Our Own Minds

Sociocultural Grounds for Self-Consciousness

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1 Setting the Stage

1.1 The Project

This chapter provides a guide to the main argument of the book and the concepts it employs, stipulates the terminology, and previews central questions and the answers to them.

Clues from Blindsight

A much-discussed clinical case, blindsight has become a rich source of empirical data and theoretical insights about consciousness. Blindsight will make other appearances later in the book, but here its job is to introduce our main theme.

Blindsight is a case of unconscious vision in the blind field. The blindsighter is not conscious of the scene in the blind field, and not conscious of seeing or being visually related to that scene. Only when prompted by the experimenter does a blindsighter recognize, often much above chance, various items in the blind field, including their size, shape, use and even color, and move and act successfully in the same blind field. On his own, a blindsighter has no *intent to act*, no *means-ends initiative* that structures and animates the intent, no *monitoring* and *control* over what he registers unconsciously in the blind field, nor is he able to *share the information* from the blind field with other faculties, such as thinking, remembering, planning, speaking or acting.

The italicized words in here refer to *executive abilities* that handle information as well as mental and behavioral activities. What blindsight suggests is a correlation between these executive abilities and visual con- sciousness. I think that the correlation is deep, systematic and goes beyond the visual domain. Consciousness, I will argue, results from the work of the mind's executive machinery.

Blindsight also raises an intriguing question about the evolution of consciousness. A blindsighter can engage in a good deal of successful visuomotor cognition and action without consciousness. Most animal species operate in some perceptuomotor modality or several, without the assistance of the various executive abilities that are absent in blindsight. Are these species conscious in those modalities? Do they *have* to be conscious? Even though there are no definite answers to these questions, I take blindsight to suggest the strong possibility that consciousness may be absent in many if not most animal minds.

Consciousness may be a very rare commodity on the phylogenetic market. If so, the question is why.

The successful yet unconscious perceptuomotor cognition and action of both blindsighters (in the blind field) and (possibly) most animal species suggest that the real reasons—meaning the most potent selection pressures—for consciousness should be sought in domains *other* than perceptuomotor and more generally mental interactions with and actions on the physical environment. Two questions follow from this suggestion. What is the nature of these distinct pressures? And is consciousness a direct adaptive response to these pressures or an indirect outcome of other adaptive responses that make it possible?

In a nutshell, my answer to the first question is developmental and identifies sociocultural tasks and practices as the most distinct and potent pressures that children face in their first years of life. To manage such tasks and practices, children develop an intuitive psychology, whose regulatory operation recruits and assembles a suite of executive abilities, such as those absent in blindsight. These abilities in turn bring consciousness to the young minds. So motivated, the answer to the second question goes for the indirect option: consciousness is likely to be a byproduct of more direct adaptive responses to sociocultural pressures. This is the general idea. Its elaboration can be anticipated as follows.

In Very General Terms

From almost the first days of life, everything surrounding human infants is social and cultural—*social*, in the sense of intense interactions with adults, first in coregulation, face to face exchanges of facial expressions, gestures and vocalizations, nonverbal and later verbal communication, and sundry joint activities; and *cultural*, in the sense that these interactions are structured in patterns of behavior, as activities and practices, standardized and conventionalized in, and thus shared by, a community. Very young children are intense socializers, and puzzled but curious witnesses of the strange and challenging culture around them, much before they are competent locomotors and manual handlers of physical items in the world. They are Vygostkians before becoming Piagetians. And even when they become—and progress as—Piagetians, most of their time and most of their mental energy and activities are still spent as Vygotskians. This asymmetry is bound to impact on the design of their minds, and self-consciousness is a result of this impact.

Consciousness is a key feature of our mental design—for many thinkers, the key feature—and its development is therefore bound to reflect the sociocultural impact. And yet, relatively little has been researched and written on the ontogeny of consciousness and on how it is shaped by the sociocultural environment. Consciousness is a multifaceted phenomenon that notoriously defies easy and neat explanations. A narrowly focused approach may be more successful. This inquiry will focus on the ontogeny of consciousness, as it responds to the major sociocultural challenges to children's minds.

