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EVOLUTION OF WISDOM: MAJOR AND MINOR KEYS

AGUSTÍN FUENTES AND CELIA DEANE-DRUMMOND



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INTRODUCTION: TRANSDISCIPLINARITY, EVOLUTION, AND ENGAGING WISDOM

AGUSTÍN FUENTES AND CELIA DEANE-DRUMMOND

This volume emerges from the final conference of the Evolution of Wisdom project[1] and reflects its ongoing attempt to develop integrative dialogue and innovative outcomes between evolutionary, anthropological, and theological perspectives. The Evolution of Wisdom project has attempted, in a rigorous way, to develop toolkits to search for how the capacity for human wisdom has evolved and what that might mean for anthropology and theology today.[2] This project sought to investigate the basic parameters and processes of human wisdom and its possible evolutionary origins and impacts in a way that encourages interdisciplinary dialogue, while bearing in mind the transdisciplinary implications of that dialogue.[3] In order to accomplish this, the Evolution of Wisdom project sought sustained dialogue between anthropologists and theologians regarding how we might best understand the human capacity for wisdom and capitalize on any outcomes from such discourse. By encouraging cross-disciplinary discussions about how wisdom emerged and is conceptualized, we have offered an expanded and intellectually generative forum for multiple perspectives to engage, mutually enrich, and re-shape debates and discussions about humans and wisdom.

Traditionally, in the humanities and social sciences, wisdom, in the broadest sense, is often said to be an inner capacity that serves to ensure the quality of the community. This includes practical wisdom (and its relation to efficacy for action in the material world) and more transcendent forms of wisdom that are harder to define, but can play central roles in theological and other philosophical inquiry and introspection on the subject. Systematic theology, broadly speaking, is rational reflection on specific religious experiences in different traditions. Wisdom, in this context, is often identified with this task of illuminating and guiding religious experiences and is deemed generative within different theologies.[4] However, in evolutionary anthropology, wisdom is often defined as the pattern (and ability) of successful complex decision-making in navigating social networks and dynamic niches in human communities. It is suggested that much of the core development of human wisdom occurred with the evolutionary advent of symbolic thought and its correlated material evidence. However, because of the difficulty of inferring symbolic capacity from available archeological data, the study of the origins of symbolic thought (and thus material evidence of emergent wisdom) presents a particular challenge. Can we find a material pattern that reflects an “interior” change in the human experience? Does, or can, wisdom play a role in the evolutionary development of humanity? There is increasingly strong evidence that the capacity for imagination played a significant role in human evolution, and thus may be related directly to wisdom, or at

least be a prerequisite for specifically human forms of wisdom to emerge. Here, wisdom is defined, in an evolutionary sense, as a complex ability or set of abilities that more effectively integrate different sources of information, both material and social, and enables human actors to deploy these integrations in more effective and possibly innovative contexts. In theological terms, the relational aspects of wisdom resonate with such a perspective given that theologies are never separate from a relational understanding, even if theologians in theistic traditions would insist on the lived reality of divine presence that is not simply an emergent property of a symbolic mind. Some theologians would even be so bold as to say that anthropological insight gives a material basis for exploring, and possibly resolving, some reasons why humanity developed a capacity for those forms of imagination. From this perspective, it can be argued that this particular form of human imagination has enabled theological forms of wisdom to be operative, and thus paved the way for both symbolic thought and the possibility for genuine religious encounters.

But Where Do These Perspectives Leave Us?

It became clear across the duration of the project and its multiple research endeavors that a transdisciplinary approach was necessary if we were to advance a more generative mode of inquiry into wisdom.[5] Briefly, *transdisciplinary* differs from *interdisciplinary* in that the latter focuses on the spaces between disciplines and strives to create a relational connection; the former invokes a collaboration that involves incorporating some of the assumptions, worldviews, and potentially languages of different disciplines. Transdisciplinary also differs from *multidisciplinary*, wherein actors from distinct disciplines unite for an investigation, sharing insights but seldom incorporating them into their own worldviews. Interdisciplinary and multidisciplinary approaches are both important sources of data generation, but often lack the integrative framework, or shared “language,” for analyzing data in a way that transforms both disciplinary boundaries and intellectual approaches. A transdisciplinary approach has the goal of developing a relationship that creates the possibility for discourse in which the terms of all the participant disciplines are, or can be, expressed, thus facilitating the possibilities for intellectual transformation that is more thorough, intensive, and generative than in inter- or multidisciplinary approaches. Transcending disciplinary boundaries enables the possibility of synthesizing knowledge anew. This is captured by the historian A.J. McMichael when he tells us that “transdisciplinarity is more than the mixing and interbreeding of disciplines. Transdisciplinarity transports us: we then ask different questions, we see further, and we perceive the complex world and its problems with new insights.”[6]

This volume is an attempt at such an engagement. In order to set the stage for this undertaking, we gathered a range of scholars from anthropology and theology who worked with us on our project, as well as senior and emerging scholars interested in our research, and we challenged them to think with the concept of wisdom in their own disciplines. These scholars—theologians, philosophers, archeologists, evolutionary and social anthropologists, senior and junior researchers, postdoctoral scholars, and Ph.D. students—were open to the challenge of extending their intellectual capacities beyond their disciplinary boundaries and were enlivened by the prospect of dialogue that not only invited but incorporated other perspectives and possibilities into the discussion. Some reflected on their own work while others responded to the presentations and thoughts of others at the *Human Distinctiveness: Wisdom’s Deep Evolution* conference. We made no attempt to constrain the intellectual landscape aside from the charge to engage wisdom in some aspect of the context laid out above. This type of approach can be risky in terms of developing coherence and agreement, but also deeply

generative in terms of pushing the boundaries of what kinds of conversations can and should happen in this diverse intellectual landscape.

This book is constructed in five parts, with themes interweaving across them. The parts are: *Interdisciplinary Wisdom*, *Evolutionary Narratives*, *Wisdom and the Mind*, *Wisdom in the Minor Key*, and *Wisdom's Paradox*. The themes are:

1. A theology-evolutionary anthropology dialogue about wisdom;
2. Discourse on how to think with evolution in the minor key;
3. Examining human evolution as a material and social process in its relation to the development of wisdom;
4. Wisdom in dialogue with a dynamic Christian theology; and
5. Language and wisdom.

It is specifically from the syntheses, clashes, discordance, and resonance of the chapters that we can glean insight and move the conversation forward. It is in both the individual content and the interfaces that we are able, as Tim Ingold notes in his contribution, to recognize the ongoing generation of being and in the minor key that sees human minds and actions as a process of “the infolding and unfolding of a continuum of affective relations.”[7]

Does this approach succeed as a transdisciplinary undertaking? That depends on how the reader chooses to engage with it. What we offer is the possibility of a slightly different paradigm, one that involves diverse perspectives focusing on the most fertile core topics and attempting to apply this research in their own arenas. This paradigm for scholarly work on wisdom simultaneously crosses boundaries and moves towards others as a process with the potential for influential directionality, mutually mixing, and passing between and through disciplinary demarcations. We hope that the reader considers the differences between transdisciplinary and interdisciplinary contexts and is willing and ready to think about a range of wisdom(s), as opposed to *wisdom* as a singular or monolithic entity. This is important for anthropologists, theologians, and philosophers. For us, the most important goal is not a specific or monolithic answer to the question “what is human wisdom and where did it come from?” but rather a discourse that opens new pathways or augments existing ones. We seek to offer a few more options for scholars to move a little afield from their normal meanderings, to challenge particular prejudices on both sides, and to pay attention to potentially fruitful locales where we could redouble our efforts for intellectually rich dialogue between theology and the sciences.

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- [1] We are grateful to Paul Wason and the John Templeton Foundation for funding *The Evolution of Wisdom* project (Grant ID: 51890, Project Leads: Celia Deane-Drummond and Agustín Fuentes).
- [2] Celia Deane-Drummond and Agustín Fuentes, eds., *The Evolution of Human Wisdom* (Lanham: Lexington Press, 2017).
- [3] We are defining interdisciplinarity as spaces where each discipline contributes to that quest, while transdisciplinarity entails the partial transformation of each discipline in the process of that engaged discussion, as discussed further below. For more commentary, see Agustín Fuentes, “Evolutionary Perspectives and Transdisciplinary Intersections: A Roadmap to Generative Areas of Overlap in Discussing Human Nature,” *Theology and Science* 11.2 (2013): 106–29.
- [4] Philosophy is also defined as the love of wisdom; given that systematic theologies include philosophical engagement, it is dependent on an approach informed by careful and reasoned reflection on the topic and suitably weighed arguments, rather than reiterating faith traditions.
- [5] Fuentes, “Evolutionary Perspectives and Transdisciplinary Intersections.”
- [6] Anthony J. McMichael, “Assessing the Success or Failure of Transdisciplinarity,” in *Transdisciplinarity: reCreating Integrated Knowledge*, edited by Margaret Somerville and David Rapport (Montreal: McGill-Queen’s University Press, 2000), 218–22.
- [7] Tim Ingold, “Evolution in the Minor Key,” in *Evolution of Wisdom: Major and Minor Keys*, edited by Agustín Fuentes and Celia Deane-Drummond (Notre Dame, IN: Center for Theology, Science, and Human Flourishing/Pressbooks, 2018).

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PART I.

INTERDISCIPLINARY WISDOM

CHAPTER 1.

INDEPENDENT REASON, FAITH, AND A DISTINCTIVELY HUMAN WISDOM

ANGELA CARPENTER

As someone who has been doing interdisciplinary work in theology for several years, I am repeatedly surprised by my own difficulty in precisely articulating why I find this approach so fruitful and even necessary for theology. How should one talk about interdisciplinary methodology and, perhaps an even thornier question, articulate an approach to interdisciplinary work that suggests mutuality with contributions from each discipline? Often, it seems that articulating the possibilities is easiest on the tail end—by pursuing a conversation, seeing where it takes us, then reflecting on how we got there, and why the endeavor was worthwhile. This is what I would like to do in this essay on the subject of human wisdom. I will not attempt a meta-statement on the benefit of theology to evolutionary theory or vice versa. Rather, I will engage one specific conversation about human wisdom that has the potential for a mutually beneficial exchange of insight.

I begin with the definition of wisdom that has formed the jumping-off point for this broader project. According to the Center for Theology, Science, and Human Flourishing, we are together investigating “the pattern [and ability] of successful complex decision-making in navigating social networks and dynamic niches in human communities.”[1] While the search for wisdom is indebted to disciplines such as theology and philosophy, the explicit formulation that serves as our starting point is thoroughly rooted in evolutionary theory and categories.[2] As such, it offers a helpful test case. Can an evolutionary starting point help a theologian reflect on what human wisdom actually is? Can a conversation with theology in turn inform, and perhaps, revise an evolutionary definition, opening up new questions for evolution to explore? We should also consider whether there is perhaps unresolvable tension—aspects of human wisdom as described by theology that are not open to scientific exploration. Such a discovery would not be surprising, given the different metaphysical presuppositions, but is nevertheless important to acknowledge, as it speaks to the expectations and limits of interdisciplinary inquiry. My argument will track each of these questions. First, this starting point, grounded in the evolutionary terminology of success and the human social niche, actually ends up having greater overlap with a theological account of wisdom than one might anticipate at first glance. Exploring wisdom along these lines provides both a helpful confirmation and a reminder to the theologian. Second, I wish to suggest that theology can question the completeness of this definition. Is it a *full* account of human wisdom, or can a theological analysis enable a definition that is more complete? Does a theological analysis present new questions for evolutionary theorists to

explore? These are, of course, enormous topics and a fair amount of delimitation is in order for a short chapter. I will restrict myself to one evolutionary theory regarding human knowing developed by Joseph Henrich and distilled for a popular audience in his recent book *The Secret of Our Success*.^[3] I will compare the approach to human wisdom in Henrich's theory of the collective brain with that articulated by John Paul II in his encyclical *Fides et Ratio*.^[4]

Henrich's approach to human evolution is in keeping with that of a wide array of theorists, including Michael Tomasello and Kim Sterelny, who have devoted considerable attention to the social and cultural context of human cognition.^[5] In broad strokes, these scholars present variations of an approach to human evolution that focuses on the need to cooperate and the distinctive cognitive competencies that humans have evolved as a result of inhabiting a social and ultimately cultural niche. Tomasello's work in *Cultural Origins of Human Cognition* combines his expertise in psychology and primatology to show how distinctive human social cognition—things like attention sharing and a tendency to copy others—enabled a “ratchet effect” that through cultural transmission exponentially changed the knowledge and expertise available to *Homo sapiens* with each new generation.^[6] A decade later, Sterelny's *Evolved Apprentice* drew on the paleoanthropological record and his training in the philosophy of science to provide a plausible explanation of how these highly cooperative, information-sharing, teaching-and-learning apes might have evolved. Henrich's contribution to this trajectory lies in his consistent emphasis on the reservoir of cultural knowledge necessary for human survival that vastly exceeds the capacity of any single human brain to develop. For Henrich, the distinctive feature of human thought and knowledge is not what we might think of as the raw intelligence of the individual brain, something we try to measure through IQ tests. Rather, what is unique to humans is the knowledge that is available to us culturally and our ability to rely on, transmit, and gradually improve that knowledge. Crucially, for Henrich, we do not always know why or how our wise cultural practices are successful. In many cases, it is only the advent of modern science that has provided the tools for us to understand why some of these longstanding cultural practices work. Yet ancient cultures managed to gradually evolve these practices and members of these groups faithfully adopted them, despite the limitations of their knowledge.

A few examples from Henrich's ethnographic work are particularly helpful in illustrating this distinctive take on human wisdom. One of his favorite examples concerns various Inuit communities in the Arctic. Humans have inhabited the harsh regions of the Arctic for thousands of years and managed to thrive, yet, as Henrich and his collaborators engagingly narrate, numerous Western explorers, with the same big brains and abundance of human intellect, have found themselves stranded in these regions, unable to develop the necessary technologies for survival.^[7] What is the secret of the indigenous groups who live in these harsh northern climates? Their success, according to the authors, is due to vast stores of cultural information that far exceed the inventive capacity of a single generation. From elaborately tailored clothing that preserves warmth and remains functional for hunting, to snow houses with internal temperatures reaching 20 degrees Celsius (50 degrees Fahrenheit), to detailed climate-appropriate hunting methods and tools, Inuit peoples developed and preserved survival information over thousands of years. They have evolved both the cultural information and the cognitive skills to successfully preserve and use that information for survival in their own social niche.^[8] Their success is not due to raw intelligence and rationality, but to what we might call traditions of wisdom.

A second example from Henrich's work involves practices of food preparation that have enabled humans throughout the world to make use of food sources that might otherwise prove detrimental

to their health. In the Colombian Amazon, indigenous people use a multistep process to prepare and consume manioc, a nutritious tuber that can be cultivated in drought-prone parts of the tropics. Without a lengthy and labor-intensive preparation, manioc causes cyanide poisoning, although symptoms might appear only after years of consumption. As Henrich observes, such a delay disguises the reason why these processing techniques have been effective.[9] One could omit some of them and not observe any immediate consequences. Their success, therefore, depends on group members faithfully continuing the practice on the word of those who have come before, even if they have never themselves observed evidence for the practice. Often, Henrich recounts, practitioners of such food processing techniques or food taboos do not even know the proposed reason for the practice. Rather, he says, “natural selection has favored individuals who often place their faith in cultural inheritance—in the accumulated wisdom implicit in the practices and beliefs derived from their forebears—over their own intuitions and personal experiences.”[10]

When cultural wisdom is such a vital aspect of survival, it establishes its own set of evolutionary pressures on human cognition. What is particularly important for cultural learners, Henrich maintains, are the skills and capacities that facilitate learning—like the propensity to imitate others, even if their actions have no immediate or obvious benefit for reaching a goal. Likewise, such creatures need to know from *whom* to learn.[11] Innovation must occur for these cultural practices to evolve (though even on this point, Henrich argues that the innovation comes from serendipity or the accumulation of a body of knowledge that makes possible the next big breakthrough, and not so much from individual intelligence).[12] Part of the challenge is recognizing and copying the *right* innovators—the ones most likely to be successful—and avoiding those who might be trying to manipulate or deceive. A key part of human cultural success has thus been the development of trustworthy relationships and the norms that guide them. As Henrich proceeds to argue, much of our basis for trusting one person over another is intuitive and subconscious, rather than conscious and reflective.[13]

While Henrich at times might overemphasize the primacy of faith in human wisdom (after all, humans do use logic, act creatively, solve problems, and so forth), this emphasis can be forgiven precisely because the point is so counterintuitive for many modern westerners. We tend not to think that intelligence or wisdom comes from our propensity to copy others and our ability to identify trustworthy people. Here, we see one potential benefit of the study of evolution in an interdisciplinary context. It has the potential to challenge the assumptions we make about ourselves—in this case, assumptions about what humans have held most dear, namely, our capacity for rational thought. In an academic setting, we often emphasize independence and individual achievement. Henrich’s account provides, then, a helpful reminder that dependence and collective reasoning are fundamental to human thought and achievement. Thus, if we wish to understand human nature and capacities from the perspective of theology or philosophy, this evolutionary perspective can be invaluable.

