and legal borders, it has well defined ontological ones as well. See Lipartito “From Social Capital to Social Assemblage.”

61. Manuel DeLanda argues we can study this issue by looking at parameters he calls “coding” and “territorialization.” Highly coded assemblages share a strong identity and language. Highly territorialized ones are more homogeneous and have clear, stable, and not very permeable boundaries. However, other assemblages, or even the same assemblage over time, may become less coded and more deterritorialized.

62. Koopman, “The Power Thinker.” <https://aeon.co/essays/why-foucualts-work-on-power-is-more-important-than-ever>

63. At the higher scale, as Dave Elder-Vass has argued, it is a mistake of both Marxist and mainstream economics to think there is a single encompassing

to the presumed rational and universal actor and the presumption that a single model or era can be used to explain patterns and changes in the economy—the growth of market society, the transition to capitalism, the rise of the modern corporation, the Second Industrial Revolution. Instead, what we should expect to find are multiple and overlapping entities and processes at work, existing side by side. They may interact in various ways, shape one another, but our best method is to follow the lines and connections among these various things, rather than highlighting one as transcendent.

Conclusion

Social science has tried various ways to conceptualize the ontology of the social. Structuralists assumed they could uncover overarching and preexisting norms and values, institutions and material conditions that guided human behavior in any culture. Microeconomists believed that society only existed as the interactions among universally rational actors. Efforts to modify these opposing positions and acknowledge both structure and agency introduced mediating concepts such as path dependency or structuration and habitus.⁶⁴ Post-structuralists, meanwhile, poked holes in the standard positions, finding that language and discourse both prefigured action but also rested on the unstable ground of indeterminate meaning. Agency and structure, materialism and mentality, subject and object were the dichotomous problematics that models of the social had to address. The new social ontologies seek to bypass these dichotomies by recognizing the wide variety of entities, material and human, that constitute any social fact or thing we care to identify. The result is to shift the emphasis to the ways that social things are constructed, and the contingent nature of those constructions.⁶⁵

economic form present at any given moment—what Marx called a mode of production. Elder-Vass, *Profit and Gift in the Digital Economy*.

64. Concepts associated with Anthony Giddens and Pierre Bourdieu respectively. See Giddens, *The Constitution of Society*; Bourdieu, *Outline of a Theory of Practice*.

65. Not everyone may be prepared to take this route. We may want to follow Daniel Little's suggestion, in *New Directions*, 75–78; 259–261, that the social is best approached from a position of methodological heterogeneity. Sometimes more individualistic explanations will work, other times we want to pursue the path through realistic but complex causal mechanisms that can involve individuals, material objects, or social structures (even though such structures are constructed, not pre-existing). We may dip below the individual to consider cognitive or behavioral causes or move to the macro level and afford it some causal powers when it seems stable and durable.

Institutions and human actors are emergent effects of this contingent construction process. We study why and how entrepreneurs, firms, markets, or economic systems acquire their powers and properties. We trace causal powers and processes through these heterogeneous assemblages, always recognizing they are precarious and liable to change from multiple directions and temporalities. Methodological individualism will be a poor guide for this work. It stops at individuals when we should be thinking beyond fully constituted beings. It prompts us to focus on only a limited subset of that which makes up the social world, seeking individualized explanations while ignoring effects that emerge from relationships and interactions. It brackets the nonhuman parts and infrastructures except to the extent people give them purpose and meaning.

We will have to develop methods to study firms and other economic things taking into account their many actants, their assembled nature. Relieved of the limiting assumption that individuals are all that really exist, or that social structures cohere into tightly integrated, dominant forms, some may fear that all explanation has been thrown out the window. If by explanation we mean the sort of narrow causal models common in positivistic social science, then perhaps so. However, we can also come up with more elaborate and detailed constitutive descriptions that show how people and things, subject and object, connect and interact to give rise to the social and economic effects we commonly observe. One thing that this ontology can provide is a way to capture a richer menu of causal processes and powers than that offered by statistical correlation models alone. Such models, with their assumption that causation is merely a constant conjunction between entities, relies on simple “common sense” descriptions of causal forces, ones usually derived from an implicit individualist ontology. By rethinking how economic entities are constituted, we will be in a position to offer deeper elucidations of how they act and what they do. A richer ontology opens doors on more complex epistemologies, making us find and follow the many and varied levels and pathways of causation, rather than rest with correlations between variables.⁶⁶

The emphasis on process, interactive effects, and changing consciousness of subjects will seem familiar to the historian, who has long worked this ground without necessarily stepping back to survey the

66. Abbott, “The Causal Devolution,” points out that correlation is a very weak method for causal description. For a critique of what he calls the “variables paradigm” and an explanation of his own “processual and relational” model of explanation, see Abbott, “Mechanisms and Relations,” *Sociologica*, 2 (2007), 1–22. In an assemblage, which is a nested array of parts that are themselves assemblages, causation can occur from many possible places—making for a highly contingent process, though not a random one.

ontological terrain. Indeed, the new ontology only redoubles the importance of work that deals with time and contingency. This should finally relieve us of the burden of thinking that history is not theoretical or rigorous enough. We live in a social universe that is anything but homeostatic. The past is embedded constantly in the present, brought forward in language and physical infrastructures, in shared and traded concepts and ideas (such as the idea that we are “living in a capitalist era”). It is now clear that we can only see the relationships that matter, for markets or for firms, as they play out through time. Instead of trying to make case studies and historically specific narratives conform to some positivist model of variables and correlations and outdated concepts of covering laws, it is time for social scientists to become more historical and realistic about what they mean when they claim to know the social world.

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