Children's minds begin by being conscious *of* things, events and particularly people around them, and later of their own thoughts and attitudes. Being conscious of these various items, their minds cannot fail to be conscious of how they *relate* to the world and how this world-relatedness affords further opportunities for thought and action. This, I will argue, is the primary phenomenon. It is the consciousness of the self as it relates to items in the world or in the mind—a conscious sense of self-to-target relatedness, as I will call it. With some trepidation, I abbreviate this sort of consciousness as *self-consciousness*.

I will suggest that self-consciousness, so understood, develops gradually during childhood, from being oriented toward the outside world in early years to being oriented also toward one's own mind—or, more accurately, toward what one's own mind relates to and does—in later childhood and beyond. This development is driven mostly by the sociocultural tasks and practices that children must assimilate and engage in competently. In order to do so, children must figure out how adults do it, and why. And that figuring out calls for understanding how adults relate mentally and behaviorally to sociocultural activities and to the world in general. That understanding takes the form of an intuitive psychology (also known, professionally, as 'theory of mind' or 'mindreading'), which is more rudimentary and oriented toward other minds in early years, and more complex and also oriented toward one's own mind in later years. The latter orientation amounts to representing one's own thoughts and attitudes or *self- understanding*, as I will label it. This book is about why and how understanding minds, first others' and later one's own, drives the development of self-consciousness, first world- bound or extrovert and later also mind-bound or introvert. The central argument aims to show that sociocultural tasks and practices call for the development of intuitive psychology. The latter has a *self-regulatory* role in children's assimilation and handling of sociocultural

tasks and activities. This intuitive psychology handles its self-regulatory job by recruiting and assembling a suite of *executive abilities*, such as intending, controlling, attending to, monitoring and so on, that end up installing self-consciousness and driving its development. It is the asymmetric development of the intuitive psychology—other minds first, one's own later—that, through its self-regulatory exercise, drives a commensurate asymmetric development of self-consciousness.
The central argument of this book can be diagrammed schematically (and simplistically, for now) as follows:

sociocultural tasks and activities → intuitive psychology (other minds first, one's own later) → self-regulation of children's mental states directed at other people and later at their own minds → recruitment and assembly of executive abilities → that install self-consciousness (first extrovert, later introvert)

The arrows mean different things—selection for the first arrow, probable causation for the second and third, and strong correlation for the last. The last arrow is the most critical for the argument. To get it as close as possible to a nonaccidental link and perhaps to causation, the rest of the book aims to tighten and constrain from various angles the correlation between executive abilities and self-consciousness. Blindsight will be a major prop in this effort, as will a suite of developmental data. In order to clarify further the direction of this inquiry, the next sections will preview its key concepts and main themes.

1.2 Central Concepts

What follows are preliminary profiles of the central concepts employed in this inquiry. These profiles will be amplified and sharpened in later chapters.

Self

Life means self-determination. It is biologically imperative for any organism to distinguish itself from the world through mechanisms that ascertain what happens inside or is caused by the organism, as opposed to what happens or is caused from the outside. Failure to make this distinction amounts to extinction. *Selfhood* will be construed here quite

minimally in the basic biological terms that reflect the work of such mechanisms. So construed, the self is not an entity or set of internal states but rather results from the executive ways in which an organism distinguishes itself from the world and registers its interactions with the world as self-initiated. When self-identifying mechanisms—or *self-mechanisms*, as I will call them —function properly, the organism can be said to have a very basic and minimal *sense of self*—a sense, that is, that its internal states, operations and actions are its own and generated by itself. When the internal states and operations are mental, we can talk of a *mental self*. An organism may lack this sense of a mental self, at least partly, when some self-mechanisms are impaired, as they are in some forms of schizophrenia.