On the other hand, this distinctive form of human wisdom should perhaps not seem all that strange to the theologian. Consider Henrich’s theory in comparison with the following statement from John Paul II’s encyclical *Fides et Ratio*:

There are in the life of a human being many more truths which are simply believed than truths which are acquired by way of personal verification. Who, for instance, could assess critically the countless scientific findings upon which modern life is based? Who could personally examine the flow of information which comes day after day from all parts of the world and which is generally accepted as true? Who in the end could forge anew the paths of experience and thought which have yielded the treasures of human wisdom

and religion? This means that the human being—the one who seeks the truth—is also the one who lives by belief.[14]

Henrich and John Paul II share a sense that human wisdom and knowledge far exceed the capacity of individuals. Much of what we know, we must receive from others. Theologically, the structure here is one of gift and gratuity. Woven into the fabric of Inuit ingenuity and amazing feats of survival is the gifted wisdom of the past. As John Henry Newman wrote, this form of human reasoning and knowledge—the faith that accepts knowledge from others—is a form that is immensely practical, suited to action and the masses.[15] Action, says Newman, does not generally lend itself to lengthy investigations that culminate in direct and positive proof. We must act and make the best of the information available. In other words, we take much on faith from others.[16]

John Paul II continues to be in sync with Henrich's theory as he emphasizes that this ordinary, human pursuit of knowledge is in tension with how we typically understand ourselves as reasoners. Taking something on faith from others, John Paul says, seems imperfect in comparison to knowledge we acquire by and for ourselves, through accumulation of evidence. Yet, he suggests, there is something "humanly richer" about this way of knowing through belief.[17] It is interpersonal and "brings into play not only a person's capacity to know but also the deeper capacity to entrust oneself to others, to enter into a relationship with them which is intimate and enduring."[18] In other words, as with Henrich, so too here, wisdom is not just about knowledge itself, but also about social context. It is about knowing who to trust, it is about mutual self-giving, and it is about reasoning that takes place not independently but in "trusting dialogue and sincere friendship."[19] Our distinctly human form of wisdom cannot be separated from our need to entrust ourselves to others. This need, in turn, introduces other aspects to human experience that give it richness and meaning, such as intimacy and companionship.

It is instructive here that both Henrich and John Paul II explore the unique role of martyrdom in demonstrating that another is trustworthy. Henrich explains that one way human beings have traditionally known that they can trust another person is through "Credibility Enhancing Displays," actions that only make sense if the person who is sharing information believes that information to be reliable. Martyrs throughout the history of the church have been so confident of the truth they encountered in Jesus that they have been willing to suffer and die for it.[20] Their dramatic actions in turn have inspired profound trust.[21] In both these accounts, the human pursuit of "successful complex decision-making" (to return to our original wisdom language) is about knowledge and trustworthy relationships. As John Paul II summarizes, humans are on "a journey of discovery that is humanly unstoppable—a search for the truth and a search for a person to whom they might entrust themselves."[22] Noticeably absent, at least at this stage, is the necessity of what we might call understanding—a big picture appreciation for why specific truths proclaimed make sense or are helpful for human flourishing.

We will return to this conspicuous absence in a moment, but first it is worth reflecting on the significance of convergence in these accounts. From the perspective of theology, Henrich's research helpfully points to the ordinariness of faith. While theology claims that the ultimate source of knowledge is God, the process itself is a thoroughly human one. The act of faith is different in its object, but not in its form, from the way we ordinarily pursue knowledge and make decisions about our actions. In both cases, it is a kind of wisdom to recognize the limitation of one's own reason and to accept from others that which is far greater than one could attain independently. This is a point that theologians like Newman have been making since Enlightenment debates about faith and reason,

but until recently scientific theory has not given much attention to this structure of human knowing. Furthermore, Henrich's scientific theory, thoroughly free, as one would expect, of any teleology, nevertheless provides, from the perspective of theology, a fascinating account of the faithful person as the *telos* of evolutionary processes. It describes how we have become creatures capable of receiving a truth beyond our comprehension and entering into a relationship of trust with another who declares that truth.

Given centuries of somewhat tense conversations between science and faith, these points of convergence are worth observing. Does theology have anything to contribute to the interdisciplinary inquiry, or is it simply an aspect of human nature to be explained and understood? Here it is helpful to return to the adequacy of the account of wisdom we have so far—that of learning and copying our best actions from others and the ability to discern which others are the best sources of wisdom. I have argued that much in Henrich's theory nicely dovetails with John Paul II's discussion of faith in *Fides et Ratio*, but the theological account departs from the scientific one in a few respects that are worth attending to. First, for John Paul II, the human pursuit of knowledge begins with faith and entrusting oneself to another, but it does not end there. Building on what is received in faith, the human mind is inspired to reach for greater understanding, not simply of what might prove practically useful for action, but a larger understanding of truth about the world. Henrich seems to deemphasize the extent to which humans have this sort of natural curiosity and pursuit of discovery about the world. For theologians, however, it is the very definition of the discipline: traditionally theology has been described as "faith seeking understanding."^[23] Newman characterizes this human pursuit in terms of the distinct gifts of faith and wisdom. Faith is the first gift in human knowledge of God and wisdom is the last. It is wisdom that seeks out the connections between the things that are known, that systematizes them and in the process enlarges the mind.^[24] The wise person, for Newman, is not the one who believes, but the one who believes and then also understands. This transition from faith to wisdom or understanding is a process of maturation that is parsed differently by different theological traditions. What is important for our purposes, however, is that theology, while recognizing the centrality of faith in human knowledge of God, also insists that such a depiction of knowledge is not of an *unthinking* humanity, nor is it a mere capitulation to authority. A question for Henrich, then, is whether and how wisdom of this variety fits into the particular evolutionary story he tells.

Second, and more significantly, is the kind of knowledge and understanding that human beings seek. According to John Paul II, humans are not just after knowledge that is "partial, empirical, or scientific," but seek larger truths.^[25] Humans ask questions about ultimate meaning and value. Is this kind of pursuit a part of wisdom from an evolutionary perspective? Is it related to "successful complex decision-making in navigating social networks and dynamic niches in human communities"? Here Henrich follows the approach of Ara Norenzayan and others by locating human religious questing in the context of social norms and their enforcement.^[26] According to this theory, belief in "big gods" aids successful decision-making because it helps with moral norm-enforcement in large-scale societies that can no longer enforce cooperation and social learning through the same mechanisms used by smaller societies.^[27] Such accounts of human religion gain their plausibility from their tendency to flatten human experience, to reduce and simplify complex human behaviors. Religion, in these accounts, is about fear and is narrowly directed towards human sexual, economic, or political behavior. Religion is not about awe, wonder, longing, or discerning one's place in the cosmos. Here, it seems, lies the potential for interdisciplinary work to feed back into evolutionary theory, even as it

comes into tension with it. Can human wisdom be about more than “successful decision-making,” or can “success” be construed in terms that go beyond evolutionary fitness?

Take, for example, the question of human longevity and reverence for elders. In traditional cultures, Henrich observes, such reverence made evolutionary sense because elders provided a wealth of information. In a modern western context, however, culture changes too rapidly for the elderly to have the same evolutionary value.[28] Does this change in human evolutionary circumstances, then, necessarily change whether it is considered wise to care for the elderly? The question is particularly pressing in an American context as we debate healthcare policies that disproportionately affect those who are older, sicker, and perhaps less socially useful. Here is one instance where a theological or philosophical response might differ or be in tension with a “cultural evolution” viewpoint. What do we mean when we think of wisdom as success in making decisions? In this case, an evolutionary process has produced a species for which interpersonal relationships have become a source of meaning and joy. As John Paul II argues, the intimacy and companionship that are so essential to human knowledge have assumed significance beyond the instrumental. Human relationships are experienced as a good in a way that transcends their evolutionary value. Given this divergence in success, we might also speak of a divergence of wisdom. The neglect of elders in much of western culture makes sense evolutionarily, but not theologically or philosophically. What, then, are we to call wise?

If our grasp of human wisdom is subject to such disciplinary divergences, what are we to make of the ultimate fruitfulness of this sort of interdisciplinary dialogue? A natural temptation might be to retreat to a triumphalist account about our own disciplines and methodologies. I am convinced that such a retreat would be a mistake for theology. As these brief reflections have indicated, theologians need not take the natural or human sciences as a normative starting point to benefit from their insights. In this case, an evolutionary account of human wisdom provides a helpful corrective to a western tendency to view wisdom as an individual cognitive accomplishment. Although I do not here pursue the question of the wise treatment of the elderly, one could imagine how a theological conversation on the subject might benefit from an awareness of the evolutionary pressures involved, even if the truly wise conclusion entails resisting such pressures. If a retreat to triumphalism is ill-advised for theology, would it be a mistake for evolutionary theorists as well? Here, as a theologian, I am on shakier ground. I can only suggest that if evolutionary processes themselves have produced a species for whom the meaning of interpersonal relationships transcends their evolutionary usefulness, it might make sense to ask if “successful decision-making” has a referent beyond *evolutionary* success. If this is the case, the study of human evolution might investigate the capacity for wisdom without claiming that the content of successful decision-making can be fully grasped through an understanding of the evolutionary processes and pressures involved.

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- [18] Ibid.
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- [20] Henrich, *The Secret of Our Success*, 258.
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- [22] Ibid., §33.
- [23] As John Paul II puts it, the truth “conferred by Revelation is a truth to be understood in the light of reason” (*Fides et Ratio*, §35).
- [24] Newman, *University Sermons*, 287–94.
- [25] John Paul II, *Fides et Ratio*, §33.
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CHAPTER 2.

RE-ENGAGING THEOLOGY AND EVOLUTIONARY BIOLOGY: THE NATURE OF TRUE WISDOM

NICOLA HOGGARD CREEGAN

Systematic theology is often critiqued as being a totalizing discourse, one in which anything inconvenient, heterodox, or experiential is flattened out under its almighty sweep. But evolutionary theory has also been a totalizing discourse, ironing out all the mystery of life in a kind of anti-theology and anti-teleology—what Tim Ingold, later in this volume, calls “evolution in a major key.”[1] Both theology and science can be modified and enlivened by types of wisdom which also enhance the conversation between them. Some of this anti-theology is explained by Paul Nelson, who argues that for Charles Darwin and subsequent evolutionary writers, “evolution” is contrasted with “creation,” often using unexamined assumptions about the way a creator would act. Nelson writes that “The theory of evolution was born in a turbulent embrace with theology, and it has yet to relinquish that embrace.”[2] He contends that for many years biology tried to be metaphysically neutral by ignoring implied metaphysical and theological questions, or its theological side, while nevertheless making covert theological arguments. Theology, meanwhile, attempted to proceed without taking the evolutionary story into account. It is no wonder that dialogue was difficult and always unsatisfactory. The reasons for all of this were and still are complex. While the biblical book of Wisdom presents subtle understandings of God’s workings, biologists harbored unsubtle theologies of God’s action in the world; and theology, sensing that it was now (scientifically) unnecessary because it could be brought to bear on neither the gaps in natural law, nor holistic renditions of nature, avoided nature as a revelatory source.

We are, however, entering a new phase. Anthropologist Agustín Fuentes and others have articulated a new and revised theory of evolution, the Extended Evolutionary Synthesis (EES), a chastened, much more interesting, and less totalizing set of lenses on our history—somewhere between what Ingold calls the “major and the minor keys.” In this chapter, I hope to show what theology lost in the old dispensation by comparing the book of Wisdom, contemporary theologies of wisdom and nature, and the theology of Jonathan Edwards with the arguments made around Darwin in the mid-twentieth century. I will then look at how the EES might allow for a new conversation between theology and science, and how, in this new dispensation, both can become more open and less totalizing, and be enriched by the borrowing of metaphors, especially with regard to wisdom and freedom.

There are other signs that the evolutionary paradigm is now opening up. We can see this not only

because colloquia, workshops, and conferences are taking place in academia, but because some of the deeper questions of evolution are being raised in more popular venues. The *New York Times'* philosophical blog "The Stone," for instance, recently ran a column asking whether the evolutionary process is guided.[3] This would have been unthinkable even ten years ago, unless the author was a creationist of some sort. But author Robert White quotes evolutionary biologist William D. Hamilton: "I'm also quite open to the view that there is some kind of ultimate good which is of a religious nature—that we just have to look beyond what the evolutionary theory tells us and accept promptings of what ultimate good is, coming from some other source." [4] Another example of the easing around this discussion is the recently published revisionist history of Darwin by the erudite generalist polymath A.N. Wilson.[5] Wilson had planned a standard biography, similar to his other volumes on Jesus, Paul, Hitler, Iris Murdoch, and Leo Tolstoy, until he discovered during his research that he thought Darwin was wrong. Not, of course, about evolution itself, but about natural selection; Wilson believes that recent evidence shows that natural selection is a positive, creative force. All of this is cause for thought. It means that the evolutionary paradigm, which has been very rigid until recently, is breaking open.

This has huge repercussions for theology, which never sat easily with a totalizing evolutionary theory's description of an impersonal algorithm, nor with understanding everything from language to morality as *only* a particular kind of fitness-enhancing trait. Theology is an exercise in understanding all things as taking their meaning from God's intentions for and creative force within the cosmos, understanding all things from an anticipatory future, in and through God, and from the story of redemption and creation in Scripture. For Christians, God is always at work, and the work of creation is a part of God's larger story—or Wisdom. Jesus announces the Kingdom of God, for instance, before that Kingdom is fully realized, because God's future is what gives meaning to the present. Darwinism works the other way, explaining what has come to be only in terms of past fitness, potentials, and survival mechanisms. In reflecting on evolution in light of this turmoil, I am arguing that where Darwinism seems to put a stranglehold on theological explanations and readings of nature, the EES opens up nature to the possibility of this downward proleptic explanation for many reasons, not the least of which is that evolutionary theory is no longer a discourse interpreted through a single lens.

Wisdom

I want to start with an excerpt from the book of Wisdom. It is one of the most potent descriptions of God's downward/outward, ongoing action through the tantalizing personified figure of Wisdom:

There is in her a spirit that is intelligent, holy, unique, manifold, subtle, mobile, clear, unpolluted...all-powerful, overseeing all, and penetrating through all spirits that are intelligent, pure, and altogether subtle. For wisdom is more mobile than any motion; because of her pureness she pervades and penetrates all things. For she is a breath of the power of God, and a pure emanation of the glory of the Almighty.... For she is a reflection of eternal light, a spotless mirror of the working of God, and an image of God's goodness. Although she is but one, she can do all things, and while remaining in herself, she renews all things; in every generation she passes into holy souls and makes them friends of God, and prophets. For God loves nothing so much as the person who lives with wisdom (Wisdom 7:22–28).

This text is helpful for us today as we contemplate the subtlety of nature, both from a faith perspective and through scientific lenses. Wisdom is presence, rather than conventional causality. Wisdom is both a virtue in humans and the reflection of God's goodness. Wisdom is a road less travelled in the science/systematic theology interface, where Genesis is the preferred text except for Celia Deane-

Drummond and other eco-theological sources.[6] Theologians and philosophers from previous generations often turned to nature for evidence of God, seen in the resonances and patterns that repeat throughout creation, and in its startling beauty and sense of depth. One example of this is the work of Jonathan Edwards, who saw nature as the pure emanation of the glory of the Almighty.[7] Edwards had many theological faults, but he paid attention.[8] He perceived lesser forms of virtue in the symmetries of plants and even societies, echoing the “True Virtue” of God and what he called God’s “consent, propensity and union of heart to Being.”[9] The petals of a flower, for instance, are inclined toward one another in a lower form of love. Also, creation is pregnant with deep symbolism, which Edwards considered to be the “images or shadows of divine things.”[10] Edwards discussed “true virtue” in his treatise by that name. In this work, he constantly mined the physical and social worlds for examples of beauty that shadowed in some way the moral sphere. Thus, he said:

Yet there is another, inferior, secondary beauty, which is some image of this, and which is not peculiar to spiritual beings, but is found even in inanimate things: which consists in a mutual consent and agreement of different things in form, manner, quantity, and visible end or design, called by various names of regularity, order, uniformity, symmetry, proportion, harmony, etc.[11]

True virtue is indeed also relationally defined as:

the cordial consent or union of being to Being in general. And as has also been observed that frame of mind, whereby it is disposed to relish and be pleased with the view of this, is benevolence or union of heart itself to Being in general, or a universally benevolent frame of mind.[12]

For Edwards, it is love or benevolence that is guiding the expression of life in all its magnificence. That guidance is all-embracing but obviously somewhat subtle:

All the beauty to be found throughout the whole creation, is but the reflection of the diffused beams of that Being.[13]

And:

It being evident that the moral world is the end of the rest of the world. The inanimate and unintelligent world being made for the rational and moral world, as much as a house is prepared for the inhabitants.[14]

Edwards understood every level of nature to be interconnected (or entangled) with and dependent on every other. Nature had meaning at every level. Virtue moved it all toward the benevolence of God. Nature shone with the light of benevolence. Edwards’ mystical vision was compatible with the inwardness and depth of nature, with Lady Wisdom’s presence. This vision has survived in some eco-theologies, some phenomenologies of nature, and some Eastern Orthodox understandings of God and nature. The environmental philosopher Bruce Foltz, for instance, argues that there has been a tradition of nature writing in which spirit is discerned in nature, from Ralph Waldo Emerson and Henry David Thoreau to Annie Dillard and Wendell Berry.[15]

Evolutionary Arguments Against God

However, this romantic vision did not really survive what Ingold calls “evolution in a major key.”[16] One of the reasons is that evolutionary biologists habitually interpret data as evidence against God, even when the same data was previously viewed as evidence for God’s presence in creation. Nelson claims that Darwin made arguments for evolution, as opposed to creation, on the basis of

imperfections in so-called design, but also on the basis of homologies.[17] These sorts of arguments are still made today. Both are theological and thought to undermine the association of nature with God's presence. Homologies, for instance, defined as the way in which limbs in a variety of animals are obviously similar, were interpreted by scientists as evidence for descent and, at the same time, as evidence against God. Early scientific thinkers assumed that the perfect God, creating as they imagined Genesis said God did, would create with more variety than this homologous pastiche. These scientists believed that a perfectly creative God would make different models of marine animals, land animals, and insects, all perfectly fitting into their habitats. Similarity across all these creatures, they argued, was proof that no God was involved. The somewhat subtle arguments for God made by Jonathan Edwards's generation had been turned around and were now considered evidence against the possibility of a creator. We can now see how the same data suddenly changed focus and altered its meaning. It is homologies, and similar repeated morphological patterns, that Edwards discerned as *evidence* of God's involvement. Edwards saw wisdom in a world that was able to integrate great diversity in simple unities of function. Darwin, and many after him, assumed that a creator would do things quite differently, creating species *de novo* from completely different building blocks.

