
WHAT CULTURAL EVOLUTION CAN TEACH US ABOUT HOW TO BUILD BETTER INSTITUTIONS

SCALING UP FROM TRIBAL INSTINCTS TO MODERN ORGANIZATIONS

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From a policy perspective, the theoretical tools of cultural evolutionary theory have begun to provide a conceptual grammar for decomposing institutions on the ground and understanding how they work. This means that addressing specific problems in particular places demands applying this conceptual grammar principally through quantitative ethnography. There's just no quick and dirty substitute for observing how local institutions work (or fail), and understanding the local cultural psychology that underpins how they work. Once local institutions are understood, we think that our evolved psychology, including our coevolutionary tribal psychology and aspects of our capacities for cultural learning, provide a menu of tactics for calibrating, adapting, and augmenting local institutions. However, only in-depth knowledge of how specific institutions work can help avoid good-hearted efforts that inadvertently damage norms/institutions that permit collective action.

Humans have a deep evolutionary history as mammals and apes. Many innate aspects of our social psychology no doubt stem from this heritage. As our particular lineage began to evolve about 2 million years ago we came to increasingly rely upon learning from each other (culture) to adapt to the many and changing habitats we came to occupy (Richerson & Boyd, 2005). The record of stone tools and other durable artifacts gives us a narrow window on the growing importance of cultural adaptations over that time period. Unfortunately, our window on the evolution of our social organization is barely larger than a keyhole. What we do know is that symbolic artifacts like beads and diverse, sophisticated, stylistically distinctive tools begin to appear in the around 100,000 years ago in Africa and subsequently to spread around the world. Evidence from isolated societies like the Tasmanian islanders suggests that large interconnected populations with considerable organizational sophistication are required to sustain this level of cultural complexity (J. Henrich, 2004).

The work of anthropologists on living hunting and gathering tribes gives us some insight into how these social systems worked (Hill et al., 2011). The key finding is that even these comparatively simple societies involve much interaction with and cooperation among on the order of a thousand mostly unrelated fellow tribespeople. These interactions are sustained by systems of culturally acquired rules, termed *institutions* by social scientists. Individuals internalize aspects of these rules, termed *norms*. Institutions and norms are the foundation upon which a distinctively human form of society is based. Even hunter-gatherer tribes are very large and cooperative compared to other primate societies.

The hypothesis is that institutions and norms are diverse and complex cultural-evolved contrivances that are built on, and sustained by, exploiting aspects of our evolved psychology, including both our tribal psychology and older aspects of our primate psychology such as those related to kinship and reciprocity. Life in ancestral proto-tribes with primitive cultural institutions likely shaped our innate psychology. For example, humans are relatively docile creatures and we are very sensitive to social feedback. Attempts to raise infant chimpanzees as if they were children (Hayes, 1951) fail because this species is neither very docile nor very sensitive to social feedback. Young chimpanzees cannot acquire norms with anything like the facility of human children. We are innately adapted to live in tribes by a process of what we call gene-culture coevolution.

The hallmark of cultural adaptations is the relative rapidity with which they can evolve. As regards both hard technology and institutions, we can evolve new cultural adaptations rapidly by comparison with the rate at which genetic evolution could achieve similar adaptations. Thus, since the origins of agriculture some 11,000 years ago we have evolved a huge diversity of subsistence economies based on domesticates adapted to a large fraction of the earth's terrestrial habitats. At

the same time, we have used the productivity of agriculture to evolve much larger and more complex social systems than were ever supported by hunting and gathering. This evolution likely owes little or nothing to new innate capacities but rather has depended upon new norms and institutions “working around” a social psychology adapted to life in tribes.

The building of societies on the basis of institutions and norms implies that (1) there is no one solution to large-scale human collective actions (there’s a bunch) and (2) solutions will be local, historically contingent, and context-specific. Moreover, some of these mechanisms involve interconnecting different kinds of social interaction, via reputation, and harnessing some of the darker aspects of our psychology (jealousy, status-striving, vengeance) to stabilize intuitions. This means efforts to stamp something that (everyone agrees) is bad considered in isolation (witchcraft, theft, property damage) may collapse institutionalized cooperation by effectively throwing a monkey wrench into an interconnected machine. The “design space” for human societies is large and both chance and adaptive processes influence the institutions that evolve. The functioning of social systems involves a lot of collective “tacit knowledge” that cannot be articulated by insiders nor easily comprehended by outsiders.

This recognition means that effective policy actions at particular location require a close study of how the local institutions function, and are sustained. Existing theoretical models can guide inquiry. The key is to figure out how the sanctioning system works. Once they system is understood, we can consider how to augment it, or tune it up. As noted, norms and institutions ultimately exploit innate building blocks. Here is a handy list of aspects of our evolved social psychology that one should keep in mind when tuning an institution, or building a new one.