It is important to note that this minimal and most basic sense of self-hood, as ownership and agency, is implicit in the work of an organism's self-regulatory machinery and is subpersonal, so to speak, and therefore quite distinct from the much higher-level ordinary or personal sense of self. The latter is normally reflective and built around memories, values, feelings and much more. This latter sense of self is not on the radar of the present inquiry. But self-consciousness is, and it originates in the basic sense of ownership and agency. I use the word 'sense' liberally in order to leave open the nature of the mechanisms involved, their mode of operation and how this operation is internally registered, whether consciously or not. But I am not assuming—indeed, I am skeptical about—the possibility that a sense of self results from an explicit representation of some internal entity, state or relation.

Target-Relatedness

While distinct from the world, as self, an organism is actively and purposely related to the world. Its *relatedness* to worldly targets expresses the fundamental biological fact of having goals or being goal-directed. Once the organism's self-mechanisms are operative, its goal-directedness requires relating to various targets of its representations and actions, so that we can talk of a *self-to-target relatedness*. A target can be a physical object, event or situation, a mental state, an imagined fiction or an abstraction.

Philosophers often label the mind's target-relatedness *intentionality* (or sometimes aboutness), so that self-to-target relatedness would become *self-intentionality*. To avoid confusion with the ordinary sense of intentionality, as having an intention, I will stick to self-to-target

relatedness or just target-relatedness. The notion of target-relatedness refers to a general dis- position of organisms to engage the world in various types of relations— sensorimotor, behavioral, mental. In the mental domain there are different *modalities* in which the organism's target-relatedness is exercised, such as perceptuomotor, communicational, affectuomotor, thinking and so on. I will use the adjective *modal* to indicate the property or operation of a modality. Just as selfhood reflects the biological autonomy and distinctness of an organism, and a sense of selfhood registers and measures their normal parameters, so the self-to-target relatedness reflects the world-directed posture and modus operandi of an organism. The normality and success of this relatedness are registered and measured by specialized mechanisms, in order to secure the organism's survival and prosperity. A *sense of self-to-target relatedness*, not necessarily and not often conscious, thus results from how the organism's target-relatedness is internally registered, monitored and managed.

Self-Regulation

Self-regulation is the main explanatory concept on the executive side of my analysis. It is the most basic biological phenomenon, the manager of life, and is exercised at every level, from immunological and circulatory to mental. In particular, it is exercised to distinguish selfhood from the world, to register and check upon the self's representations and actions in relation to their targets, and to broadcast the findings to other mechanisms for appropriate measures and reactions. Self-regulation is thus at the heart of selfhood and its relatedness to the world.

If the theme of self-regulation is played in a major key throughout this book, how self-regulation actually works and delivers the goods (so to speak) is much less known, at least at higher mental levels. This is why the actual operation of self-regulation will be described in a minor key. On my reading of the neuropsychological literature, this operation is essentially one of anticipatory simulation. As noted in chapter 4, such simulation is likely to explain eventually the functional design of consciousness, but at the present stage of scientific knowledge this is just a promissory note.

Self-Consciousness

I note from the outset that I do not propose a theory of self-consciousness, nor do I have a tight definition of self-consciousness. A

working notion will do for the main purpose at hand, which is to identify and explain the developmental grounds for self-consciousness, as both origins and reasons.

The basic idea is that, exercised in some dominant modality such as vision or thinking, the regulation of self-to-target relatedness renders the self's sense of that relatedness and of its affordances conscious, when certain conditions obtain in the mind, the world and their interaction. The mental conditions are mostly executive and respond to external conditions, mostly sociocultural.

Self-consciousness thus means a conscious sense of self-to-target relatedness and of its affordances. By *affordances* I mean the opportunities for further thoughts and/or actions opened up by one's sense of target-relatedness. If I am conscious of driving a car, which means conscious of handling the car on the road, I am thereby conscious, depending on the context, of various things I can do with the car in its relation to the road. The internal conditions in which one's sense of target-relatedness and its affordances becomes conscious are analyzed below as *parameters of self- consciousness*. They identify the mental abilities, mostly executive, whose joint operation, subject to self-regulation, installs self-consciousness as a mental competence. Metaphorically speaking, self-consciousness is like a platform raised and secured above many interconnected pillars, most of which are executive in nature.