Even deeper than the confusion of these arguments was the concept of natural selection itself, with its sometimes stated, and sometimes unstated, assumption that evolution was unguided and impersonal. After Darwin and the ferment of the late nineteenth century, and under the influence of genetics, evolutionary theory hardened. As an example, take the famous 1995 dogmatic phrasing of the US National Association of Biology Teachers (NABT):

The diversity of life on Earth is the outcome of evolution: an unsupervised, impersonal, unpredictable and natural process of temporal descent with genetic modification that is affected by natural selection, chance, historical contingencies and changing environments.

Theologians and people of faith could not do much with this except carry on without nature in sight, weaving stories that were more and more at odds with the deep grammar of evolution in the major key. Whatever else Wisdom does, she must supervise and guide, however subtly. The words "unsupervised and impersonal" have now been taken out of the biology teachers' statement, but the spirit of these words often lingers in academic science communities [18] Ingold very helpfully separates the minor and major keys (or lenses) of evolution in his chapter in this volume. He argues that language and assumptions like those of the NABT are not the only ways of seeing the evolutionary process. Deeper, more interior, more fluid lenses, which are more akin to wisdom, are also evident for those who pay attention.[19]

The Extended Evolutionary Synthesis

What is interesting about the EES is that it tackles evolution through a variety of different lenses. None of them require covert theological arguments and, in fact, they are more open to theological meaning than the old form of Darwinism that insisted natural selection was a creative force. The old totalizing discourse of natural selection alone has given way to a multiplicity of understandings and approaches. The newer understandings allow more subtlety of interaction with theology and more resonance with the book of Wisdom. In this new paradigm, theology can be partially integrated with biology and vice versa. For instance, it is possible, as Marcus Baynes-Rock argues in this volume, for a paleontologist to keep looking for meaning.[20] The multiple lenses of the EES allow for the creativity, concrescence, and interiority that Ingold has marked out as the essence of life and wisdom,

as opposed to the objectivity and exteriority of knowledge and evolution in a major key.[21] Some of these lenses include the following:

Parallel Evolution

Parallel evolution or convergence gives us hints that something, as yet hidden, and perhaps subtle, is guiding evolution toward certain similar evolutionary goals. Evolutionary Developmental Biology, often known as Evo Devo, which contrasts the purposeful development of the embryo with evolutionary development, is similarly invoking as yet unseen dimensions of nature. No one is suggesting that Wisdom sits in these gaps, only that the guiding process makes evolution look like a much subtler process, more mind-like, and perhaps infinitely deep. Paleontologist Simon Conway Morris says of evolution that “it is in need of continuous interpretation...it is both riven with ambiguities and, paradoxically, is also rich in implications.”[22] This restores depth to the descriptions of evolution and makes interpretations possible in both directions: as emanating from Wisdom, and simultaneously as the result of natural causes that can be partially observed.

Niche Development

Niche development is a controversial scientific idea, but it is at least a fruitful metaphor for theology. It has a resonance and dynamic quality that allows for becoming and mutuality with the environment. Niche development seems to allow for the interactions of deep ecology and interdependence. For this reason, Fuentes says, “humans construct ecological, technical, and cultural niches that influence the structure of evolutionary landscapes.”[23] A niche is a place into which life flows and where it can exist at different levels, from chemical to social and cultural spheres. The niche precedes the animal, but every niche becomes modified by the life within it: sea water becomes acidic and saltier air changes its composition of oxygen and carbon dioxide, and so on. Niche development allows us to imagine a dynamic interchange between the physical environment—other species, as well as climate and geochemistry and culture—that would make for a model of interdependence. Niche development gives us a much more dynamic evolutionary process, one in which the environment is forming life.[24] As Fuentes notes, “organisms are constructed in development, not simply ‘programmed’ to develop by genes.”[25] He continues: “living things do not evolve to fit into preexisting environments, but co-construct and coevolve with their environments, in the process changing the structure of ecosystems...evolution is a synergy of multiple processes...they are genetic, epigenetic, behavioral and symbolic.”[26] Niche development applies to all plants and animals, including humans, for whom important aspects of our existence do not *really* exist unless they are named in language. The psychologist Lisa Feldman Barrett has recently described how emotions are constructed. In naming emotions, she argues that we are not simply naming a pre-existing neural pathway, but rather “constructing” the emotion—an affective and rational phenomenon—in speaking. Thus, different cultures will have different emotions available.[27] The “constructed emotion theory” is very similar to niche construction in the way it describes the human agent as the important co-creator of almost all aspects of our growth and experience.

Physics and Chemistry

Life itself is still a mystery that has often been understood as existing on top of inanimate nature, almost in defiance of it. Philip Ball explains how fractal patterns and chaotic systems have guided

life and left its imprint in the many exquisite forms of skin patterns, hive architecture, cell divisions, and so on. In his three books, *Shapes*, *Branches*, and *Flow*, Ball explains many of the mysteries of life and the way in which life flows into and out of physics and chemistry. In *Shapes*, Ball explores the visual similarities between trees, lightning bolts, river tributaries, and many other natural branching patterns. According to Ball, nature will choose “to create at least some complex forms not by laborious piece-by-piece construction but by harnessing some of the organizational and pattern-forming phenomena we see in the nonliving world.”[28] Life does not evolve on top of inanimate nature, but in close embrace with it. This is more consistent with the theological insight from Wisdom (and Edwards) that the same divine imprint can be seen at different levels.

Morality

Then, of course, there is morality. The other way in which evolutionary theory has changed is that it is now recognized that the emotional and cognitive precursors of what is understood as human morality (and wisdom) reach deep into our genetic past. The way in which nature seems predisposed to life, to self-organization; the way in which life embeds within other life, coheres and evolves with other life; and the way in which nature is seemingly guided in a similar way to development, all resonate strongly with Edwards, and with older theological visions of nature.[29] There has recently been a lively debate concerning morality. Do high levels of empathy, sympathy, and even a possible theory of mind in some animals constitute morality? Or is morality in humans something completely different? Most scholars agree that human morality does not work against our basic human nature, but rather modifies and, at times, perfects it.[30] The presence of personality and empathy in other life forms *may* just be fitness enhancing, but it might also be evidence of Lady Wisdom working at all levels of the evolutionary process. Although nature cannot prove God’s existence, it can be said to be more coherently transparent to God than it once was.

I want to turn now to one of the repercussions of these developments for our understandings of virtue, compassion, altruism, wisdom, and freedom. How did this strange evolutionary process produce human wisdom? Edwards was sure that nature spoke of wisdom already existing in the natural world, and he also assumed that observing nature was a moral process because it was a way of paying attention to God’s benevolence, and therefore of paying attention to God. Interestingly, Ingold makes a similar point today, arguing that “wisdom is about attending to things, both opening up and responding to their presence.”[31] We still do not know what life is, or how it creatively adapts and changes, but the multiplicity of ways of describing and understanding it—the continuous interpretation that Morris speaks of, or the trailing minor key that Ingold describes—allows us to claim the compassion that is deep in the evolutionary tree as hints and shadows of the altruism of which humans are capable. It opens up nature to be again transparent to the signs of divinity in matter.

The EES enables us to reclaim nature as a theological source, observing deep connections between species and individuals, as well as strong interspecies interdependencies, while still affirming the seamless web of evolutionary history. Natural causation is much wider and, at times, more elusive, more like mind—and more interior—than previously thought. Wisdom is a complex mix of symbolic language ability, consciousness, and sensitivity to others and the divine. It comes out of a profound sense of self, as well as a sense of our interrelatedness. In ideal circumstances, humans might be said to be free (and I am assuming in this context that one meaning of freedom is as a correlate of wisdom) in part because our consciousness allows us to see into the past and the future, and because we can withdraw from the sensory into ourselves for reflection. Freedom is paradoxically correlated with the

ability to do the right thing naturally. All these capacities, hormonal inheritance, and neural circuits have deep evolutionary roots, even if they are not fully represented in any other animal. Bacteria, for instance, have both interoceptive and exteroceptive capacities. The existence and development of serotonin and oxytocin can be understood as the lower reaches of Wisdom, promoting prosocial and cooperative behavior in lower animals and anticipating higher forms, even as they can also incidentally be understood as compatible with life, fitness, and fertility.[32]

If we are theists, however, then it is increasingly reasonable to say that one of our niches is the divine. As Celia Deane-Drummond says, “eventually, the capacity for revelation, for direct relationship with God, opens up a new social world, one where God features human morality in self-aware humans.”[33] The EES has extended the understanding of “niche” to the social and cultural niches of the human. It makes sense to see the social and cultural space of the human, together with language, consciousness, and deep compassion, as the scaffolding which enables human consciousness to enter the divine niche—the divine milieu. Again, some evolutionary theorists have posited that belief in God is a quaint accident of our cognitive development which we can now overthrow. Others recognize that belief in God and our conviction that we interact with this God was what made us human.[34] This would mean that the God/human interaction is one that allows the freedom and wisdom of God to be forming the human more than any other animal, in the same way that water is forming of the whale, and air is part-creator of the wing. However, although Wisdom is our niche it is not our possession; Divine Wisdom is not a part of nature. Humans mark a transition to a niche that combines heaven and earth and warrants the transgressive naming of the human as *Imago Dei*. At the same time, the “God niche” is like any other human niche because it requires a human constructive element. Humans must name God and be a part of communities that name God for God to be real for us. We are not constructing God, but language remains the co-creative medium whereby any niche becomes accessible to us.

It is possible, then, to borrow the metaphors of the EES, especially that of the niche, to show why it makes sense to see lower forms of love and virtue at all levels of the evolutionary tree. In other animals and plants, it shows the imprint of the creator. In humans, there is a genuine, direct influence of the creator on the creature, the God-niche-inhabitor. Scripture, churches, prayers, and rituals are all a testimony to the aspirations of the God ape, to speak with God and be spoken to, and finally to embrace God in the flesh as Word. But after the emergence of the human, all animals inhabit the God-niche through the human, as well as through nature. For animals and plants, this is at one and the same time terrible, transgressive, and also potentially healing, especially in the God/human Christ who is the parallel of wisdom. If we are in the niche of Wisdom, then by interaction with God we take on the characteristics of God. One understanding of both wisdom and freedom is the ability to act virtuously, almost naturally. In terms of our understanding of the human brain, it is the training of the fast unconscious or preconscious aspects of our brains to the higher purposes and values that might be inculcated by language, imitation, liturgy, and moral communities—or the outworking of love. This can be seen as the creation of freedom in the niche of the community of saints and God. The corporate dimensions of human freedom are revealed.

Conclusion

To summarize, I started by showing that evolutionary theory is in ferment. Where it was once a totalizing theory, it is now more open, with many invitations to interact with other disciplines, especially theology. I went back in time to show how nature was once understood as a window to the

divine, a source of revelation and meaning, and how this understanding changed with Darwin and Neo-Darwinism. I then made some tentative steps towards a cross-fertilization between theology and science; science can be plumbed for metaphors, especially that of the niche, which fund imaginative theological explorations of wisdom and freedom. Theology is changed too, and becomes less totalizing itself, as it learns to pay attention to nature as a theological source.

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CHAPTER 3.

HUMAN ORIGINS AND THE EMERGENCE OF A DISTINCTIVELY HUMAN IMAGINATION

J. WENTZEL VAN HUYSSTEEN

Rethinking Darwin on Human Evolution

Today, and not surprisingly, scholars from numerous and highly diverse fields are not only addressing the question of what makes us human, but are also seeking input from other disciplines to inform and enhance their answers to this fundamental issue. According to anthropologists James Calcagno and Agustín Fuentes, evolutionary anthropologists are not always very prominent in this discussion.[1] To that I would add that theologians are strangely, if not almost completely, absent from this interdisciplinary discussion. What these scientists, and the odd theologian venturing into this interdisciplinary conversation, are striving for is a more or less coherent answer to the question “what makes us human?” What certainly is exciting and encouraging for interdisciplinary theologians is exactly the fact that those evolutionary anthropologists who are interested in this discussion are willingly stepping outside their normative practices to take on broad and relevant questions concerning human distinctiveness.

These questions do not only pertain to empirical questions about what distinguishes humans from their hominid ancestors; they often also refer to a very different kind of question, namely, which of our specific peculiarities give us humans our distinctive “species specificity” and significance? The meaning, markers, and justification of human identity and status have fluctuated throughout western history. Generally, of course, language has been viewed as a crucial marker.[2] In addition, conceptions of defining humanness have lately shifted toward our “prosociality,” which we share with primates, as well as our unique propensity for imitation.[3] Music,[4] sexuality,[5] and empathy[6] are also in the process of being thoroughly researched and hailed as the foundation of not only language, social norms, and morality, but of symbolic and even religious behavior. The other genuinely pan-human trait is the human capacity for seeing things from someone else’s perspective, generally known as the *theory of mind*. Humans are indeed strongly disposed to understand the motivations of others—so much so that we often see motivations where they do not exist.[7] This unique ability does, however, give us adaptively valuable insight into the intentions of our friends, enemies, predators, and prey.

For scholars like Fuentes[8] and Richard Potts[9] the success of humans as a species can be

attributed largely to our tendency towards extreme alteration of the world around us. We not only construct material items, we engage in the creation and navigation of social and symbolic structures, space and place, in a manner unequalled by other organisms. Most anthropologists would agree that human identity can be seen as interactively constructed by, and involved in the construction of, a conflux of biological, behavioral, and social contexts.[10] For this reason, and importantly, some evolutionary anthropologists actually now find the distinction “Darwinian” and “neo-Darwinian” unhelpful for many of the current evolutionary theories of interest, and argue that we should recognize that there is an expansive body of research and theory that is not captured by these headings anymore.[11] Basic Darwinian theory prioritizes natural selection and sexual selection as the prime factors in evolutionary change and the emergence of adaptations. Natural selection is generally seen as the process by which certain phenotypes (morphology and behavior) that are most effective at reproducing themselves (and thus their genetic basis or genotype) in a given environment become more frequent in a population across generations. Sexual selection is the over-representation of specific phenotypes across generations as a result of mate choice and or intrasexual competition. Those traits that lead to the success of particular phenotypes and become the predominant traits in subsequent generations are termed adaptations. These traits, and the individual possessing them, are then said to be more “fit.” And it is these “fit” phenotypes that will strive for optimality and will rise to a majority status within the population over evolutionary time.[12]

Without discounting the important role of natural and sexual selection in biological systems, some anthropologists want to emphasize that scientists are now expanding on Darwin’s contributions, and invite us to focus on emerging trends in evolutionary theory. Notably, Eva Jablonka and Marion Lamb’s important work *Evolution in Four Dimensions* calls for the renewal of evolutionary theory by arguing for “evolution in four dimensions” rather than for a focus on just one, namely the *genetic*. [13] Alongside this important inheritance system, Jablonka and Lamb now argue for three other inheritance systems that may also have causal roles in evolutionary change. These other systems are the *epigenetic*, the *behavioral*, and *symbolic inheritance* systems. Epigenetic inheritance is found in all organisms, behavioral in most, and symbolic inheritance occurs only in human.[14] This constructivist view moves beyond standard neo-Darwinian options and approaches and acknowledges that many organisms transmit information via behavior. Thus, the acquisition of evolutionary relevant behavioral patterns can occur through socially mediated learning. Symbolic inheritance comes with language and the ability to engage in complex information transfer containing a high density of information. What makes the human species so different and so special, and what makes us human, lies in the way we can organize, transfer, and acquire information. It is, therefore, our ability to think and communicate through words and other types of symbols that makes us different.[15]

