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## Perspectives

# Improbable Institutions

BY **SAMUEL BOWLES**,  
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**S**PANISH CONQUISTADOR Hernán Cortés's letters to King Charles of Castile describe the exotic customs his armed band encountered as they advanced toward Tenochtitlan in 1519. But what really is striking is how familiar it all was to Cortés.

Upon reaching what is now Mexico City, he wrote: "There is one square twice as big as that of Salamanca, where more than sixty thousand people come each day to buy and sell. [There is] a courthouse where 10 or 12 persons sit as judges." He is struck that "the orderly manner which, until now, these people have been governed is almost like that of the states of Venice or Genoa or Pisa."

The Aztec class structure held no surprises: "There are many chiefs...and the country towns contain peasants who are vassals of these lords and each of whom holds his land independently; some have more than others....And there are many poor people who beg from the rich in the streets as the poor do in Spain and in other civilized places."

Cortés, of course, shared a common ancestor with the Aztec people who now so amazed him. But their particular cultural branches of humanity had parted in the distant reaches of prehistory, and their common ancestor had lived at least 13 millennia earlier in a small community of hunters and gatherers without chiefs, judges, or paupers. Somewhere along the line both branches had come up with cities, states, private property, markets, and social classes.

But why should Cortés, or anyone else, marvel at that? Are not these institutions such a superior way of coordinating human activity that they were bound to be adopted as soon as our language facility allowed communication on a grand scale? No. Had Cortés taken a wrong turn and ended up in Australia, or Southern Africa, or California (as Scott Ortman points out in this issue), King Charles would not have read of urban judges and lords and paupers, but about the government of small groups by consensus and an economy based on sharing hunted and gathered goods as they are acquired. (By institutions, here, I mean the formal laws, informal norms, and mutual expectations that regulate social interactions among members of a community.)

The emergence of the institutions common to the 16th century Aztecs and Mediterranean Europe was far from inevitable. Once evolved, their military superiority, political reach, and demographic advantages would propel them even to California, Table Bay of Southern Africa, and the Outback. But the evolutionary trajectory that initiated this process was highly improbable, consistent with there being just a handful of cases in which states emerged independently in prehistory. The SFI project on the emergence of early states has set out to understand this unlikely process.

Institutional innovation is improbable for the same reason that biological speciation is unlikely: In order for the novel entity to get off the ground, a large number of independent events must jointly occur. In the case of human social institutions, among the “mutations” that need to line up for novelty to be viable are novel beliefs and social norms.

Social institutions, like languages, are conventions; they work well if almost everyone is on board. Driving on the right is an institution in this sense, and those who try the alternative institution on their own generally don’t get very far. The same can be said of respect for the possessions of others as private property, as opposed to sharing goods as they are acquired. How both the Aztecs and Europeans came to adopt private property rather than the communal sharing practiced by their common ancestors, or how the acceptance of subjection to a state elite came to be adopted, confronts the critical mass problem that is inherent in shifting from one convention to another.

The same cannot be said about many new technologies. If I find a better way to make a digging stick or a pot, there is little stopping me from just doing it. As a result, technology is said to be dynamic, and institutions inertial, giving us the “better mousetrap” theory

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**“Social institutions, like languages, are conventions; they work well if almost everyone is on board.”**

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of history that enthrones technological progress as the reigning driver of human social dynamics. But, as the SFI project insists, this is a mistake. Of course the better mousetrap theory has its poster children: The steam engine transformed the conditions of work and life in 18th and 19th century Europe, as had the introduction of the horse to the American Plains two centuries earlier.

But novel institutions are sometimes required before a new technology can be adopted. There’s no point in cultivating a crop



Sam Bowles

or raising livestock if one cannot expect to reap the returns from these long-term investments. Irrigated farming requires a political system to define and enforce water rights. And unlike better mousetraps, states, private property, and other novel institutions cannot be adopted piecemeal. When they do emerge, their fate is determined, as Jerry Sabloff says in his video interview, by their ability to best other groups in warfare and other forms of competition. There is nothing in either process – emergence or proliferation – that guarantees that people will benefit as a result. So reassuring shortcuts like the “efficient design” hypothesis are as poor a guide to research in the historical and social sciences as they are in biology.

This is why the questions posed by the SFI project are so challenging: Institutions are characteristic of groups, not of individuals, and the evolutionary processes governing them are often marked by long periods of stasis punctuated by brief – in archaeological time – periods of innovation. Many new technologies leave behind a stampede of footprints for the archaeologist; new institutions and cultures are stingier. The result is that even in today’s datasets encompassing millions of traces of how people lived, the *n* that counts – the number of documented cases of the process by which states emerged – can be counted on one’s fingers.





### Mexico, Mural

Diego Rivera's depiction of the Tlatelolco market, with the great city of Tenochtitlan beyond it, around the time of the arrival of Hernán Cortés in 1519. Cortés's men were said to be in awe of the splendid city, at the time one of the largest cities in the world, and many wrote that they wondered if they were in a dream.

The magnitude of the challenge is more than matched by the urgency of better understanding these processes. One can hope, with Sander van der Leeuw, that the project will help us grasp how our institutions today are changing – for change they must if we are to address environmental degradation, epidemic spread, the production and use of knowledge itself, and the other challenges and opportunities of our ever more connected world. ■





SFI Professor Samuel Bowles directs the Institute's Behavioral Sciences program and, with SFI External Professor Herbert Gintis, wrote *A Cooperative Species: Human Reciprocity and Its Evolution* (Princeton, 2011).



#### **Bronze Spear Point**

Military success was both an enabler and an outcome of the increasing political and bureaucratic organization of early states.