This inquiry, far from being exhaustive, aims to identify the key executive abilities and self-regulatory practices that are internally sufficient to generate self-consciousness, and also identify the external conditions that cause those abilities to join forces and produce that outcome. The list of such abilities includes intending, control, top-down attention, multitasking, global availability of information, intermodal interfaces and others. These are abilities whose joint exercise is taken by a spectrum of functionalist theories to define and possibly explain consciousness.

I subscribe to this functionalist consensus as a plausible account of the mental conditions in which self-consciousness is manifested. In what follows, I assume this functionalist analysis and focus on what explains the development of self-consciousness. My hypothesis finds the best explanation in the regulatory job of children's intuitive psychology, as it recruits and assembles executive abilities whose joint exercise generates self-consciousness. Taken separately, the exercise of executive abilities need not— and most often is not—conscious. When

the exercise of one or another such ability is conscious, it is because self-consciousness is *already* installed and active. The focus will be on the factors and conditions that lead to the installation of self-consciousness in the first place.

As anticipated, the notion of self-consciousness adopted here is not the familiar notion of a self-image or of being conscious of oneself, reflectively—as when one is ashamed or proud of oneself or made suddenly aware of oneself when, for instance, talking too much. Also, the notion bears little resemblance to those employed in social psychology or psychoanalysis. Nevertheless, as I construe it, the notion of self-consciousness has a distinguished philosophical pedigree, going back at least to Kant, and is at the center of recent accounts of consciousness which will be reviewed in the last chapter.

Self-Understanding

Intuitive psychology, as the competence to figure out minds, is a pivotal notion in the argument of this book because its self-regulatory job creates the conditions that install self-consciousness. When its self-regulatory duties require representing other minds and their sociocultural activities, intuitive psychology is responsible for the development of early extrovert self-consciousness. When the same duties require it to represent the thoughts and attitudes of one's own mind, intuitive psychology is responsible for the later development of introvert self-consciousness. It is not my aim here to explain our intuitive psychology (but see Bogdan 1997, 1993, 2003, 2005a, 2005b) or the self-understanding that results from its exercise. The aim is to explore their formative role in the development of self-consciousness. Despite the ambitious title of this book, its focus will be on one's own thoughts and attitudes, such as desires, intentions and beliefs, and not on other kinds of mental states, such as emotions, affects, feelings and moods. Besides economy of argument, the main reason for this choice is that the former are the primary links to the world and therefore the primary sources of self-consciousness, as understood here. On some accounts, emotions and possibly feelings may also be representational, but in more complex mind–body–world packages, and their inclusion would have greatly complicated the analysis. Yet again, I need to stress that there would be no emotions and affects to speak of unless organisms *first* self-regulated their conative and cognitive relations to and actions on the world. When I talk here of consciousness of minds

and of understanding minds, I mean nar- rowly minds populated by thoughts and attitudes.

Self-This and Self-That

Besides the self-hyphenated concepts introduced so far, I have a few others in store, which are meant to simplify the discourse and save some trees. I will use the prefixes 'self-' and 'other-' to indicate the ownership of thoughts and attitudes, ascribed to self or others, respectively. Thus a 'self-attitude' (such as 'self-belief') means one's own attitude (e.g., belief), while an 'other- attitude' (such as 'other-belief') means the attitude (belief) of someone else. The same with ascriptions of thoughts and attitudes: 'self-ascription' means ascribing a thought or attitude to oneself, while 'other-ascription' means the ascription of a thought or attitude to someone else.

Installation

A leitmotif of my analysis is that self-consciousness is *installed* by executive abilities, such as intending, metacognition and multitasking, which are recruited, assembled and managed in a self-regulatory mode by children's intuitive psychology. Informally, I will introduce the notion of installation by analogy with language.