On this view, there is much more to evolution than simply the inheritance of genes. Also, the variation on which natural selection acts is not always random in origin or blind to function: a new heritable variation can arise as a response to the conditions of life.[16] What is exciting is that, specifically in terms of anthropology, this perspective imposes an evolutionary concern with the way in which bodies and behavioral and symbolic systems construct and interact with social and ecological niches and how, in turn, these systems interact with epigenetic and genetic systems.[17] Importantly, this interactionist perspective blurs any clear prioritization in inheritance systems and thus requires movement away from approaches limited to either social or biological focuses. In this view, “evolution as construction” is the idea that evolution is never only a matter of developing

organisms, but of organism-environment systems changing over time in a dynamic interactive process of *niche construction* as a significant evolutionary force alongside natural selection.[18] For an understanding of human evolution this is obviously extremely important: most anthropologists would agree that humans are constructed by, and involved in the construction of, contexts that are simultaneously physiological, behavioral, historical, social, and symbolic. In this sense, human behavioral evolution must be seen primarily as *a system evolving*, rather than a set of independent or moderately connected traits evolving.[19] As such, niche construction is a core factor in human behavioral evolution. The startling conclusion, however, is that we should consider the potential impacts of a diverse array of processes that affect inheritance and evolutionary change, and the possibility that natural selection can occur at multiple levels and may not always be the only, or the main, driver of change.[20]

In addition, anthropologists have largely rejected the antiquated dichotomy of nature versus nurture in favor of dynamic understandings of social, biological, and historical complexities. In fact, anthropologists can show that the line dividing the social and the physiological is fairly arbitrary, that no human action or morphological trait exists in a vacuum, and that human history is the conjunctural and emergent product of social, physiological, morphological, symbolic, and historical interactivities.[21] Evolution is indeed the interactive production of difference and novelty, and we are indeed not our ancestors anymore. What we need is an understanding of evolutionary anthropology that helps us understand what it means to be a cultural, as well as a natural, being with remarkable symbolic propensities.[22]

Crucial to our ability for symbolic behavior is our equally remarkable ability for imagination. From a philosophical and theological perspective, it is exactly at this point where the evolution of the moral sense and of morality become crucially important. To approach and understand these defining traits, especially the propensity for religious imagination, Fuentes has suggested an important distinction: the quest for understanding the human propensity for religious imagination can be aided and enriched by investigating more fully the core role of the evolutionary transition between *becoming human* and *being human*. [23] A distinctively human imagination is, of course, part of the explanation for evolutionary success. For Fuentes, this means that significant patterns can be found in the evolutionary patterns and processes in the genus *Homo* during the Pleistocene. This is a niche wherein experiences in and perceptions of the world exist in a semiotic context: social relationships, landscapes, and biotic and abiotic elements are embedded in an experiential reality that is infused with a potential for meaning derived from more than the material substance and milieu at hand.[24]

We have always known that humans across the globe act religiously even as they do not agree about doctrine, deities, religious practice, or experience. In many ways, then, religion is still centrally important to being human today. What we do not know, and have no robust evidence for, is in what sense this might have been true for earlier members of the genus *Homo*. I do believe, however, that in order to begin to understand the emergence of religion, it would be important to find interdisciplinary points of connection across explanatory frameworks whose foci lie outside the limits of one specific set of explanations of religion and of any one specific religious tradition.[25] In my book *Alone in the World: Human Uniqueness in Science and Theology*, I argued from an evolutionary point of view for the *naturalness of religious imagination*. [26] If there is an evolutionary naturalness to religious imagination, or to the propensity of religious belief, then it would be a valid question to ask *how* such an imagination, as a system, emerged over the course of human evolution. Against the background of a broader, more robust view of the many dimensions of evolution that included

extensive, interactive niche construction, we can indeed say that *Homo sapiens sapiens* is a species that had a hand in making itself. From this follows the central theses of anthropologist Fuentes's work: he *first* argues that an evolutionary assessment of a distinctively human way of being in the world includes the capacity and capabilities for the possibility of metaphysical thought as a precursor to religion; *secondly*, that this can be facilitated by recognizing the increasingly central role of niche construction,[27] systemic complexity, semiotics, and an integration of the cognitive, social, and ecological in human communities during the Pleistocene era (i.e., roughly two and a half million years to twelve thousand years ago).[28]

Following up on my own quest for understanding the naturalness of the propensity for religious imagination, Fuentes believes this idea can be aided significantly, as mentioned earlier, by investigating more fully the core role of the evolutionary transition between *becoming human* and *being human*. [29] This transition itself can be understood better by a broad assessment of hominin [30] evolution over the last six million years. And here the focus should be on the terminal portion of that epoch, meaning the final transition from the archaic form of our genus *Homo sapiens* into the current form of *Homo sapiens sapiens*. The focus on this transition, which is a shift to a wholly human way of being in our current socio-cognitive niche, will add to our insight into how we, as humans, experience the world in the here and now. Fuentes now suggests that we can connect this emergence of a distinctly human socio-cognitive and ecological niche to existing in a meaning-laden world, and to the emergence of an imagination that facilitates the capacity and capabilities for the possibility of metaphysical thought. Moreover, this process is intricately connected to our success as a species. [31]

While many scholars have proposed that the origin of religion and of religious belief is either an adaptation/exaptation, or a by-product of our cognitive complexity, others suggest that it is more complicated than that. [32] Fuentes argues that evolutionary answers to the question of the origin of such systems might not lie wholly in the content of religious beliefs or neurological structures themselves, but rather (at least partially) emerge out of the way humans successfully negotiated the world during the terminal stages of the Pleistocene. [33] Already evolutionary epistemologist Franz Wuketits could argue that metaphysical belief is the result of particular interactions between early humans and their external world and thus results from specific life conditions in prehistoric times. [34] More importantly, within this evolutionary context one can now envision a distinctive imagination as a core part of the human niche that ultimately enabled the possibility of metaphysical thought. It is ultimately this component of our human niche as our way of being in the world that is the central aspect of our explanation for why *Homo sapiens* has flourished while all other hominins, even members of our own genus, have all gone extinct.

On this view, then, looking at human origins and the archeology of personhood, and thus at the evolution of our lineage across the Pleistocene, it is evident that there is significant increasing complexity in the way we interface with the world. [35] Increases in the complexity of culture and social traditions, tool use and manufacture, trade and the use of fire, as well as enhanced infant survival and predator avoidance, increased habitat exploitation and information transfer via material technologies that have increased in intensity rather dramatically in the last 400,000 years. All of these increasing complexities are tied directly to a rapidly evolving human cognition and social structure that require greater cooperative capabilities and coordination within human communities. Thinking of these developments as specific outcomes of a niche construction actually provides a mechanism, as well as a context, for the evolution of multifaceted response capabilities and coordination within communities. [36] And as Sarah Blaffer Hrdy has argued, looking at the patterns in the various

subdivisions of the Pleistocene and the current capabilities of human beings, it is obvious that this process was in large part accomplished by our ancestors because of their increasing capacity for hyper-cooperative behavior.[37]

Finally, the emergence of language and a fully developed theory of mind with high levels of intentionality, empathy, moral awareness, symbolic thought, and social unity would be impossible without an extremely cooperative and mutually integrated social system in combination with enhanced cognitive and communicative capacities as our core adaptive niche. Interestingly, on this point Fuentes himself, drawing on the work of Penny Spikins, wants to incorporate an analysis on *compassion*. [38] I believe this can be pushed even further back by tracing the deep evolution of empathy and attachment. [39] Our genus thus provides a scenario wherein we can envision a distinctively human imagination as a key part of our niche and as a part of the explanation for why our species succeeded and all other hominins went extinct. Fuentes puts it rather forcefully: the imagination and the infusion of meaning into the world by the genus *Homo* in the late Pleistocene is what underlies our current ability to form a metaphysics which in turn eventually facilitates religious beliefs. This landscape of meaning and associated imagination is also a system that facilitates an array of other symbolic and meaning-laden aspects of human behavior and experiences that are not at the core of our current niche and lives. [40] Important though, there is no single trait that explains human evolutionary success, nor is there a particular environment that created it. Rather, the system and distinctive niche in which we evolved has been restructured in such a manner that we are among the most successful mammals on the planet: in assessing human origins and the evolution of human beings we need not only explain our bodies and ecologies, but also account for an effective theoretical/intellectual toolkit for an evolving system that comprehends the full scope of human evolution over the Pleistocene. This toolkit includes a robust imagination and a landscape and perceptual reality wherein everything, whether material or not, is infused with multifaceted meaning.

The increasingly rapid and dynamic niche construction by humans, particularly as it relates to aspects of cognitive and symbolic function and social relationships, and the imaginative ability to deploy multiple modes of responding to evolutionary pressures, facilitates the evolution of the aptly named “sapiens” 200,000 to 100,000 years ago. [41] Fuentes is here in agreement with Terrence Deacon, Merlin Donald, Barbara King, Alan Barnard, and Andrew Robinson that it is our place as a *semiotic species*, and the use of symbol as a core infrastructure in our perceptions of and dealings with the world, that act as major factors in, and thus as a hallmark of, human evolution. [42] Humans have an imagination that is part of our perceptual and interactive reality and is a substantive aspect of our lived experience. It is realistic to accept that at some point in the last 400,000 years, language and hyper-complex intentionality acted to “lock-in” the more-than-material as our permanent state of being, and so laid the groundwork for the evolution of morality, the possibility of metaphysics, religious imagination, and the propensity for religious belief as crucial parts of the uniquely human experience. [43]

Looking to the paleoanthropology and archeology of the genus *Homo* across the Pleistocene, one thus sees the increasing feedback between ecological, physiological, and behavioral complexity. As communicative and social interaction became increasingly dense, and symbolic and temporally diverse representation emerges with greater frequency, it seems highly likely that such patterns would become a normative aspect of experience and perception for our ancestors. [44] Now existing in a landscape where the material and social elements have semiotic properties, and where communication and action can potentially be influenced by representations of both past and future

behavior, implies the possession of an imagination, and even something like hope, i.e., *the expectation of future outcomes beyond the predictable*.^[45] The assertion here is, then, that this interactive process occurs as a component of the human niche as it moves dynamically through the Pleistocene as part of the emerging human toolkit. Imagination, and therefore religion, are not just exaptations, spurious byproducts of evolution, but are crucial to the process of human evolution and incorporate behavioral processes and a sense of imagination and hope that would, and did, increase the likelihood of innovation and successful responses to evolutionary challenge.^[46]

This brief review of human origins and human evolution demonstrates the path and substantive impact of changes in behavior, life histories, and bodies in human ancestors and humans themselves. From this it is clear that patterns that in the Upper Paleolithic would lead to the unambiguous appearance of “art” and “symbol” now also combined with the evolution of empathy and compassion and deep caring for others.^[47] It should therefore not be surprising that a distinctively human imagination is part of the explanation for human evolutionary success and can be seen as one of the structurally significant aspects of the transition from earlier members of the genus *Homo* to ourselves.

Conclusion

A better understanding of cooperation, empathy, compassion, the use of and engagement with materials, symbols and ritual, and the notion of a semiotic landscape in which humans and our immediate ancestors exist(ed), do indeed move us along in our analysis of what it meant to become human. And the understanding of all of this is indeed a true interdisciplinary process: the insights we gain via the fossil and archeological record and analysis of behavioral, neurological, and physiological systems provide a more robust understanding of how humans perceive and experience the world. And it is this process that creates the possibility for imaginative, potentially metaphysical, and eventually religious, experiences of the world.^[48] This should lead to a better understanding of the ubiquitous importance of the propensity for religious imagination and the reality of religious experiences for *Homo sapiens sapiens*. Fuentes is here (correctly, I would say) not arguing for any particular adaptive function of religiosity, but rather argues that in an evolutionary context neither religion nor religiosity could suddenly appear full-blown. It is therefore valuable to search for the kinds of structures, behaviors, and cognitive processes that might facilitate the eventual appearance of such patterns in human beings. If having an imagination is a central part of the human niche, and this imagination is a basal element in the development of metaphysics, one could see how both adaptive and imaginative creative perspectives could employ that fact as part of their understanding of the human.

I believe that my original intuition that there is a naturalness to human imagination and even to religious imagination^[49] that facilitates engagement with the world in some ways that are truly distinct from those in other animals—even closely related hominins—thus becomes even more plausible. In Fuentes’s words, “if this is indeed the case, it provides a small, and hopefully fruitful, addition to the toolkit of inquiry for both evolutionary scientists and interdisciplinary theologians interested in reconstructing the long, winding path to humanity.”^[50] In the interdisciplinary conversation between theology and the sciences the boundaries between our disciplines and reasoning strategies are indeed shifting and porous, and deep theological convictions cannot be easily transferred to philosophy, or to science, to function as “data” in foreign disciplinary systems. In the same manner, transversal reasoning does not imply that scientific data, paradigms, or worldviews can be transported into theology to set the agenda for theological reasoning. Transversal reasoning does

mean that theology and science can share concerns and converge on commonly identified conceptual problems such as the problem of human uniqueness. These mutually critical tasks presuppose, however, the richness of the transversal moment in which theology and paleoanthropology may indeed find amazing connections and overlapping intersections on issues of human origins and uniqueness. Furthermore, I believe that the most responsible Christian theological way to look at human uniqueness requires, first of all, a move away from esoteric, abstract notions of human uniqueness, and second, a return to radically embodied notions of humanness, where our sexuality and embodied moral awareness are tied directly to our embodied self-transcendence as creatures who are predisposed to religious belief. I would further argue that, also from a paleoanthropological point of view, human distinctiveness has emerged as a highly contextualized, embodied notion that is directly tied to the embodied, symbolizing minds of our prehistoric ancestors as physically manifested in the spectacularly painted cave walls and portable art of the Upper Paleolithic. This not only opens up the possibility for converging arguments from both theology and paleoanthropology for the presence of imagination and religious awareness in our earliest Cro-Magon ancestors, but also for the plausibility of the larger argument: since the very beginning of the emergence of *Homo sapiens*, the evolution of those characteristics that made humans uniquely different from even their closest sister species (i.e., characteristics like consciousness, language, imagination, moral awareness, symbolic minds, and symbolic behavior) have always included religious awareness and religious behavior.

Paleoanthropologist Ian Tattersall has argued exactly this point: because every human society, at one stage or another, possessed religion of some sort, complete with origin myths that purportedly explain the relationship of humans to the world around them, religion cannot be discounted from any discussion of typically human behaviors.[51] There is indeed a naturalness to religious imagination that challenges any viewpoint that would want to see religion or religious imagination as an arbitrary or esoteric faculty of the human mind. What has emerged from the work of scientists like Steven Mithen, William Noble and Iain Davidson, Merlin Donald, Ian Tattersall, and Terrence Deacon, and should be of primary interest to theologians working on anthropology, is that human mental life includes biologically unprecedented ways of experiencing and understanding the world, from aesthetic experiences to spiritual contemplation—exactly the point now being made by Fuentes about niche construction. Deacon has also made the important point that the spectacular Upper Paleolithic imagery and the burial of the dead, though not final guarantees of shamanistic or religious activities, do suggest strongly the existence of sophisticated symbolic reasoning, imagination, and a religious disposition of the human mind.[52] The symbolic nature of *Homo sapiens* also explains why mystical or religious inclinations can even be regarded as an essentially universal attribute of human culture,[53] and opens up an interesting space for Jean Clottes and David Lewis-William's argument for a shamanistic interpretation of some of the most famous Paleolithic imagery.[54] There is in fact no human culture that lacks a rich mythical, mystical, and religious tradition. The co-evolution of language and brain not only implies, however, that human brains could have been reorganized in response to language and the environment in a dynamic process of niche construction, but also alerts us to the fact that the consequences of this unprecedented evolutionary transition from *becoming human* to *being human* must be understood on many levels as well.

The idea that religious imagination might not be an isolated faculty of human rationality, and that mystical or religious inclinations can indeed be regarded as an essentially universal attribute of the human mind, has recently also been taken up in interdisciplinary discussion by some theologians. Colleen Shantz has offered a fascinating and entirely plausible account of religious experience and

of religious ecstasy, as not only a significant feature of the apostle Paul's life, but beyond that, as part of a strong argument for the epistemological relevance of religious experience.[55] Her argument for the universal significance of religious experience, and also for alternate states of consciousness, is first of all an argument against a completely disembodied exegesis that is restricted, and epistemically limited, to the analysis and comparison of biblical texts. It is also, however, an argument for forms of cognition that go beyond linguistic dominance: the human self and its embodied experience includes elements that are known apart from language, elements that are still essentially human.[56] In this exciting interdisciplinary project her discussion partners in the end are cognitive neuroscientists, textual exegetes, and social anthropologists, and the point is not to argue that God is "generated" by the brain, but rather that God cannot be known apart from the brain, the embodied person.[57]

Niels Henrik Gregersen, meanwhile, has argued that imagination, and therefore also religious imagination, is not an isolated faculty of human rationality, but can be found at the very heart of human rationality. On this view, then, the same "naturalness" of imagination also applies to religious imagination, and religious imagination should not be seen as something extra or esoteric that can be added, or subtracted, from other mental states.[58] More importantly, though, a theory about the emergence of religious imagination and of religious concepts does not at all, of course, answer the philosophical question about the validity of religion, or the even more complex theological question about whether, and in what form, religious imagination might refer to some form of reality or not. As an *interdisciplinary* problem, however, the reasons that may undergird the unreasonable effectiveness of religious belief and thought may transcend the scope of any one discipline when it comes to evaluating the integrity of religious belief. In this specific conversation, we can hopefully reach an interdisciplinary agreement that religious imagination and religious concepts should be treated equally with all other sorts of human reflection. Religious imagination should, therefore, be treated as an integral part of human cognition, not separable from our other cognitive endeavors. Clearly early human behavior is not understood if we do not take this religious dimension into account. In our thinking about the emergence of religion or of spirituality in prehistory, and in our considering the historical human self as *Homo religiosus*, we should not expect to discover some clearly demarcated, separate domain that we could identify as "religion" as such. What this means is that we should avoid making easy and uncomplicated distinctions between natural and supernatural, material and spiritual, when trying to understand the long history of the prehistorical self as it hovers between *becoming human* and *being human*. The history and archeology of the human self demand a more interactive, holistic approach, since not just special artistic objects and artifacts, but daily material life itself, must have been deeply infused with imagination and spirituality. This implies that theologians, along with evolutionary anthropologists and archeologists, can indeed recognize the spiritual or religious in early time periods only through the material legacy of the people of that time. Imagery, sculptures, paintings, other artifacts, along with mortuary practices, may not always be exclusively religious, but may certainly point to normal living spaces and practices as possible symbolic, religious realms.

