MINDVAULTS

Sociocultural Grounds for Pretending and Imagining

Radu J. Bogdan

The MIT Press
Cambridge, Massachusetts
London, England
2013

Preface

Unpacking the metaphoric title and somewhat cryptic subtitle of this book may be the simplest, most direct way of introducing its content. According to the dictionary, *to vault* is to jump or leap over an obstacle or out of an enclosure, with the aid of a support or prop such as hands or a pole. The human mind—and apparently it alone—is able consciously and deliberately to vault itself cognitively out of the enclosure of current perception, motivation, emotion, and action, and leap over to future, past, possible, or even impossible facts, situations, or scenarios. Perhaps the most generic—but amorphous—expression of what I call *mindvaulting* is thinking. Somewhat narrower in scope and somewhat better studied, pretending and imagining are the first documented forms of mindvaulting that develop in human childhood. They will be the focus of this inquiry, with imagination in the forefront.
The dictionary also tells us that a *vault* is a network of arches configuring a roof over the interior of a building. Think of the mind as such a building, and the vault as a network of high-level (rooftop) mental abilities employed in reasoning, deliberate planning, thoughtful communication, reflective decision making, art creation, technological innovation, and scientific theorizing. These abilities can be subsumed collectively under the old-fashioned but still useful notion of *intellect*—the arched roof of the human mind, so to speak.
It turns out that compared to the crania of various Homo precursors, those of modern humans are actually higher. Luckily for my metaphor, paleoanthropologists call this development *vaulting* and suspect a connection with modern cognitive evolution. Could this actually be a connection with the modern intellect? I think so, and will argue that pretending and imagining can be viewed as crucial steps on the ontogenetic staircase to the intellect, and that imagining in particular can be viewed as the engine of the intellect.
Given this reading and the significance of mindvaulting, the questions I want to ask—the central questions of this book—are, Why mindvaulting? and With what resources? And more specifically, Why pretending and imagining? And again, With what resources? It turns out, in my view, that ontogeny is a genuine, active, and fertile territory of evolution; only modern human ontogeny evolved capacities for pretending and imagining, and hence for an intellect; and therefore, only

an evolutionary look at ontogeny as *developmental evolution* can answer the questions just asked.

My inquiry reveals that unprecedented in other animal minds, first pretending and later imagining develop for *reasons* that are unique and specific to human childhood, out of a variety of *roots* or sources—some biologically deep and old, and others historically recent. In particular, my inquiry finds the most potent reasons for pretending and imagining first in the *sociocultural* challenges, and later the *sociopolitical* or interactive (cooperative and competitive) ones, that human children face at distinct stages of their ontogeny. As for the roots of pretending and imagining, and likely other intellectual faculties, my inquiry finds them in abilities that evolved independently— again, for a variety of sociocultural and sociopolitical reasons specific to human childhood. The reasons and roots for pretending and imagining are subsumed under the notion of *grounds*. Modern human ontogeny is where the grounds for mindvaulting can be found. This explains the book's subtitle.

Mental rehearsals of a unique sort, which I construe as mental projections of further *mental* states and the actions these states may generate, are what bring together the various abilities that animate mindvaulting, in an adaptive response to the socio-cultural and sociopolitical pressures of human ontogeny. I call them "metamental rehearsals." Metamental rehearsals are the formative matrices and ontogenetic incubators of pretending, imagining, and other intellectual faculties. The different and versatile forms as well as expressions that the exercise of these faculties take in childhood and adulthood result from the initial schemes for metamental rehearsals connecting later with other capabilities, such as conceptual networks, forms of memory, language, imagery, and so on. These new connections respond to various new domains and areas of interest, beyond the formative ones, that increasingly engage the developing intellect, like branches growing out of the initial roots.

Putting all the metaphors and previewed notions together, pretending and imagining can be said to be the major forms of mindvaulting that catapult young minds toward the arched roof of the intellect, as a result of and in response to the unique, persistent, and intensely sociocultural and sociopolitical pressures of modern human childhood.

Introduction

Although grounded biologically in immediate motivation, perception, emotion, and action, the human mind is also capable, often at the same time, of engaging in such high-level mental activities as reasoning, deliberate planning, thoughtful communication, reflective problem solving and decision making, art creation, technological innovation, and scientific theorizing. I group all these high-level pursuits under the label of *intellect*. What is most characteristic about and central to the work of the intellect is its capacity to vault itself consciously as well as deliberately out of the realm of current perception, motivation, emotion, and action, and leap over to future, past, abstract, possible, or even impossible facts, situations, or scenarios. Metaphorically, as noted in the preface, I call this capacity mind- vaulting and distinguish two versions of it: pretending and imagining. The latter I construe as the engine of the intellect.