Language does not self-install, once the children's minds are turned on and activated by appropriate inputs. Although primed by evolution to discriminate and register the sounds of possible languages, the children's phonetic software for their specific native language is installed gradually by persistent exposure to the actual sounds of that language. The same is true of the grammar of a native language and the acquisition of its words. In each case, the innate predispositions for phonetics, grammar and word acquisition take the form of a spectrum of patterns of neural connections that the inputs would wire into specific configurations. This, very roughly, is how the various components of language are installed in children's minds. The spectrum of candidate neural patterns, the sorts of relevant inputs and the activation paths through which the latter configure the former, are all evolved dispositions. Yet the actual animation of these dispositions in children's minds is effected by contextual immersion in and flexible adjustment to particular domains of language, with variable yet specific patterns of sounds, words and phrases. All of this takes place during a definite

period during early childhood—the 'window of installation opportunity,' as we may call it.

The installation of a complex mental competence, such as language, takes place in two complementary phases—one evolutionary, the other developmental. Reaching into the remote past, this evolutionary phase installed innate predispositions; the developmental phase finishes the installation by having (usually) domain-specific inputs activate the innate predispositions along specific paths and set up specific patterns of neural connections. The latter configure the competence in question. I take the installation of self-consciousness in children's minds to be in some (but not all) respects analogous to that of language. Instead of pho- netics, grammar and word acquisition, we have a set of executive abilities, an intuitive psychology and the underlying machinery of self-regulation, which all constitute the predispositions selected long ago by evolution, in a first phase, for various reasons unrelated to consciousness. Also selected a long time ago, in response to sociocultural pressures, were the job and ability of intuitive psychology to recruit and assemble executive abilities in a self-regulatory pattern capable of generating self-consciousness. This capability is activated and configured by actual inputs originating primarily in the sociocultural activities that children assimilate and master at different stages in their ontogeny. My account of the installation of self-consciousness will assume the evolutionary phase and focus on the developmental phase.

I propose two windows of installation opportunity—before the age of 4, for extrovert self-consciousness; and after 4, for its introvert version. In both phases, the child's intuitive psychology brings and wires together a set of executive abilities in the form of a dispositional network of neural patterns.

With this conceptual and terminological preview behind us, I will rephrase the project of the book in terms of the central questions that will be explored in developmental terms.

1.3 Central Questions

The major questions are the following:

1. *the sense of selfhood question*: what enables an organism to register its target-related mental states, attitudes and activities as its own (ownership) and as initiated by itself (agency)?

An organism may register not only its mental states, and what they repre- sent as targets, but also the very relatedness of those states to their targets and its affordances. Thus the second question:

2. *the question of the sense of self-to-target relatedness and its affordances*: what enables an organism to register, monitor and do something about—in a word, to 'sense'—the relations of its mental states, attitudes and activities to their targets and affordances?

Since in most organisms this sense of self-to-target relatedness and its affordances need not be conscious, and in most species it is not, the next question is

3. *the self-consciousness question*: what makes an organism conscious of its own mind's relatedness to targets in some dominant modality; and, in the human case, what makes one conscious of one's own attitudes as target- related mental representations that have affordances?

A human mind cannot be conscious of its own attitudes without recognizing them as attitudes. Thus the next question:

4. *the self-understanding question*: what enables one to conceptualize and understand one's own target-related attitudes and their affordances?

Once one's target-related mental states and attitudes are understood conceptually, and one is conscious of them, we may ask perhaps the most philosophical of questions, which is

5. *the self-knowledge question*: what enables one to know, in what manner and to what degree, that—and what—one perceives, remembers, thinks or desires?

It should be noted in passing that this self-knowledge question was under- stood in the ancient Greek philosophy of Plato, for instance, differently from what it became for Descartes and modern philosophy. In the former, at issue was the knowledge of formal, moral or aesthetic truths—of the Forms themselves, as Plato put it. It is knowledge as an ideal that guides one's life and mind. In the Cartesian tradition, still

dominant today, the much narrower and inward-looking question (as formulated in question 5, above) is about accessing and being certain of one's own mental states and their contents. Also, in passing, I note that there is lively debate in the developmental literature as to whether children before the age of 7 know their own minds, in the sense of understanding their first-person access to and authority regarding their own mental states (P. Mitchell et al. 2009). The argument of this book predisposes me to side with those who deny such knowledge to young children, but this is just an educated guess, and will not be pursued further.