Significantly, I believe, this position on the naturalness of religious imagination is very close indeed to Darwin's final position on the role and significance of religion in evolution. This fact was very successfully highlighted in J. David Pleins's fascinating book *The Evolving God: Charles Darwin and the Naturalness of Religion*.^[59] I am definitely not the first to suggest that the real title of this work actually lies in its sub-title's reference to the "naturalness of religion." Pleins admirably unpacks his argument by focusing on Darwin's lifelong engagement and fascination with religious belief. As one reviewer put it, what we encounter when we turn to Darwin and religion is not the stereotypical "losing of

faith” story, but rather a story about a lifelong “seeker” who never lost interest in the religious issues that engaged his fellow Victorians.[60] In this sense, Darwin models for us the progress to be made by reading deeply in theology and yet remaining committed to the scientific enterprise.[61]

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- [3] Matt Cartmill and Kaye Brown, “Being Human Means that ‘Being Human’ Means Whatever We Say it Means,” cited in Calcagno and Fuentes, “What Makes Us Human?,” 183.
- [4] Steven Mithen, *The Singing Neanderthals: The Origins of Music, Language, Mind, and Body* (Cambridge, MA: Harvard University Press, 2006).
- [5] Maxine Sheets-Johnstone, *The Roots of Thinking* (Philadelphia, PA: Temple University Press, 1990).
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- [7] Cartmill and Brown, cited in Calcagno and Fuentes, “What Makes Us Human?,” 182.
- [8] Agustín Fuentes, “A New Synthesis: Resituating Approaches to the Evolution of Human Behavior,” *Anthropology Today* 25.3 (2009): 12–17.
- [9] Richard Potts, *Humanity’s Descent* (New York: Morrow, 1996); Richard Potts, “Sociality and the Concept of Culture in Human Origins,” in *The Origins and Nature of Sociality*, edited by Robert W. Sussman and Audrey R. Chapman (New York: Walter de Gruyter, 2004), 249–69.
- [10] Fuentes, “A New Synthesis,” 12.
- [11] Ibid.
- [12] Ibid.

- [13] Eva Jablonka and Marion Lamb, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life* (Cambridge, MA: MIT Press, 2005).
- [14] Jablonka and Lamb, *Evolution in Four Dimensions*, 1–8; Fuentes, “A New Synthesis,” 13.
- [15] Jablonka and Lamb, *Evolution in Four Dimensions*, 193–231.
- [16] Oren Harman, “The Evolution of Evolution,” *The New Republic* (September 4, 2006): 31f.
- [17] Fuentes, “A New Synthesis,” 13.
- [18] In this synergistic interaction between organisms and their environment *niche construction* emerges as inherently a constructivist process in which biological, ecological, and social/cultural spheres not only interact, but also provides a model for human genetic and cultural evolution by incorporating three levels or dimensions: genetic processes, ontogenetic processes, and cultural processes. See Fuentes, “A New Synthesis,” 14; Michael Ruse, *The Philosophy of Human Evolution* (Cambridge: Cambridge University Press, 2012), 125.
- [19] Fuentes, “A New Synthesis,” 15.
- [20] *Ibid.*, 16.
- [21] Agustín Fuentes, “On Nature and the Human: Introduction” and “More Than a Human Nature,” *American Anthropologist* 112.4 (2010): 512, 519.
- [22] See Jonathan Marks, “Off Human Nature,” *American Anthropologist* 112.4 (2010): 513. Nowadays, of course, scientists assign all extant human beings not just to one species but to one subspecies, *Homo sapiens sapiens*. All other subspecies have become extinct. The accompanying scientific rhetoric, however, reveals this to be no ordinary subspecies. As Tim Ingold puts it, as “doubly sapient,” the first attribution of wisdom, the outcome of a process of encephalization, marks it out within the world of living things. But the second, far from marking a further subdivision, is said to register a decisive break from that world. In what many scientists have called the “human revolution,” the earliest representatives of the new subspecies were alleged to have achieved a breakthrough without parallel in the history of life, setting them on the path of discovery and self-knowledge otherwise known as culture or civilization (“What is a Human Being?,” *American Anthropologist* 112.4 (2010): 514.
- [23] Agustín Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” *The Journal of Archaeology, Consciousness and Culture* 7.3 (2014): 1; Mithen, *The Prehistory of the Mind*.
- [24] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination.”
- [25] See Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination;” J. Wentzel van Huyssteen, *Alone in the World: Human Uniqueness in Science and Technology* (Grand Rapids, MI: Eerdmans, 2006); As Richard Stosis puts it, “The religious system is an exquisite, complex adaptation that serves to support extensive human cooperation and coordination, and social life as we know it.” Richard Stosis, “The Adaptationist-Byproduct Debate on the Evolution of Religion: Five Misunderstandings of the Adaptationist Program,” *Journal of Cognition and Culture* 9 (2009): 315–32 (315–17).
- [26] Van Huyssteen, *Alone in the World*, 93ff.
- [27] Regarding the concept *niche*: a niche is the structural and temporal context in which a species exists. As such it includes space, nutrients, and other physical factors as they are experienced, and restructured and altered by the organism and also shaped by the presence of competitors, collaborators, and other agents in a shared environment (see Fuentes, “On Nature and the Human: Introduction” and “More Than a Human Nature.”) The human socio-cognitive niche is a cognitive

and behavioral configuration that is derived relative to the socio-behavioral contexts of previous hominins. In modern humans it includes cooperation, egalitarianism, theory of mind (mindreading), cultural transmission and innovation, and language. This is a complex and composite niche unique to the human species and is likely a system whose various components emerged during the Pleistocene to reach its current form (see Deacon, *The Symbolic Species*; Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination.”)

[28] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination.”

[29] By “becoming human” Fuentes refers to aspects of human evolution from the appearance of our genus to the emergence of undisputable *Homo sapiens* (150–200,000 years ago); by “being human” he refers to evolution in our species since that time (ibid.)

[30] The term *hominin* includes humans and all of those genera and species derived from the lineage that split with the chimpanzee lineage (roughly 7–8 million years ago).

[31] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 2.

[32] Wesley Wildman, *Science and Religious Anthropology* (Farnham: Ashgate Press, 2009); Alan Barnard, *Genesis of Symbolic Thought* (Cambridge: Cambridge University Press, 2012); Merlin Donald, *A Mind so Rare: The Evolution of Human Consciousness* (New York: Norton, 2001); Stosis, “The Adaptationist-Byproduct Debate on the Evolution of Religion;” J. Wentzel van Huyssteen, “From Empathy to Embodied Faith: Interdisciplinary Perspectives on the Evolution of Religion,” in *Evolution, Religion, and Cognitive Science: Critical and Constructive Essays*, edited by Fraser Watts and Leon Turner (Oxford: Oxford University Press, 2014), 132–51.

[33] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 3.

[34] Franz Wuketits, *Evolutionary Epistemology and its Implications for Humankind* (Albany, NY: SUNY Press, 1990), 118.

[35] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 9.

[36] Ibid.

[37] Sarah Blaffer Hrdy, *Mothers and Others: The Evolutionary Origins of Mutual Understanding* (Cambridge, MA: Harvard University Press, 2009), 65ff.

[38] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 10.

[39] Van Huyssteen, “From Empathy to Embodied Faith;” Hrdy, *Mothers and Others*, 82ff; Sheets-Johnstone, *The Roots of Morality*; Kirkpatrick, *Attachment, Evolution, and the Psychology of Religion*.

[40] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 11.

[41] Ibid., 12.

[42] Ibid.

[43] Van Huyssteen, *Alone in the World*.

[44] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination.”

[45] Ibid., 13.

[46] Ibid., 14.

- [47] Van Huyssteen, “From Empathy to Embodied Faith”; Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 14 ff.
- [48] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 17.
- [49] Van Huyssteen, *Alone in the World*.
- [50] Fuentes, “Human Evolution, Niche Complexity, and the Emergence of a Distinctively Human Imagination,” 18.
- [51] Tattersall, *Becoming Human*, 201.
- [52] Terrence Deacon, “Language,” in *Encyclopedia of Science and Religion*, vol. 2, edited by J. Wentzel van Huyssteen (New York: MacMillan Reference USA, 2003), 504.
- [53] Deacon, *The Symbolic Species*, 436.
- [54] David Lewis-Williams, *The Mind in the Cave: Consciousness and the Origins of Art* (New York: Thames and Hudson, 2002); Jean Clottes and David Lewis-Williams, *The Shamans of Prehistory: Trance and Magic in the Painted Caves* (New York: Harry N. Abrams, 1998).
- [55] Colleen Shantz, *Paul in Ecstasy: The Neurobiology of the Apostle’s Life and Thought* (Cambridge: Cambridge University Press, 2009).
- [56] *Ibid.*, 9f.
- [57] *Ibid.*, 15.
- [58] Niels Henrik Gregersen, “The Naturalness of Religious Imagination and the Idea of Revelation,” *Ars Disputandi: The Online Journal for Philosophy of Religion* 2.1 (2002): 1, 23.
- [59] J. David Pleins, *The Evolving God: Charles Darwin and the Naturalness of Religion* (New York: Bloomsbury Academic, 2013).
- [60] Marjorie Wheeler-Barclay, review of Pleins, *The Evolving God*, *Victorian Studies* 58.1 (Autumn 2015): 155–58.
- [61] Pleins, *The Evolving God*, 1.

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PART II.

EVOLUTIONARY NARRATIVES

CHAPTER 4.

TECHNOLOGICAL INTELLIGENCE OR SOCIAL WISDOM? PROMISCUOUS SOCIALITY, THINGS, AND NETWORKS IN HUMAN EVOLUTION

FIONA COWARD

Famously, humans as a species are named for our perceived wisdom: *Homo sapiens*, wise man. However, in general study of the evolution of distinctively human cognition has tended to focus first and foremost on intelligence, and while the distinction between the two remains a little opaque, it is a significant one. The *Oxford English Dictionary* defines intelligence as “the ability to acquire and apply knowledge and skills,” while wisdom is defined as “the quality of having experience, knowledge and good judgment...the body of knowledge and experience that develops within a specified society or period.”[1] More succinctly, perhaps, a poster on reddit.com recently suggested the distinction was best characterized with an example: “intelligence is being able to clone a dinosaur, wisdom is stopping and asking ‘hey, is this really a good idea?’”[2] While wisdom requires and is predicated on intelligence, it is intelligence tempered by experience; the application of that intelligence is based on a deep and rich understanding of the world in which one lives. In this chapter, I explore how the concept of human intelligence can be re-framed as human wisdom in the study of human evolution.

In particular, I will focus on the contrast between human *technological* intelligence and human *social* wisdom. Traditionally, estimates of hominin intelligence and its evolution have been related to ideas about the development of technological capabilities: witness the fascinating insight into broader cultural narratives of human evolution offered by the many variations on those all-too-familiar cartoons of the march of human evolution. Empty-handed monkeys on the left progress through shambling caveman carrying early stone tools; fully modern humans exit on the right, burdened with examples of complex technologies such as computers, mobile phones, and gaming handsets and consoles, as well as well-made spears and guns (to list just a few examples picked randomly from an internet search). Technological complexity here becomes a visual shorthand for the evolution of intelligence and cognitive prowess, highlighted by a recent rash of versions in which the anatomically developed humans morph into robots or prosthetically enhanced “posthumans.” This new set of variations clearly reflect a burgeoning (though far from recently hatched) concern over the potential for the entanglement of human biological and technological evolution to change the very nature of our species. Likewise, the famous *2001: A Space Odyssey* evolutionary segue shot (a makeshift bone tool flung by an early hominin undergoing a dramatic leap forward in technological intelligence morphing seamlessly into a space station) similarly appeals to a perception that human evolution is synonymous

with technological evolution. Multiple other examples immediately spring to mind to demonstrate that the linking of physiological and technological evolution is pervasive in contemporary thought.

Less obviously—but equally pervasive—is that this picture of the steady progress of the human intellect and technological skill is part of a much broader narrative of human origins which links stages of technological change firmly to human socio-cultural development, and that is derived from the social evolutionist schemes of the nineteenth century. For example, in the influential scheme of Lewis Henry Morgan (1818–81), “savagery” is synonymous not only with fire, bow, and pottery technology but also with hunting and gathering; “barbarism,” in contrast, co-occurs with metalworking as well as agricultural technologies and farming; while the pinnacle of human achievement, “civilization,” comes with the technologies of industrialization and of the alphabet and writing.[3]

Such social evolutionist schemes, while formally repudiated by contemporary archeologists and anthropologists, were fundamental in the development of the very earliest chronological and conceptual frameworks for studying the past and have long since passed into the lay cultural narrative about human evolution. As a result, they inevitably retain a hold, however slight, on the ways paleoanthropologists and archeologists view the long duration of human evolution. The study of technology (stone tools, pottery, metalwork, and so forth) remains one of the most significant specialist areas in archeology. This is not in itself problematic: stone tools are a major class of evidence for early hominin behavior (being one of the few traces of hominin activity to survive such long time-depths) and technology—and material culture more generally—do play a hugely significant role in human lifeways both past and present. Indeed, it could be argued that other disciplines do not pay enough attention to the kind of information that can be gleaned from studying technology.[4] The danger comes when the alluringly oversimplified, linear schemes of technological development lurking in broader cultural narratives about human “progress” are allowed to shape the understandings of human evolution we claim are entirely objective and scientific.

How Unique is Technology?

In recent decades, increasingly detailed and rich primatology has established that the use of, and even reliance on, technology is not a uniquely human trait. It is only relatively recently that human origins researchers have challenged the privileged status of the genus *Homo* as the only hominin toolmakers.[5] Many other primates are now known to use tools in a variety of ways and settings. Most notably, our closest great ape relative, the chimpanzee, makes extensive use of stone and organic tools; to a slightly lesser extent, orang-utans and gorillas have also been documented using tools.[6] Other primate species much more distantly related to us are also skilled tool-users, particularly capuchin monkeys and macaques.[7] Indeed, a variety of other non-primate and even non-mammalian species have now also been documented using tools: elephants use tools from branches to paintbrushes; dolphins use sponges to cover sensitive noses while foraging in sharp coral; sea otters use rocks to crack open shellfish; octopuses use shells; a variety of bird species, most notably New Caledonian crows, use twigs to “fish” insects from trees; even some fish use tools.[8]

Early responses to these revelations that tool use is not unique to the human lineage tended to focus on “policing the boundaries,” which meant integrating this new evidence without allowing it to challenge the doctrine of human exceptionalism by simply refining the definitions that continued to categorize humans as *Homo technologicus*. [9] First, it was suggested that perhaps tool use in other species was genetically “hard-wired,” rather than learned and culturally transmitted, as among

humans. (We now know that this is not, in fact, the case.) Perhaps, then, tool use in these species was incidental, rather than habitual (i.e., it was an added extra, but not something that was a fundamental part of non-human primate lifeways). However, it is becoming increasingly difficult to argue this for chimpanzees, orang-utans, and even for the much more distantly related capuchins. Perhaps, then, the Rubicon between non-human and human tool use lay in the *manufacture* of tools, rather than the use of natural objects as tools? Closer inspection, however, has undermined this distinction too: primates and indeed some other species such as New Caledonian crows put in the work necessary to modify raw materials before use.[10]

The most recent distinction drawn between human and non-human tool use was that, among extant species, only humans practice *deliberate production of sharp stone flakes in the wild*. [11] Chimpanzees like Kanzi are clearly perfectly capable of percussive flaking in captivity, [12] but in the wild the breaking of stones is rare and apparently accidental, occurring during use. [13] However, even this suspiciously fine distinction has now fallen, with capuchin monkeys from Serra da Capovara National Park in Brazil having been documented practicing deliberate percussive flaking of stones. [14] Furthermore, such inter-species similarities would seem to apply not only to tool *manufacture* but also to tool use, with other species habitually using tools to access cryptic foodstuffs and even, on occasion, hunting with tools. [15] It does seem clear that even very early hominins expended considerably more energy on finding favored materials [16] than other primates [17] and that they may have been more skilled at exploiting those raw materials for sharp edges. [18] Overall, however, advances in ethnoprimateology have significantly undermined arguments for human exceptionalism based on our technological prowess. Such an argument may seem disingenuous. After all, I am currently sitting on a chair at a desk, using a computer to write this chapter, surrounded by a plethora of books, papers, empty soda cans, phones, photos, security cards, a range of variably kitsch souvenirs, several different types of coffee-maker and a host of other items. Even as it is possible to gently mock the boundary-policing enacted by many paleoanthropologists, it is also abundantly clear that modern humans' (and certainly profligate westerners') enormous reliance on technology and material culture more generally is markedly greater than that of other species. The tension between the fact that, on one hand, there clearly is something distinct and interesting about human technology, and that, on the other hand, it is incredibly difficult, when comparing human tool use with those of other tool-using species, to specify precisely what that difference is, suggests that perhaps we need to reconsider what it is about human tool behaviors that is unique.