My inquiry starts, in chapter 1, with two major evolutionary puzzles about mindvaulting and by implication the intellect. The first major puzzle is the phylogenetic uniqueness of human mindvaulting, with no known parallels or precursors in animal minds. The second major puzzle is why mindvaulting evolved at all. For, I will argue, it isn't obvious what selection pressures promoting survival and reproductive fitness might have brought about mindvaulting and, again, by implication an intellect.

Imagination, as the chief form of mindvaulting, has some properties, such as domain versatility, nonmodularity, and significant variability of use, that resist standard evolutionary explanations. This resistance is confirmed by a suite of more concrete puzzles—historical, neuropsychological, genetic, and developmental—that converge on the conjecture that imagination (and by implication the intellect) does not look like a "mental organ" (or sum of such organs) whose properties express structural genes installed gradually by natural selection in response to pressures directly impinging on survival and reproductive fitness.

The way out of this set of puzzles, I conjecture, is to reorient the inquiry toward modern human ontogeny, construed as an environment of evolution sui generis, with its unique selection pressures as well as adaptive responses to such pressures. Mindvaulting and the intellect are

outcomes of a unique ontogeny, which must be reanalyzed in a new paradigm of developmental evolution, or for short, *devo-evo*.

According to chapter 2, such a reanalysis points to the persistent and decisive impact of sociocultural and later sociopolitical pressures during early and mid-childhood on the development of mindvaulting, first as pretending and later as imagining. These powerful pressures call for appropriate mental competencies as adaptive responses.

After disposing of various misconceptions about imagination, usually pitched at the level of outputs or performances, chapter 3 proposes competencies for metamental rehearsals as the sources and operational core of both pretending and imagining. The rehearsals are called metamental because they involve mental projections that explicitly project further mental states. In evolutionary terms, the metamental rehearsal capacity running online pretend play between the ages of two and four develops primarily to handle sociocultural learning, whereas the metamental rehearsal capacity running offline imagining after age four develops mainly to handle (what I will call) sociopolitical strategizing.

Pretending and imagining are versions of mindvaulting because both engage in conscious, deliberate, and effortful metamental rehearsals that treat one's own thoughts as tool-like means to ends. It is this tool-like treatment of thoughts in the metamental rehearsals of those formative years that best explains how children manage the escalating sociocultural and sociopolitical challenges of their ontogeny, and why and how, in the process, they become imaginative and grow an intellect.

As initial matrices and incubators of pretending and imagining, the metamental rehearsals that run cultural learning and strategizing recruit as well as integrate, or (in a word) assemble, a variety of available or precursor abilities—which I call *foundations*—that develop initially for a variety of reasons in a variety of domains, ranging from projection, imitation, and naive psychology in early childhood, to new executive abilities and a metarepresentational commonsense psychology in later childhood. Chapters 4 and 6 introduce and survey the foundations of pretending and imagining, respectively.

Dissenting from a rather wide consensus in the psychological literature, I do not see pretending as developing organically into imagining and hence the intellect. As chapter 5 explains, pretending is a dated ontogenetic adaptation that responds to dated sociocultural challenges of early childhood. At the same time, in doing its dated job, pretending

also creates some of the premises for the later but largely independent development of imagination, which responds to a distinct and later emerging set of sociopolitical challenges. So construed, pretending is, in biological jargon, a preadaptation for, but not a direct precursor of, imagination: the former helps create some (but not all) of the conditions in which the latter can evolve.

Given that new foundational abilities develop after the age of four, chapter 7 analyzes the grounds—roots and reasons—for offline imagination. It argues that the metamental rehearsals that will mutate into a competence for imagination initially develop to handle the new juvenile sociopolitics (cooperative as well as competitive) of mid-childhood and later. The adaptive response is a competence for mental strategizing—the initial matrix and incubator of imagining. The chapter ends with a set of pointers as to why and how the initial matrix of strategizing is likely to morph into imagining.

The book concludes with a brief epilogue that summarizes the whole story, ventures some speculations about how the main plot may have played out in the history of the human species, and reflects on the role of evolution and in particular of its devo-evo version in the cognitive science of intellectual faculties. An appendix further clarifies my take on intuitive psychology as the main architect of mindvaulting, and a glossary helps keep track of the terminology and main explanatory concepts employed in the text.

A caveat before proceeding: the first three chapters set the evolutionary stage, and motivate the framework and tools of my inquiry; they do not directly engage the topics of pretending and imagining. The reader who needs no convincing that modern human ontogeny is subject to its own unique evolutionary forces and produces mindvaulting as a result may proceed to the second part, and sample the first only on a need- to-know basis, particularly the sections (2.3, 2.4, and 3.3) that introduce the main tools of analysis. But that impatient reader will surely miss the evolutionary mystery drama and its intellectual fun.