Having identified this fifth self-knowledge question, I will set it completely aside. This book is only about questions 1 to 4, in the above list— and is about them only to the extent that they illuminate the ontogeny of self-understanding as it interacts with that of self-consciousness.

Phenomenality Quarantined

The reader may have noticed by now that no question has been asked about *phenomenal* consciousness. Indeed, no attempt will be made here to discuss, let alone to explain the phenomenal—or qualitative, experiential or what-it-is-or-feels-like—character of consciousness. The aim, rather, is to explain the reasons for which and the conditions in which self-consciousness materializes and grows in children's minds. As noted, self- consciousness is construed in functional terms.

Metaphorically: the aim is not to explain the bulb's light but rather what it takes to light the bulb.

I take self-consciousness to enable the manifestation of phenomenal consciousness. I am *not* saying that self-consciousness generates its phenomenal expression. I am saying, rather, that self-consciousness provides the functional matrix in which phenomenality is manifested.

Metaphorically, again: it takes electricity, an outside grid, internal wiring, a bulb and filament, a switch and more to produce light. The light is the phenomenal consciousness, if you will. The bulb may even light up in brief, intermittent pulsations caused by sporadic electric bursts, in the way in which nearly vegetative patients—and possibly animals or human infants during their first hours and perhaps days of postnatal life—may have brief and intermit- tent phenomenal pulsations. It takes electrical impulses crossing a filament inside the bulb for the bulb to light up. That is the proximal cause of the light.

Likewise, the biochemical impulses of the nervous system may be the proximal cause of phenomenal pulsations. Those pulsations become normal phenomenal consciousness when embedded in the robust functional matrix of self-consciousness. Phenomenal pulsations may be brief and intermittent not due to impairments in the biochemistry of the brain but more likely due to impairments or underdevelopment of the executive machinery of self-regulation that installs self-consciousness. In short, I am not claiming that the phenomenal character of consciousness is reduced to the functional design of self-consciousness. The claim is rather that the latter makes the normal manifestation of phenomenal consciousness possible. Yet this claim—whether controversial or banal—is not (and I repeat, *not*) part of the argument of the book. Phenomenal consciousness is thereby quarantined for the remainder of the book except for some further thoughts in chapters 4 and 8. For those (a likely majority) who take phenomenality to be the essence of consciousness, this policy may look like an abdication from responsible explanation. I hope that the remainder of the present inquiry will make them think again.

Equally quarantined are some of the most potent and quintessential kinds of phenomenal experiences, such as emotions, feelings and pains. Besides focus and economy of argument, my decision is based on the belief—admittedly not demonstrated here, but defended in the literature (e.g., Dretske 1995; Tye 1995)—that these kinds of experiences are actually relational and have the job of modulating and enhancing an organism's mental and behavioral relations to the world and to itself. Self-consciousness emerges primarily from those more basic relations. Modulation and enhancement may be the role of and reason for phenomenal consciousness. But this may be a story for another time.

1.4 Developmental Answers

The answers proposed to the four central questions formulated in the previous section are all developmental. There are good reasons, both substantive and methodological, for choosing a developmental angle.

Why Development

One substantive reason is this. The roots of self-understanding and self-consciousness reach deep and early in development and even

phylogeny, and can best be understood in these historical contexts. Going historical may enable science to identify the critical junctures at which human self- understanding and self-consciousness emerged, and to discern the reasons for this emergence. This approach can go a long way toward elucidating the nature and operation of self-understanding and self-consciousness.

Another substantive reason for taking development seriously is the following. The understanding and consciousness of one's own thoughts and attitudes are among the mental faculties that are uniquely human. This is primarily because of some unique features of human ontogeny. I speculate in the concluding chapter (and also elsewhere: Bogdan 2000, 2005a, 2009) that both self-understanding and self-consciousness are likely to be assembled during development out of many, often disparate capacities under pressures and conditions that are specific to distinct stages in human ontogeny. This is why only a close look at development could reveal the reasons for, as well as the roots and the resulting design of, these faculties.