Alternatives to the Technological Model of Human Wisdom: The Social Brain Hypothesis

More recently, the search for clear definitions of the dividing line between humans and non-humans has shifted away from technology to focus instead on sociality. Many now argue that the distinctive elements of human nature relate primarily to the complexity of our social worlds, rather than to technology per se. [19] All primates, especially great apes, have very complex social lives. They engage in individualized interactions, are able to comprehend the nature of specific relationships between themselves and others as well as between others, remember the histories of those interactions and relationships, and navigate complex social hierarchies. However, the *scale* of these interactions in both space and time is an order of magnitude more restricted than the social worlds of modern humans.

The close relationship between primates' brain size (specifically, the size of their neocortices) and the size of the social group in which they live has been used to suggest that brain size and social group size are closely related to one another evolutionarily, perhaps because of the increased cognitive

demands of living in larger groups.[20] The “Social Brain Hypothesis” (SBH) argues that increasing group sizes may have occurred in response to some other selective pressure—for example, predation pressure, or for the benefits of cooperative foraging—but indirectly selected for larger brains: as numbers of individuals in a social group increase in a linear fashion, the number of potential dyadic relationships any individual can engage in increases exponentially, and tracking this explosion takes an increasing amount of brainpower. Increasing brain size is one solution, but of course larger, more energetically expensive brains are subject to significant negative selection pressure. The answer to this problem was for individuals’ social networks to become increasingly hierarchical: relatively small numbers of other individuals are the focus of frequent, more intimate and valuable interactions, while an increasingly larger proportion of other individuals in the group are interacted with less frequently and intimately. The allies, coalitions, and cliques at the smaller, more intense levels of this hierarchical social network seem to help offset some of the social stresses of living with increasing numbers of other individuals—as well as the increased potential of intra-species competition. This allowed individuals to enjoy the benefits of living in larger groups, while interactions with socially “distant” members of more fragmented social networks posed other cognitive challenges that imposed further selective pressures on brain evolution.[21]

Hence, the SBH (and other “social” hypotheses for brain expansion/human evolution more generally) emphasize the fundamentally *social* selective context for brain evolution. Proponents argue that, as a result, not only does primate social life *demonstrate* intelligence, but complex social lives are a major selective pressure driving the evolution of intelligence—and further, that complex social lives actually shape the *nature* of that intelligence. In short, human intelligence is fundamentally social in nature, resulting evolutionarily in peculiarly *social* forms of intelligence such as the Theory of Mind (arguably unique to humans).[22] The wisdom of *Homo sapiens*, in this reading, is a wisdom fundamentally shaped by our sociality. The SBH is not universally accepted, but the demonstrably strong correlation of neocortex with group size provides strong evidence in its support. According to this correlation, *Homo sapiens* should have a group size of ~150.[23] And indeed, many analyses of both traditional and modern western societies suggest that this figure is a significant one, describing at least one significant level of human social grouping that can be observed widely across different cultures and even among “post-geographic” samples such as social media networks, providing further support for the SBH.[24]

Technology and Social Wisdom

However, in many of these analyses—especially those looking at contemporary western samples—it is also clear that there are grouping levels *above* the famous (or perhaps infamous) “Dunbar’s number” of ~150 individuals. If social group size is constrained by neocortex size, then how are larger-scale groupings maintained? I would argue that the unique relationship between humans and technology (and material culture more generally) offers one potential explanation: the social basis of cognition not only structures how we *think* about relationships with conspecifics, but also how we *engage* with other things—objects, material culture, and technology (my focus in this chapter), along with other animals and perhaps even places and landscapes.[25] Sociality, in short, is promiscuous and has come to provide the basis for how humans think about and engage in all kinds of interactions, not simply those between themselves and other humans.

This insight has significant implications for how we think about human evolution. As noted above, much of the traditional narrative about hominin technological evolution comes from a long tradition

of research that has historically mainly been focused on tool manufacture and typology, an approach firmly rooted in a thinly disguised and ultimately sterile culture-historical/social-evolutionist perspective.[26] Only over the last few decades has the focus broadened to take into account questions about broader technological practices and the incorporation of technologies into human lifeways. Dobres, for example, has argued for the reconsideration of “technology” as “techné,” which is more focused on the embodied “performance” of the everyday activities that constitute lifeways and personhood.[27] Concepts such as the *chaîne opératoire* and object biography emphasize flexible, creative, problem-solving technologies embedded within wider behaviors such as mobility, subsistence practices, and interaction that among humans are inherently social. This reframing arguably represents a shift from *connaissances*—knowledge—to *savoir-faire*, or know-how.[28] Here “technology” is viewed not as instantiated solely in objects themselves, but as a particular structure of knowledge and skill communicated between people primarily through fundamentally social practical and oral traditions.[29] Following the definitions sketched above, we might see this as moving from a perspective focused on technical intelligence towards one considering instead socio-technological *wisdom*, which recognizes the “embeddedness” of technological practice in social interaction and a fundamentally social lived experience.

Such a viewpoint does not, however, relegate things themselves to the background. In modern human societies, material culture plays an extremely important role in social relationships. Primates, relying almost entirely on grooming to form and sustain social relationships, are thus restricted in the number of relationships they can enjoy—only two individuals can groom one another at any given time, and only a limited number of other individuals can be groomed in twenty-four hours, while still also leaving time for eating and sleeping. Dunbar has suggested that the incorporation of vocal forms of communication into social interactions was selected for, at least in part, in order to overcome this constraint: directing communications at multiple individuals at once allows individuals to “service” more relationships in the same amount of time.[30] However, there are limits to just how loudly any individual can speak, and hence how large even networks supported by vocalization can grow. The incorporation of material culture into relationships relaxes these constraints still further. Material culture is separable from the people with whom it is associated (e.g., its maker, owner, gifter) and is also divisible, so that multiple fragments of the same whole can be circulated over potentially global scales. Furthermore, material culture is persistent. While obviously the length of time an object can survive depends on its raw materials, objects made of some materials (e.g., stone; bone; metal; pottery) can potentially survive over inter-generational timescales. Thus the mnemonic and metaphoric associations objects have with their originators/places/occasions of origin, and with brother and sister objects comprised of other fragments of the same whole, can hold over much greater time-depths than grooming, vocalizations, or unaided memories of those activities. Acting as souvenirs or *aides-memoires*, objects can “presence” other people, times, events, and places days, months, years, or even generations after their origination, thus scaffolding the scaling-up of social networks beyond the immediate physiological reach of any one individual.

Promiscuous Social Wisdom and Material Things

However, in arguing for the significance of the role played by material culture in human social networks, I am not arguing that objects are simply passive transmitters of social information. Rather, objects become part of social networks by being profoundly social “beings” in and of themselves. If the SBH is correct in arguing that human social intelligence—our social *wisdom*—is fundamentally

refined and honed for intra-species interaction, this promiscuous social wisdom does not stop at the “boundaries” of the species. Other-than-human entities may also become fully incorporated into human social networks in a way that makes us unique.

Objects offer very fertile ground for a wisdom that is fundamentally social and by default establishes mutual relationships as the basis for engagement. Like other humans, objects demonstrate complex lifecycles: from the locating of raw materials, through initial manufacture, use, reworking, curation, exchange, trade, gift or sale, inheritance, abandonment, destruction and mourning, each stage is indivisibly entangled with human activity, life-stages, and interaction. The classic anthropological example of material social networking is, of course, the Kula ring, in which objects become both the mechanism and embodiment of social networks, linking people together and in the process acquiring rich histories, or biographies, that affect the future relationships they go on to instantiate.[31] Perhaps a fuller example is supplied by Gosden and Marshall’s discussion of a Fijian necklace made of sperm whale teeth and strung on coconut fiber. Gosden and Marshall show how this object’s history extends back to traditional Fijian systems of social exchange in which transactions and exchanges between people that circulated specific objects were incorporated into their personal histories (and indeed their very materiality). In the rapidly expanding social networks of the nineteenth century, the necklace transacted beyond Fiji and moved into new systems of ritualized exchange and gifting in the British Empire, continuing to exercise its agency even after its admission to the Pitt Rivers Museum, for example via a cameo in a novel by P.D. James.[32] As Gosden and Marshall argue, the specificity and richness of objects’ histories, and the extent to which those histories are bound up with those of humans, mean that they are not so much provenances or histories but *biographies*, a distinction that makes this kind of object an obvious analogy for a person in its own right.

Is it any wonder, then, that many objects assume a personhood comparable with that of humans, becoming cherished possessions or otherwise taking on “lives of their own?” Woe betide the holidaying parent who forgets a child’s prized soft toys; social media often seems to be full of photos of lost soft toys seeking their owners, or posted by the parents of bereft children begging to be reunited with their lost friends. Parenting forums regularly host threads in which parents confess to having spent hours searching for such lost “best friends;” tucking up dolls and soft toys in bed, worried they might be cold or uncomfortable; and a host of other behaviors that from a “rational” perspective seem ridiculous because directed at inanimate objects. Small children hold dolls’ tea parties, care for baby dolls, and comment on the happiness and wellbeing of their plush friends. Even some “bigger children” have been known to get “something in their eye” at the end of the Toy Story saga, in which toys take on distinct personas and personhoods and, over the course of multiple films, become iconic characters.

Soft toys and dolls may seem like easy targets for such an argument, being often deliberately designed as “persons” specifically in order to appeal to human social instincts. However, there is a stark contrast between human children and chimpanzee infants here. Despite some intriguing anecdotal reports of chimpanzees curating and “caring” for dolls, or hugging soft toys, such items are generally viewed with indifference.[33] One might also argue that adults engaging in such behaviors are humoring their children to keep the peace. However, deliberately anthropomorphic or designed “persons” are not the only items incorporated into social networks; nor are such material engagements restricted to small children or even their parents, and incorporating objects into social networks in this way does not necessarily involve “anthropomorphizing” them. I do not impute any

kind of humanity to the necklace my partner gave me near the beginning of our relationship—nor, in fact, do I explicitly impute any personhood to it—but it has agency, defined here as “action or intervention producing a particular effect,” per the Oxford English Dictionary.[34] It gives me a sense of being positioned within a particular set of social relationships and almost certainly, consciously or not, affects my behavior in some circumstances. Certainly, its loss would affect me significantly, but not monetarily, as it is by no means an expensive piece of jewelry.

More generally, while social anthropology has perhaps not traditionally been very interested in material culture *per se*, a “material turn” in recent years across a range of disciplines[35] has focused attention on human engagement with material culture not just in traditional societies but also among contemporary westerners. This overturns any simplistic conception that totemism and fetishism are common among traditional societies, while among westerners some items merely have “sentimental value.”[36] All manner of the incorporation of material things into social networks is encompassed: mantelpiece arrangements, betel bags, shrouds, spindles, drums and bottles, mobile phones, laptops, collections of plastic ducks, and Happy Meal plastic kitsch.[37] No episode of *Antiques Roadshow* is complete without a family saga and a dramatic struggle between commerce and sentiment/obligation: objects as familial obligation and as markers of memory. Meanwhile, attaching even fictitious social narratives to mass-market commodities increases their perceived “value” several thousandfold.[38]

Moreover, work in other disciplines, most notably psychology, does seem to support the argument that for humans—but arguably not for other animals—objects acquire agency and become entangled in human interactions. The controversial “endowment effect” describes the phenomenon whereby once an object has become the “property” of someone (even just moments beforehand), they value it more highly than another identical object that is not “theirs.”[39] The endowment effect is often explained as a simple by-product of loss aversion (i.e., primarily a product of economic self-interest and game theory).[40] Others have questioned its existence and ascribe these findings to biases introduced in laboratory, as opposed to real-world, experiments.[41] However, the effect has also been demonstrated in human children, arguably less attuned to the harsh truths of economics[42] (and has also been shown to be affected by cultural norms[43]) undermining any explanation of it as sheer economic self-interest, and supporting arguments for a “mere ownership” effect.[44] It seems that “simply owning an object can activate an automatic association between the object and the self.”[45]

The implication is that personhood is both contagious, rubbing off on objects in one’s possession (would you drink from “Hitler’s cup?”), and sticky, persisting as association with those objects. Such a hypothesis clearly bears comparison with Mauss’ famous concept of the “spirit of the gift” based on his study of the *hau* of Maori gifts.[46] Mauss suggested that in many societies gifted items are ultimately “inalienable” (i.e., they cannot be fully detached from the giver, but carry something of that person’s personality with them). As Mauss details, this has significant implications for the receiver’s future actions and for the relationship between giver and receiver. Intriguingly, while the endowment effect has been demonstrated in other great apes and in capuchin monkeys, among these species the effect is only demonstrated for food, and does not appear to translate to objects; it thus might be more easily explained by loss-aversion or economic-rationalist approaches.[47]

Conclusion

The contagiousness or stickiness of personhood, and thus the incorporation of material objects into social networks, would therefore seem to be a uniquely derived phenomenon among humans. If so, perhaps this “entanglement” of people and things[48] is at the heart of the uniquely human

technologies that surround us today. It is also worth noting that although in this chapter I focus almost exclusively on material objects, many other forms of entity may also be drawn into human social networks. The most obvious examples are of course other animals: even more obviously than for material objects, non-human animals share many traits with humans, including capacities for agency and interaction as well as (at least perceived) emotional engagement with humans. Whether as prey, predator, competition, pest, parasite, commensal, or pet, other animals continue to play important roles in human social networks.[49] Such a perspective has, however, been less prevalent in the human origins literature[50], despite offering considerable potential.[51] The selective advantages of being able to amass a rich understanding of the other species sharing one's ecosystem are clear, and certainly among modern human groups today, the nature of that knowledge appears to be fundamentally *social*, derived from ongoing interactions with actors often perceived explicitly as other forms of "person." [52]

Likewise, another form of "entity" commonly found entangled in the social networks of traditional modern human social networks are landscapes, especially natural "features" and historical sites. Foregrounded by the events, interactions, and activities which occur there, such places, like material objects (and indeed like humans) acquire histories or biographies themselves, rather than being defined solely by their physical features or geographical location.[53] It is notable that they are often conceptualized as inhabited by (or perhaps more accurately as materializing or presencing) more "traditional" entities in the form of spirits.[54] "Place," then, is distinguished from "space" not solely by virtue of its role as the intersection point of trajectories of different entities but also because this, by its very nature, positions the place as a node in human social networks in its own right.

What are the implications of such a viewpoint for human evolution research? Elsewhere I have sketched out a rough prehistory of hominin and human material engagement from the very earliest stone tools through to the adoption by some groups of sedentary and ultimately agricultural lifeways, arguing that the gradual incorporation of things into social networks was a mechanism allowing the expansion of human social worlds towards the globalized contemporary reality of today.[55] I argue that human origins research needs to be reframed to allow consideration of prehistoric material culture as more than the sum of its parts, the techniques used to make and use it, and even the activities for which it was used. Archeologists working in other periods have no qualms about following anthropologists in ascribing social value and significance to such objects; Paleolithic archeologists are missing a trick in *not* routinely doing so. Not only do we have much to learn about early hominin lifeways and how they changed over the course of evolution in the hominin lineage by viewing Paleolithic archeology in this way, but we also have a unique and valuable opportunity to investigate the very basis of this uniquely human promiscuous social wisdom, by which—paradoxically—it is our interactions with *other-than-human* entities that makes us *Homo sapiens*.

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CHAPTER 5.

THE PALAEOLOGIC ARCHAEOLOGICAL RECORD AND THE MATERIALITY OF IMAGINATION: A RESPONSE TO J. WENTZEL VAN HUYSSTEEN

JENNIFER FRENCH

Two of the most fundamental questions that can be asked about human nature and the shared human experience are, “what makes us human?” and its corollary, “what is unique and distinctive about us?” In his chapter, J. Wentzel van Huyssteen argues that what makes humans unique is the ability to alter the world around us, to shape the world as it shapes us, an ability made possible through our “distinctively human imagination.”[1] Our imagination means that we can conceive of new ways of being and communicate through language and other symbols—ultimately allowing for the possibility of religiosity and religious thought. This imagination is no epiphenomenon of human evolution, but an intrinsic evolutionary force which, alongside genetics and biology, has shaped our developmental trajectory. Van Huyssteen is not alone in emphasizing the evolutionary importance of the human ability to modify and shape our surroundings, whether through the specific use of symbols, semiotics, or more broadly through processes of niche construction, although his contribution is notable for bridging anthropological and theological perspectives.

