THE STAGES OF HUMAN CULTURAL AND COGNITIVE EVOLUTION

In a previous book I proposed that the present form of the human mind evolved over the past two and a half million years, in three major cultural stages, or transitions. My central hypothesis was that during that time, hominid cognitive evolution was increasingly tethered to culture. Our remarkable evolutionary drive was presumably sustained by the many advantages of having a collective mentality, and our brains went through a series of modifications that gave them this strong cultural orientation. That orientation was something new in evolution and has made us very successful as a species. It has profoundly affected everything we do for a living, whether hunting, gathering, toolmaking, fighting enemies, organizing migrations, adapting to climate change, or protecting ourselves from perils. The close linkage between brain and culture has accelerated the rate of human evolution. As communities became better able to store and disseminate knowledge, they evolved a Baldwinian strategy that hijacked the normally slow-moving

process of natural selection and caused it to speed up. Cultures are more efficient than individuals at exploiting the fitness value of genetic variations, which might otherwise have a negligible impact. This is the basis of Baldwin's effect. In this manner the speed of evolution of the human brain was doubly increased not merely by its extraordinary ability to learn but by its capacity to share knowledge, in distributed networks that can accumulate knowledge at blinding speeds.

There are three major stages, or transitions, in my version of our cognitive emergence. These are shown in Table 7.1. Each of these transitions changed the nature of human consciousness in a major way. The scenario of human evolution seems to be one of tension between culture and conscious capacity, with culture steadily pushing that capacity to the edge, so that it continuously expanded. Culture was a radically new presence, and the mind kept adjusting itself to the new reality of distributed cognition. The result of that tension, in the long run, was the emergence of a symbolizing mentality.

The first transition started a little more than two million years ago,

TABLE 7.1

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Successive layers in the evolution of human cognition and culture. Each stage continues to occupy its cultural niche today, so that fully modern societies have all four stages simultaneously present.

Stage	Species/Period	Novel Forms	Manifest Change	Governance
EPISODIC	Primate	Episodic event perceptions	Self-awareness and event sensitivity	Episodic and reactive
MIMETIC (first transition)	Early hominids, peaking in *H. erectus* 2M–0.4 Mya	Action metaphor	Skill, gesture, mime, and imitation	Mimetic styles and archetypes
MYTHIC (second transition)	Sapient humans, peaking in *H. sapiens sapiens* 0.5 Mya–present	Language, symbolic representation	Oral traditions, mimetic ritual, narrative thought	Mythic framework of governance
THEORETIC (third transition)	Modern culture	External symbolic universe	Formalisms, large-scale theoretic artifacts, massive external storage	Institutionalized paradigmatic thought and invention

when the species *Homo* first appeared on Earth. It is not absolutely certain which of several hominid species made the first great intellectual breakthroughs, but there was a general increase in hominid brain size during that transition period, and all these early hominids were more humanlike than the australopithecines. The first stone tools appeared simultaneously with the species *Homo*, along with evidence of a drastically changed diet. *Homo* was an omnivorous species from the start. There is evidence that this species ate much more meat than any of its predecessors. Some of this meat was obtained by hunting big game, a remarkable achievement for a nearly naked, relatively small creature. Early hominids could not have achieved this feat, or obtained so much meat, without improved tools. To this end they invented stone tools. The archaeological record also shows some fossilized wooden spears from this early period, but it is likely that they also had tools made from other perishable materials, which vanished in the intervening two mil-

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The achievements of early hominids revolved around a new kind of cognitive capacity, mimetic skill, which was an extension of conscious control into the domain of action. It enabled playacting, body language, precise imitation, and gesture. It also acted as a mode of cultural expression and solidified a group mentality, creating a cultural style that we can still recognize as typically human. Mimesis enabled early hominids to refine many skills, including cutting, throwing, manufacturing tools, and making intentional vocal sounds. Although not yet language, these sounds were nevertheless expressive. We call such vocal modulations prosody. They include deliberately raising and lowering the voice, and producing imitations of emotional sounds.

The second transition started with the arrival of archaic *Homo sapiens,* about half a million years ago. It culminated in the evolution of our particular subspecies, *Homo sapiens sapiens,* about 125,000 years ago. During this time the brain and vocal tract underwent a great change. Sapient humans started with the rather primitive material culture they inherited from their predecessors but then began to innovate at a much higher rate. They invented a wider range of sophisticated tools and produced beautifully crafted

objects, improved shelters and hearths, and elaborate graves. Within another 10,000 years, they had started to use several forms of self-adornment and were manufacturing a very large variety of multipart objects, including weapons, hafted tools, boats, complex dwellings, ritual quasi-symbolic artifacts, and simple musical instruments. They had also migrated over much of the world, using various technologies to adapt to a variety of climates and ecologies. They came to dominate the Earth, and spoken language was undoubtedly the special power that favored them over their rivals and predecessors. Spoken language produced oral culture, which was the universal form of human culture until very recently.

The third transition started about forty thousand years ago, and revolved around a revolution in the technology of symbols. Cognition continued to evolve, but this time it was mostly driven by technology and culture itself. The main cognitive driving force underlying this transition was the externalization of memory. Whereas earlier humans had to depend entirely on their biology—that is, on their brains—to remember, modern humans can employ a huge number of powerful external symbolic devices to store and retrieve cultural knowledge. This revolutionized the way humans think and the kinds of distributed cognitive systems we could construct. Thus modern culture contains within it a trace of each of our previous stages of cognitive evolution. It still rests on the same old primate brain capacity for episodic or event knowledge. But it has three additional, uniquely human layers: a mimetic layer, an oral-linguistic layer, and an external-symbolic layer. The minds of individuals reflect these three ways of representing reality.

In effect, these three transitions are major checkpoints on a long evolutionary road, which may have had many stops and starts. They caused three shifts in the nature of consciousness during our evolution: (1) more precise and self-conscious control of action, in mimesis; (2) richer and faster accumulation of cultural knowledge, in speech; and (3) much more powerful and abstract reflective cultures, driven by symbolic technology.

THE FIRST TRANSITION: ESTABLISHING THE MIMETIC FRAMEWORK OF HUMAN CULTURE

Unfortunately, we have no way to time-travel and actually observe the first members of our species, but we know a lot about their nervous systems, lifestyles, and major cultural achievements, and when we place them on a curve, extending from primate to human, we can narrow down