The methodological reason for choosing a developmental perspective reflects my belief that intuition, introspection, even disciplined phenomenology and conceptual analysis, or a fine sense of the ordinary use of the relevant pieces of language—the chief instruments still in use by most philosophers of mind and consciousness—will not get us very far in exploring and answering the central questions of this book. Nor do I think that, on the empirical side, we can answer those same central questions by trying to find where the abilities involved in self-consciousness and self- understanding are localized in the brain. Even the most current models of their operation—whether computational, connectionist, dynamic or embodied—would not suffice to answer the questions I have put forward. One also needs some plausible and coherent hypotheses about why the faculties in question developed, out of which precursors or enablers, when they developed, in order to do what, and in response to what challenges. A developmental inquiry is best positioned to deliver such hypotheses. The one outlined at the outset of this chapter is my candidate. What follows is a preview of how I propose to argue for this hypothesis.

Outline of the Argument

The overarching theme of the next two chapters is the developmental asymmetry in how children relate, in different modalities, to the outside

world and their own minds. According to current data, the great temporal divide seems to fall around the ages of 4 to 5, which I will simplify by referring throughout to 'age of 4' or simply '4.' So the first step in the argument, taken in chapter 2, concerns this asymmetry and consists in showing that prior to the age of 4—or during 'early childhood,' as I will call the period from birth to that age—children are mentally and behavior- ally invested almost exclusively in the outside world, both social and physical. The evidence for this outward orientation comes from analyses of memory, thinking, intuitive psychology and lack of self-control.

Young children are of course conscious of their own bodies and actions, as they engage the social and physical worlds around them, and also conscious of the affective, communicational and perceptuomotor modes of such engagements. This is extrovert self-consciousness. It is consciousness not only of the world children face but also of their relatedness to that world in the dominant extrovert modalities; it is consciousness of the resulting experiences as well. What young children are not yet conscious of are their own thoughts and attitudes, as they relate to their targets and affordances. They lack introvert self-consciousness.

On my hypothesis, the main (though not only) reason for this asymmetry in the development of self-consciousness is the asymmetric development of intuitive psychology, which is first directed at other minds and only later at one's own. Chapter 3 brings further support for this asymmetry and criticizes some established theories of intuitive psychology that either posit symmetry or a reverse asymmetry—that is, understanding and being conscious of our own minds first, and of other minds later. Thus concludes the first part of the book.

The second part aims to explain the asymmetries in the development of intuitive psychology and, as a result, of self-understanding and self-consciousness. Chapter 4 takes its distance from the Cartesian view of consciousness and makes a case for the relational format of consciousness, which reflects its executive roots in the self-regulation of an organism's relatedness to targets and of its affordances. This self-regulation begets extrovert self-consciousness when the intuitive psychology of young children—which I label *naive psychology*—regulates their assimilation and handling of sociocultural tasks and practices by means of consciousness- generating executive abilities. Chapter 5 explains how young minds implement this scenario. It

suggests that human infants already need and expect adult coregulation, and, as they turn into young children, the coregulation of their sociocultural activities is increasingly handled by naive psychology in a means-ends format. It is this coregulative means-ends format of children's naive psychology that recruits and assembles the executive abilities that underpin the emergence of their extrovert self-consciousness.

The next two chapters examine the older children's turn toward their own minds. Chapter 6 explores the premises for such a turn by re-analyzing some earlier philosophical accounts in developmental terms. It then distinguishes between the early naive psychology and a later common- sense psychology whose novel features enable a common understanding of minds, thus facilitating children's turn toward their own minds. The chapter concludes with the neuropsychological and cognitive developments after 4, which make such a turn possible. Chapter 7 explains the sociocultural reasons for which, and the new kinds of thoughts thanks to which, the self-regulatory work of commonsense psychology translates into self-understanding and leads to introvert self-consciousness.

The final chapter begins with some reflections on how the competence for self-consciousness may have emerged as a developmental byproduct of other competencies. It also acknowledges what the argument of this book has not covered sufficiently or at all, and why, and concludes with a comparative discussion of several other accounts of self-consciousness, marking similarities as well as differences.