As van Huyssteen comments, research into what makes us human is, by the very nature of the question, an interdisciplinary endeavor.[2] The aim of this response is to contribute to this endeavor by providing an archeological perspective on the argument and evidence advanced by van Huyssteen. While van Huyssteen is a theologian, and there are several sections of the chapter which speak directly to his field, much of the data and frameworks he discusses derive from the archeological and evolutionary anthropological literature. As such, rather than commenting on how archeological data can support or refute van Huyssteen’s thesis, I offer thoughts from within the field of archeology on the data and models employed in his chapter, thereby situating his argument more firmly within our disciplinary discussions. My response focuses on three areas: 1) whether the distinctively human imagination—and the characteristics of consciousness, language, and symbolic behavior which it implies—is species specific (unique to *Homo sapiens*) or whether it is shared by other members of the genus *Homo*; 2) the evidence for the emergence of this imagination in the archeological record of the Pleistocene, and; 3) the link between a distinctively human imagination and religiosity, and the implications for our understanding of religion in the Paleolithic.

How Unique is the Distinctively Human Imagination? Defining “Human”

Humans are unique in being able to decide whom we include in the category of “us” and what the criteria for inclusion are. Among the extant species whose behavior we witness today, it is clear that even our closest primate relatives—chimpanzees and bonobos—do not share our distinctively human imagination and its capacities for language and symbolic behavior. However, there are many species of hominins in our genus *Homo* who are much more closely related to us (e.g., *Homo heidelbergensis* from c. 600,000–200,000 years ago and *Homo neanderthalensis*, Neanderthals, from c. 400,000–40,000 years ago). The study of these hominins is better placed to shed light on whether this imagination is unique to *Homo sapiens*. Unfortunately, these species are extinct and, as a result, we are left to infer their behavior and capacities from their fossils and the often-paltry remains of their material culture left in the archeological record.

While it is not uncommon within archeology to refer to all members of the genus *Homo*—from approximately two million years ago up to and including ourselves—as “human,” van Huyssteen seems to reserve that moniker for *Homo sapiens*. Building on work by anthropologist Agustín Fuentes, van Huyssteen identifies the transition between “becoming human” and “being human” as key: the process of “becoming human” occurring from the appearance of our genus to the emergence of *Homo sapiens*, and “being human” referring to evolution within our species since its emergence.[3] Within the framework of this transition, the distinctively human imagination is a key part of the explanation for why *Homo sapiens* thrived while other closely related hominins have become extinct.

Although seemingly clear-cut, this transition is often difficult to pin down. While less so than in the past, archeology is nonetheless a “discovery” field; well-thought-out paradigms are easily shifted, not by changes in thinking, but by amendments to the database. The field of human origins research is particularly susceptible to these shifts, and the evolutionary transition between “becoming” and “being” human is no exception. Two recent discoveries serve as cases in point. New dates and fossils from the site of Jebel Irhoud in Morocco push the date of the earliest known *Homo sapiens* back to c. 300,000 years ago[4] (from the previous evidence at c. 200,000–150,000 years ago[5]) and move the location of the earliest fossil evidence for our species from Ethiopia in East Africa to North Africa. Similarly, new discoveries can also radically alter our understanding of the diversity of past hominin species. The dating of the recently discovered hominin *Homo naledi*, found in the Rising Star Cave in South Africa, to a surprisingly recent c. 300,000–200,000 years ago is particularly pertinent.[6] This date means that *Homo naledi* overlaps with the known age and distribution of *Homo sapiens* in the region, making it unclear going forward which species contributed what to the archeological record of this time period, a record previously considered to belong exclusively to *Homo sapiens*. Of particular relevance to the current discussion is that it also opens up the possibility that a hominin with many “primitive” features (including a small brain) is responsible for some of the earliest archeological indicators of behavior associated with the distinctively human imagination.[7] Behavioral models which focus on the transition from pre-sapiens to *Homo sapiens* need to respond to and accommodate these new discoveries.

Archeological Evidence for Imagination

Let us consider the evidence for van Huyssteen’s distinctively human imagination in the Pleistocene archeological record. To borrow a phrase from his chapter, at some stage in our evolutionary history language, intentionality, and cooperation worked to lock in the “more than material as our permanent

state of being.”[8] Phrased this way, the most challenging aspect of this imagination from an archeological perspective is that it is, by definition, ephemeral. The central conflict for archeologists who wish to contribute to this line of research is the need to engage with the “more than material,” while at the same time acknowledging that materials are the primary focus of archeological study. One component of this imagination, which is an obvious exception to this ephemerality, is the symbol (defined here as something that represents something else by association, resemblance, or convention.)[9] Symbolic thought, a way of infusing meaning into the world, is a key element of van Huyssteen’s argument for a distinctively human imagination. Through their materiality, symbols are also the most common focus of archeological enquiry into questions of human distinctiveness, cognition, and imagination, and, as such, they will be my focus here.

The study of symbols in the Pleistocene is intrinsically linked with the search for evidence of cognitive and linguistic abilities equivalent to our own. The creation of symbols, along with other behaviors such as the burial of the dead and the production of blades and composite tools, usually fall under the much-debated rubric of “behavioral modernity”—a turn of phrase which allows for the possibility of the uncoupling of modern behavior and biology (the appearance of *Homo sapiens* in the fossil record). In seeking to determine when and where symbols were first used, and whether the use of symbols is specific to *Homo sapiens*, we must acknowledge the limitations of the archeological record and bear in mind one of the truisms of archeology: absence of evidence is not evidence of absence. There are many reasons why evidence of symbols and symbolism could be absent from Pleistocene contexts beyond the fact that the people present might have lacked the ability to think symbolically. Symbols might have been made from materials which are unlikely to survive, such as wood; they could have been restricted to ephemeral contexts (for example, painted on bodies); or we might be looking for them in the wrong places. Additionally, as we search backwards through the Pleistocene, the more likely older material is to have been disturbed or destroyed by natural geological and chemical processes.

Contrary to the data presented by van Huyssteen, the archeological evidence for symbols and symbolism indicate that thinking symbolically is not restricted to *Homo sapiens*. While the famous cave paintings of Lascaux and Chauvet, which van Huyssteen cites, are remarkable feats of imagination and skill—and as he suggests, potentially interpretable in terms of religious or shamanistic activity—they are part of a long history of Pleistocene symbol-making, the beginnings of which we see as early as half a million years ago.[10] In fact, the results of a recent study demonstrate that the majority, if not all, of the first appearances of the main material culture categories used by archeologists to denote symbolic behaviors predate the appearance of *Homo sapiens*. [11] These include figurative art, beads, and the use of ochre. Nonetheless, there is no doubt that both the quantity and the range of instances of symbolic behavior increase in the later Pleistocene with *Homo sapiens* (from c. 100,000 years ago). We need to tread a fine line to give these two patterns appropriate weight. Clearly, we cannot view symbolic behavior as the sole product of *Homo sapiens*. Similarly, there is little to be gained by treating the more sporadic evidence of symbolic behavior in earlier hominins as directly equivalent to the range and quantity of those seen in the later Pleistocene record of *Homo sapiens*. Archeological studies demonstrating the positive effect of the higher population densities and greater intergroup connectivity of *Homo sapiens* (compared to earlier hominins) on both the generation, use, and maintenance of cultural traits (including symbolic behavior), and their resultant visibility in the archeological record, might hold the key to this pattern and are worth incorporating into van Huyssteen’s argument.[12]

Religion in the Paleolithic

Finally, I would like to return to the link between van Huyssteen's distinctively human imagination and religion. To van Huyssteen, there is not one without the other, and the characteristics which make humans unique, such as imagination, language, and symbolic behavior, have always included the propensity for religious belief. As van Huyssteen says, there is an "evolutionary naturalness to religious imagination." [13] One element in support of this position is the ubiquity of religion today, although it goes without saying that "religion" in the Paleolithic, if it did exist, would have been very different from religion as is practiced and organized today. From a non-theological disciplinary standpoint, part of the difficulty engaging with this element of van Huyssteen's argument is that (as far as I can discern) he provides no firm definition of what religion is or entails which might assist archeologists in their attempts to study this phenomenon. Archeologists usually conflate evidence of "religion" with evidence of symbolism, and, in particular, of ritual practices, including mortuary activity and the apparent presence of ritual spaces. As with symbolism, there is a debate about when these activities emerged, although firm evidence of mortuary activity is found later than the earliest evidence of symbolism [14] and there is a sense that it is not until the appearance of *Homo sapiens* that the most convincing and widespread evidence of religious behaviors appear. [15]

If, as van Huyssteen suggests, the characteristics that make humans unique, such as imagination, language, and symbolic behavior, also include the capacity for religious imagination and behavior, how would that affect our interpretation of the archeological record of the Pleistocene? His assertion that during the Pleistocene we should not expect to see a separate domain that can clearly be identified as "religious," and that daily material life must have been deeply infused with imagination and spirituality, is likely correct, but it is difficult to reconcile with archeological practice. It does, however, open up some intriguing possibilities. There is a cliché in archeology that we classify an object as "symbolic" or somehow related to religion or ritual because we cannot discern its immediate and/or utilitarian function. Frequently, investigation into the possibility of spiritual or religious beliefs ends with this flippancy, particularly when we are dealing with early *Homo sapiens* or earlier members of the genus *Homo*. Furthermore, the conflation of the evidence for symbolism and religious or ritualistic behavior, while understandable given the available data, results in a narrow focus on only one facet of religion. Given the impoverished nature of much of the artefactual record, further research on the role of religion in the Pleistocene, including how religious imagination emerged and developed, should perhaps consider the behaviors which both facilitate and emerge from ritual and religious practice, including cooperation, compassion, and communal and group learning. [16] While we can never be *certain* of the ritual or symbolic properties of many elements of the archeological record, if, as van Huyssteen suggests, religion is part of the distinctively human imagination, we do our Pleistocene predecessors a huge disservice by reserving this line of enquiry only to instances when our more prosaic interpretations fall short.

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CHAPTER 6.

HOW DID HOMININS BECOME HUMAN?

MARC KISSEL

“Symbolic culture presupposes more than the ability to learn and transmit behavioral traditions from one generation to the next. It requires the *invention* of a *whole new kind of things, things that have no existence in the ‘real’ world but exist entirely in the symbolic realm.*”[1]

“Thus, because of symbols and with the aid of symbols, *Homo sapiens* has been self-domesticated and adapted to a niche unlike any other that ever has existed. We have been made in the image of the word.”[2]

When I teach introductory classes on biological anthropology, I spend the first day asking students to discuss what they think separates humans from the rest of the species on the planet. They propose interesting, well thought out answers, such as the use of advanced tools, speech, reason, empathy, morality, theory of mind, and religion. However, we also recognize that not all humans have speech, some lack empathy (and others argue empathy itself might be a bad thing), and many of these traits and behaviors are not seen in the youngest of humans.[3] Newborns, for example, seem to lack a theory of mind, and when exactly they learn this is debated.

For the last few years, I have had the distinct pleasure of working alongside scholars from various disciplines in an attempt to track the evolution of human wisdom and distinctiveness at the Center for Theology, Science, and Human Flourishing at the University of Notre Dame. As a trained anthropologist, I will admit that when I began my knowledge of theology was rudimentary at best. Having a liberal arts education helped, but I was fundamentally unaware of the nuanced discussions ongoing in theology that mirror what anthropologists talk about in our own field. Discussions about what makes us human can *only* be answered by bringing in multiple streams of evidence, scholarship, and theory. In this sense, dialogue about what makes us human must involve these transdisciplinary conversations, which keep us honest about what we can and cannot say about human behavior.

From my perspective as a scientist who studies human evolution, “what makes us human” is our shared evolutionary history. That is the one thing that every *Homo sapiens* in the world shares. Genes evolve too quickly for us to pinpoint a gene, or suite of genes, that make us human. The story of human evolution, however, is one we all share, going back to at least six million years ago. Viewed in this way, wisdom’s deep evolution becomes clearer; it was a fundamental part of our human past.

While wisdom is not something that most anthropologists feel comfortable talking about, our species name, *Homo sapiens*, reflects the deep-seated belief that wisdom is in fact what makes us

human. Tellingly, when Carl Linnaeus created a place for humans in his naming system, he defined his own species not from morphological characteristics but rather by the enigmatic Latin “*nosce te ipsum*” (“know thyself”).[4] In later editions, Linnaeus noted that it is reason that separates humans from the other primates. It appears that we implicitly see wisdom as the characteristic that made us human, even if, as anthropologists, we are reticent to use that phrase.

In the field of anthropology, the closest scholars of human evolution get to discussing something like wisdom is the study of how our hominin ancestors became human. Based on fossil, archeological, and genetic data, many have argued that there was a time lag between when we became human skeletally and when we became human behaviorally.[5] This so-called “Sapiens Paradox”[6] has produced copious amounts of research and debate.[7] However, what is sometimes missed is the overarching assumptions of this model. It suggests that there is a clear and archeologically visible dividing line between humans who act in a modern way and those who did not. This event is seen as driving the evolutionary success of our species and is often argued to be the precipitating cause of behavioral modernity.

The evidence for this hypothesis is based upon the absence of what is termed “symbolic behavior” prior to c. 100,000 years ago. The cognitive capacities and capabilities of earlier hominins cannot be studied directly. While data from paleoneurology[8] and related studies can inform on this topic, archeological data provides the strongest bridge between behaviors in the past and the development of human cognitive capacities.[9] However, we need to be cognizant of the limitations of datasets from the archeological record, as they are biased by research agendas, geopolitical issues, and taphonomic concerns.[10] Indeed, the fact that the term “symbolic” refers to a different set of objects for different scholars shows the problematic nature of this kind of study.[11] Sally McBrearty and Alison Brooks, for example, have argued that modern human behavior is characterized by abstract thinking, planning depth, innovativeness, and symbolic behavior, the latter of which they define as “the ability to represent objects, people, and abstract concepts with arbitrary symbols, vocal or visual, and to reify such symbols in cultural practice.”[12] Yet, as Langley *et al.* note, symbolism is difficult to define archeologically, though it is often assumed to be manifest in the use of figurative art, pigments, ornamentation, and body modification, among others.[13] At the theoretical level, the debate comes down to what symbolic thought is and how it can be recognized archeologically.

As part of the larger project on the evolution of human wisdom, I created a database (The “WISDOM” database) of the archeological data that potentially correlates with symbolic thought.[14] In order to understand how the human cultural niche evolved across the Pleistocene, we need a better understanding of the actual archeological data that inform this question: at present it unclear how common symbolic, or potentially symbolic, artifacts are and what their overall distributions were. Furthermore, the spatial and temporal relationships between these classes of artifacts are far from clear. It is rare to see discussions of all the archeological indicators of contemporary human behavior in a single publication, with the exception of McBrearty and Brooks’ seminal contribution.[15] Usually, in such reviews, the focus is either on a single artifact type, a specific site, an archeological culture, or a species-specific dataset .[16] This is the first open-access dataset that concentrates on the question of symbolic thought.[17]

There is a seemingly discontinuous nature to the earliest symbolic artifacts in the archeological record, suggesting that while the earliest humans (and other members of the genus *Homo*) may have been capable of creating such artifacts, their use and adoption was temporally and spatially limited, with flickerings of modernity preceding the full emergence and spread of these behaviors.[18]

To explain this, some scholars have invoked changes in demographic patterns,[19] though others are skeptical of this approach.[20] Others model the fluctuating fitness values of engaging in such behaviors as an explanation for the seemingly sporadic appearance of such materials, making direct analogies with genetic fitness and fitness landscapes.[21]

Here, I explore how anthropologists can interrogate the question of how our species became behaviorally modern. Concentrating on the archeological evidence, I suggest that we have reached an interesting place in that the barriers to understanding the humanization of hominins come from how we approach the question in the first place, rather than simply the available data. We need to think more about how early human populations were acting, and re-acting, in response to internal and external pressures. Becoming human was a long-term process involving changes in our phenotype, genotype, behavioral repertoire, and sociocultural niche. To demonstrate, I first discuss what we mean by “symbolic” and then describe how data from Neandertals and other early populations problematize the notion that “humanness” began c. 200,000 years ago.

What Makes Something Symbolic?