- 1) Kinship: As humans, we seem naturally inclined to help our close kin. In small-scale societies institutions extend notions of kinship to distant kin and non-relatives, allowing our innate kin biases to guide and inform both our treatment of relations in the kinship system and guide the judgment of other behavior within the system. People clearly know the difference between their real and classificatory brother, but calling him a “brother” tells him and everyone else how you are supposed (normative) treat him. Such institution may lead to internalized norms. Kinship is a problem for larger-scale institutions, however. In many places, a person who did not funnel the benefits of a leadership position to his relatives would be considered a bad person. Also many criminal organizations are based on extended and fictive kinship. Even tribal societies need to work around kinship sentiments lest they fall prey to destructive feuding.
- 2) Reciprocity: Children can perform tit-for-tat style reciprocity by age four (Fiske, 1991), long before they cooperate or behave fairly with anonymous others (Harbaugh, Krause, & Liday, 2002). Reciprocity can sustain cooperative in small groups (less than ten), so organizations should partition in small groups, to exploit our reciprocity psychology (Boyd & Richerson, 1988; P. Richerson & Boyd, 2000).
- 3) Negative reciprocity: People have a taste for vengeance, if someone hurts them or their kin, they are inclined to strike back. Human communities have to suppress this tendency in order to avoid cycles of vengeance. However, negative reciprocity can be harnessed as a source of motivation to punish norm violators, as long as only norm violator can be punished (Herrmann, Thöni, & Gächter, 2008). Similarly, if norm violator are seen to affect the fate of the entire group, violations can be taken as direct attack on the group (e.g.,

adultery angers a god; the god cause a hurricane to strike the village; ergo, my house was destroyed because you committed adultery).

- 4) Reputation: humans are concerned both with what our fellows think of us (as potential partner and collaborator) and about whether they consider us moral, or at least good citizens (i.e., have internalized local norms). If policing or monitoring can be seen as a means of (a) demonstrating one's talents, or (b) as demonstrating one's commitment to the group norms, then institutions can sustained by harness this aspect of our evolved psychology(Bliege Bird, Smith, & Bird, 2001; N. S. Henrich & Henrich, 2007).
- 5) Leadership and Status: Humans have at least two types of status, dominance and prestige(J. Henrich & Gil-White, 2001; Johnson, Burk, & Kirkpatrick, 2007). Dominance status results from control of costs and benefits, and is homologous with dominance in non-human primates. Prestige arises as learners seek out learning opportunities from more successful and competent individuals and as respect is given to those helpful to the group in other ways. Since leadership is built on status, social scientists (including anthropologists working in the Amazon) have long observed that there are two leaders (Krackle, 1978). Social psychologists find two different kinds of pride (Tracy, 2007), which map onto dominance and prestige. Since prestige-related processes favor both altruism and give rise to true influence and persuasion, prestigious leaders can both galvanize more cooperation and potentially spread new norms(Cheng, Tracy, & Henrich, 2010). Interestingly, hunter-gatherer tribes base leadership entirely on prestige and used coalitions to suppress dominance behaviors on the part of individuals incline to behave in this way (Boehm, 1999).
- 6) Acquire and internalize norms. Humans are born norm learners(Chudek & Henrich, 2010). Young children behave as if they assume that world is full of social rules that they need to learn by observation, and they spontaneous assume others ought to be obeying the norms(Rakoczy, Wameken, & Tomasello, 2008). Adults have a keen memory for normative information. Since learners are unconsciously looking for cues related to emotional reactions, punishment, and conformity to figure out what the local rules, these may useful in spreading novel norms.
- 7) Acquire what constitutes a good reputation: Human also have to culturally learn what is a reputation. Societies vary dramatically in what constitutes a good reputation, or what actions cause one to fall into bad standing. Shifting the reputation system (second hand smoke hurts others) can be the fastest way to shift to different equilibria.
- 8) Ethnic psychology: Humans seem to have psychological mechanisms for thinking about culturally marked social groupings. The cognitive system has numerous effects but here are three important ones: (1) people tend to essentialize ethnic membership and readily extend behavioral observations from one member to all(Diesendruck & Gelman, 1999; Gil-White, 2001), (2) people preferentially imitate co-ethnics, and (3) people preferentially interact with co-ethnics (Kinzler, Dupoux, & Spelke, 2007).

One practical avenue recommended by this approach is not to attempt to design a master solution, but to try within a population different things in different interacting subpopulations—that is, building multiple Darwin machines that harness selective retention of useful institution practices,

ideas, values and habits. As different subpopulation succeed or fail, less successful group will imitate the more successful group, often creating new novelty by mixing and matching institutional forms of the two groups. Over time, as long as the group remains competitive and well-informed of each other's success, competition plus imitation should ratchet up the quality of institutional forms for collective action. In market economies we engineer competition between firms by anti-trust policies in order to exploit this principle. Similarly, federal political systems deliberately encourage lower level units to formulate their own policies in part to take advantage of it.

Those with an interest in policy innovations will have detected a note of pessimism here. Attempts to change norms will often fail (think of the War on Drugs) and successful attempts to change them often results in unhappy unintended consequences as in so many attempts to improve organizations noted by Burke(2002). The lesson of many studies is that spontaneous historical solutions to social problems very often work better than those generated by top-down design (Ostrom, et al. (2002)). Deliberate policy innovation is perhaps most likely to be helpful when institutions have become destabilized or when a "sick society" is demonstrably at an inferior equilibrium. Perhaps policy makers ought to bear Galen's injunction "first, do no harm" in mind. We don't mean to give aid or comfort to ideological conservatives in making this point. Rather, we think that understanding the processes of cultural evolution promises to help policy makers improve on their poor record of institutional design (P. J. Richerson, Collins, & Genet, 2006).

Nothing about norms and institutions makes sense except in the light of evolution. Policy analysts should think of themselves as applied evolutionary scientists for policy making is a form of artificial selection aimed at deliberately changing the norms and institutions of a society.

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