The relevance of the term “symbolic,” and how it can be best applied to the paleoanthropological record, has been the topic of much theorizing.[22] Leslie White, whose theories on cultural evolution influenced a generation of anthropologists, may have been the first to discuss the relevance of symbol-making for the question of human origins. Writing in 1940, White argued that the symbol was “the basic unit of all human behavior and civilization.”[23] He asserted that humans and the apes are separated by a bright line:

There is a fundamental difference between the mind of man and the mind of non-man. This difference is one of kind, not one of degree. And the gap between the two types is of the greatest importance—at least to the science of comparative behavior. Man uses symbols; no other creature does. A creature either uses symbols or he does not; there are no intermediate stages.[24]

Many debates today are still derived from this framework.[25] White is arguing for a type of human exceptionalism that would be rejected by most modern anthropologists. However, paleoanthropologists still often assume that symbolic thought is a “you have it or you do not” trait. If there is a major gap between modern humans and earlier, non-symbolic species, an “us versus them” mentality, then these differences are facts of nature rather than aspects of historical and cultural processes.[26]

What would these behaviors look like in the Pleistocene archeological record? Discussing the South African record, Christopher Henshilwood and Benoit Dubreuil argue that the Blombos beads are symbols, since “in the archeological literature beads are indisputably regarded as symbolic artifacts and indicative of “modern” behavior.”[27] The beads are said to show the effects of the expansion of the temporoparietal areas of the brain.[28] As for their symbolic nature, the argument rests on two inferences: (1) beads are found at different levels within Blombos and (2) the mental requirements needed to be concerned with one’s appearance are the same ones necessary for symbolic meaning. Henshilwood and Dubreuil note that children tend to be unconcerned with their appearance and do not understand how the meaning of an object, symbolically speaking, depends on a collective agreement about what that object means. This behavior may be linked, in part, to neurological changes in the hominin brain. Seeing beads as evidence of symbolic thought has not gone unquestioned, with Wynn and Coolidge suggesting that perhaps they functioned as tally devices rather than symbolically-mediated signs.[29]

Terrence Deacon has had the most influence on anthropologists in terms of the emphasis on symbol-making, especially with his emphasis on Peircean semiotics.[30] Charles Sanders Peirce saw signs as composed of three related components: the sign-vehicle, the object, and the interpretant.[31] Under a Peircean system, one can examine the sign itself, how the sign is related to its object, and its interpretant. The most famous of these relationships, at least for archeologists, is between a sign-vehicle and its object, which is the source of Peirce's Icon-Index-Symbol distinction. It is his definition—namely that a symbolic sign is one in which the ground between the object and the sign is via conventional agreement rather than through resemblance or causal relation—that archeologists tend to apply to the past.

But this distinction is difficult to apply to the remote past since we often do not know the cultural context in which these artifacts were produced.[32] One way around this is to apply another of Peirce's trichotomies, which looks at how the sign itself functions. Peirce defined three types of sign vehicles: *qualisigns*, *sinsigns*, and *legisigns*. Qualisigns, like icons, are derived from qualities. What makes a qualisign confusing is that it does not signify anything except as it is embodied in an object (like the color blue, which can be embodied in a picture or piece of fabric). The second type of sign-vehicle is the *sinsign*, a sign which contains several qualisigns. Finally, a *legisign* exists when the sign-vehicle signifies based on convention. Replicas are an individual instance of a legisign, making them a special category of sinsigns with significance based both on being a replica of a legisign and on the features of their occurrence.

But do only humans make symbols? One reason for possibly removing symbolism as an indicator of modern behavior comes from studies of nonhuman primates. Psychologist William McGrew draws attention to primate behaviors, such as male chimpanzees tearing leaves to draw attention from females and hand-clasps between grooming partners, which have a high level of variation within a group.[33] McGrew has also argued that the hand-clasp could be a group identifier.[34] Interestingly, he notes that if such behaviors were noted in human groups, they would easily be interpreted as ethnic markers. Other examples include the drumming behavior of Tai chimpanzees, which is arguably a way to communicate position in the forest.[35] Primatologist Christophe Boesch has argued that one chimp in particular used this system to communicate to others that he was either changing direction or going to take a rest. Boesch suggests that such a system is "symbolic." Similarly, Jane Goodall's description of a rain dance and of "waterfall displays" suggests some sort of deeper meaning to these acts.[36] Yet we need to be careful. If a chimpanzee picks up a rock and carries it to a nearby tree, that behavior could make the cover of *National Geographic*. [37] Would a similar behavior in a monkey receive the same attention? Furthermore, we should be careful about comparing behaviors of modern chimps to those of early humans. Chimps are very good at being chimps, but not so good at being humans. And the same is true of earlier hominins. They may not have been good at being anatomically modern humans, but they excelled at their own behaviors.

Perhaps by thinking in these terms, we can avoid fetishizing the symbol as *the* thing that makes us human. Using the qualisign/sinsign/legisign approach allows for the identification of a purposefully created system without the assumption of a symbolic referent. For example, engraved lines are found in different instances on ostrich eggshell, ochre, bone, and stone. Early humans were embedding qualisigns in these materials. We can perhaps trace qualisigns through different media, such as noting the persistence of the # symbol in disparate archeological assemblages. Perhaps these are examples of humans copying phosphenes.[38] Under this system, most of the early examples recorded in the WISDOM database are sinsigns. They show humans interacting with the natural world and creating

artifacts, but not necessarily for the consumption of others. It may have had meaning to an individual, but we cannot tell if it was part of a larger overarching system of belief. However, at sites with many engraved eggshells, we can infer, if enough information is present, that a legisign existed. In these cases, the individuals making these artifacts were involved in a larger system within which they hoped to produce some effect on their community members' minds.

Archeology

With these caveats in mind, we can explore what the archeological record says about the origins of symbolic thought (or perhaps the formation of legisigns). For some scholars, the best currently accepted date for what has been called "modern human behavior" begins after c. 100,000 years ago.[39] Recent research has centered on ochre use, perforated marine shells, and the creation of a complex tool kit, including the origins of bone and composite tools. Thus, it is argued that modern humans, with behaviorally modern traits, did not evolve until well after *Homo sapiens* evolved between 300,000 and 200,000 years ago, leaving a time gap between these two events. Explaining the paradox has been a central question in evolutionary anthropology.[40]

Perhaps the best example of how the hypothesis of symbolic thought as the defining trait of humanness has been used is in the study of Neandertals. For scientists who differentiate between Neandertals and modern humans using the designations *Homo neanderthalensis* and *Homo sapiens*, the Latin names seemingly signify a difference in intelligence. The question of which fossils fit exactly into the Neandertal group is a complex assessment. A conservative approach would classify human fossils and sites from a period between 130,000 and 30,000 years ago as the time of the classic, or Würmian, Neandertals. The complexities of the Middle-to-Late Pleistocene remains in Europe may indicate that they represent more than one species. In this case, the fossils from this time period do not demonstrate genetic continuity but rather multiple migration events from different regions in small, isolated populations.[41] Yet demonstrating gene flow would be difficult for such a small sample size (the number of fossils for this time period number being less than twenty, not counting the twenty-seven from Sima de Los Huesos). The alternative hypothesis, specifically that they represent a random breeding population, has yet to be falsified.

The question of Neandertal identity often rests on the specific definition of the group. While the majority of scholars still conceive of them as separate populations (i.e., *Homo neanderthalensis*), both fossil and genetic data suggest a more nuanced approach. Due to the recognition of significant gene flow between the Vindija Neandertals and *Homo sapiens*,[42] the null hypothesis of one species may be more defensible, but it leaves open the question of *when* the Neandertal population first began to diversify. It is clear that neither a strict climatic nor a cladistics approach can capture the complex picture of the *Neandertalization* process. It is interesting to ask if one can uncover derived behaviors—that is, behaviors that are not primitive but associated with the evolution/appearance of a new species or type—in Neandertal sites that are not recorded in modern human sites. If that were the case, what would such behaviors suggest? As Neandertals are often used as an example of the "other,"[43] a group which is not quite human and thus used in juxtaposition to show what real human behavior is, identifying such behaviors could help us to better understand what is meant by modern human behavior.

While originally considered either unable to create artwork or simply to be copying modern humans without really understanding what they were doing, Neandertals are now known to have mixed together pigments and used marine shells as palettes.[44] Recent U-series dating of cave art

from Spain has supported the assertion that Neandertals may have engaged in artwork. Several large red disks, painted by blowing, have been found in the *Panel de las Manos* in the El Castillo cave.[45] To investigate the question of Neandertal behavior, I examined reports of the non-dietary use of birds at Middle Paleolithic Neandertal sites and at Middle Stone Age (MSA) sites associated with anatomically modern humans. Later Neandertals at various sites have been shown to have used bird and raptor remains for reasons unrelated to consumption.[46] Especially interesting is the evidence of their use of feathers. Despite a detailed search, there seems to be no evidence of the behavior recorded at MSA sites in South Africa. The Chatelperronian site of Grotte du Renne has bird bones shaped with regularly spaced notches,[47] and later Aurignacian sites show the use of the radius of a griffon vulture for a flute.[48] The MSA site of Ysterfontein, South Africa, dating to between 57,000 and 46,000 years ago, has numerous bird bones, but no indication of feather removal.[49] Two bone tools made from bird bones are reported from Blombos cave.[50] While some of the avifauna at Sibudu have cut marks, none has yet been reported to show the same sort of feather removal seen at Neandertal sites.[51] One of the bone tools from Sibudu is made from a bird radius.[52]

The point is that there is a behavior unseen in earlier hominins and also not yet recorded in the MSA, but somewhat common at archeological sites associated with Neandertals. Why remove feathers, especially ones that seem to have been selected on the basis of color, if not for adornment? A review of the ethnographic literature shows that the use of feathers is widespread in modern human culture; costly to obtain, they may have been used to signal status.[53] If the situation were reversed, and the data suggested that the people at the Still Bay site were removing feathers, it is likely that this would be used as evidence supporting modern human behavior's origins lying in Southern Africa.

What does it mean if Neandertals show signs of symbolic thought? There is no clear answer.

1. Maybe symbolism should be removed as a sign of modern human behavior.
2. Maybe both groups evolved symbolic thought independently through parallel evolution.
3. Maybe the last common ancestor of Neandertals and modern humans had symbolic thought.
4. Maybe the species designations of Neandertals and AMH are faulty, and Neandertals should be incorporated into the *H. sapiens* lineage.

Apart from the Neandertals, we can also look at data from the WISDOM database itself. There are few sites with reported evidence of symbolic artifacts beyond 600,000 years ago, and those that do exist are scattered widely and are not patterned. Perhaps the most interesting, and best-known, is the Makapansgat pebble. This rock resembles a human face and seems to have been brought to the cave by hominins, though it is debatable if it represents symbolic thought.[54] In a different context, Langley notes that removing and transporting materials involves transporting or reshaping the landscape.[55] Perhaps this reflects a sign but not a codified idea or concept. Modern people, after all, often collect rocks and shells from exotic locations. Similar issues exist with the Kozarnika engraved bone, which dates to 1.4 million years ago.[56] If legitimate, it predates the next known engraved object by ~1,000,000 years. The ochre from Bizat Ruhama dates to over 780,000 years ago, though again this has not been accepted by all scholars.[57] Recent analysis dates the site itself to c. 1,000,000 years ago, but the ochre may not have been well-analyzed.[58] Also of note is the ochre from Gadeb 8e, Ethiopia, which dates to a minimum of 750,000 years ago. In sum, these early artifacts are tantalizing, and should not be rejected outright, but require more detailed analysis. Similar issues exist with sites between 600,000 and 400,000 years ago, where we continue to see the use of ochre and begin to see signs of more complex tool production. The artifacts and sites show the beginnings of

hafting technology (which may or may not require symbolic thought).[59] More relevant is the oldest preserved wooden spear, from Clacton, U.K., dating to 400,000 years ago.[60]

The material remains from between 300,000 and 399,000 years ago are particularly salient, as they mark an increase in both the types of symbolic expressions and the number of artifacts. The Schöningen spears have been well-accepted.[61] Less well studied are Acheulean-age beads from the U.K. and surrounding areas.[62] These have not been well-dated and some of the associations are unclear, though I place them here in the hopes that more research can be undertaken on these beads, which are far removed both geographically and temporally from the majority of known shell beads. The Kabwe bone tools are well accepted as tools, though the dates may be problematic.[63] Perhaps the most provocative artifact from this group comes from Java, where Joordens et al. report on an engraved shell.[64] This artifact dates to between 640,000 and 380,000 years ago and was engraved with a sharp object in a zigzag pattern. We will likely never know what this engraved clam shell meant to its maker. The salient point here is that not only are we finding engraved objects earlier than previously believed, but they are associated with non-modern humans, in this case *Homo erectus*. Bilzingsleben, dated to between 370,000 and 230,000 years ago, is more controversial.[65] The engraved lines on animal bones from this site have received much attention, but detailed taphonomic study has yielded differing results as to whether these markings are human-made or not. Sites between 100,000 and 199,000 years ago are more numerous. This time period is coincident with the appearance of anatomically modern humans. Here we see good evidence of shell beads, possible art, engraved objects, and ochre. Finally, sites in the group from 45,000 to 99,000 years ago make up the majority of both sites and artifacts in the archeological record that have evidence of symbolic thought.

To my mind, the more sporadic earlier examples are *glimmerings*, signals for the capacity to create symbolically-mediated objects but not the wide-scale adoption of that particular behavior. It is similar to what has been referred to as recursion, which describes times when new adaptive strategies do not persist in the record.[66] In sum, the data suggest that while evidence of symbolic thought is much more common after 200,000 years ago, glimmerings of these behaviors occur earlier, with most of the major indicators of symbolic thought found at least once before 200,000 years ago. After this time period, we see evidence of regional populations and perhaps the formation of well-defined social networks. As recent skeletal evidence and genetics suggest that the origins of *Homo sapiens* may date to around 300,000 years ago these data might support an early genesis for our species.[67] On the other hand, the really early examples suggest a more complicated picture. The Trinil engravings, for instance, are associated with *Homo erectus* fossils.

Conclusion

To be clear, with some notable exceptions, archeological signs of modernity tend to postdate 300,000 years ago, at least when using a fairly strict and standard model of what “symbolic” means. If we take a broader view, using a more encompassing model of what makes us human and taking examples such as the Trinil markings as symbols, this can prove problematic since it might make early hominins seem too human. But it can also provide a way to better understand the process of human evolution. The suggestion that a single genetic change is the main cause of behavioral modernity is untenable for a number of reasons, not the least of which is that there is no gene for behavioral modernity. Even a suite of genetic changes is unable to explain the behavioral shifts behind the origins of modern human behavior, as these are the result of a complex interplay between various evolutionary forces and inheritance systems.[68] A way around this problem is to talk about sinsigns and legisigns. Until

100,000 years ago, it is difficult to see any good evidence of legisigns in the archeological record. But we see plenty of one-off sinsigns that seem to indicate a degree of symbolic thought (though once again this is difficult to prove). Perhaps the uptick in legisigns around this time is due not to the emergence of a new species but rather to interactions between human populations. Morphological traits of Middle Pleistocene hominins are consistent with hybridization between taxa.[69] Changes in demography also played a critical role in both the presence of archeological cultures and their survivorship in the fossil and archeological record.[70]

The necessarily complex answer no doubt entails not just the use of anthropological data, but the incorporation of theories and methodologies from fields such as neuroscience, information theory, semiotics, innovation theory, and genomics. Kim Sterelny's Apprentice Theory[71] and Michael Tomasello's Joint and Collective Intentionality[72] models can provide insight into this time period, though these models have yet to be applied directly to the question of modern human origins. An evolutionary approach to human wisdom can incorporate all these models. We tend to think of major transitions rather than slow, gradual change over time. Instead of privileging the symbolic we can emphasize the humanness of these behaviors. Human evolution is not a tree but rather a braided stream.[73] So maybe wisdom stands a chance in the anthropological literature. We can then center questions not on what these objects meant to early humans, but on *how* they were able to mean something, through the application of Peircean semiotics. This ability to create objects that not only have meaning, but are created with the intent to produce a specific meaning/response in the mind of another person, is a critical part of human behavior.

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PART III.

WISDOM AND THE MIND

CHAPTER 7.

DE-CENTERING HUMANS WITHIN COGNITIVE SYSTEMS

MARCUS BAYNES-ROCK

In this chapter I draw on several theoretical positions and the experience of one human and three canids to argue that human cognition is embedded in relations with the more-than-human world. As Tim Ingold argues, this is wisdom evolving in the minor key, a consequence of mind as a process, as a nexus of unfolding relations. Ingold's dwelling perspective is of note because it demonstrates how traditional dualist conceptions of cognition are not only minorly flawed, but do not reflect the way cognition actually works.[1] Ingold synthesizes the work of Gregory Bateson, Gilles Deleuze, and Félix Guattari with ethnographic material to argue that the mind cannot be considered a separate realm from that which we inhabit physically. Contrary to the intuitions of Enlightenment philosophy, we do not collect perceptions of the physical world and send them off as sensory data to be processed by a separate "mind." Indeed, there is no evidence whatsoever of a central processing unit in our brains that could be called "mind" and certainly the dualist conception of mind as non-physical is equally tenuous.[2] Instead, Ingold argues that "mind" unfolds as we move through physical worlds: "Mind [then] is not added on to life but is immanent in the intentional engagement, in perception and action, of living beings with the constituents of their environments." [3]

In line with this approach, cognitive psychologist Neil Kirsh proposes the notion of mind as incorporated into networks of things. Kirsh argues that humans do not sit at the top of systems of cognition, processing information from the world. Rather, humans are bound up in what he calls "distributed cognitive systems," which can include anything from other animals to inanimate objects.[4] In many ways, this resonates with actor-network theory in that humans are conceived of as components of systems in which all the parts affect each other.[5] An example would be two cafés where the cashiers write the names of customers on coffee cups. If one cafe uses plain coffee cups while the other uses cups with an intricate pattern, then we would see a difference in accuracy as the baristas called out the customers' names. This is a cognitive difference, but one in which the particular humans are not central, because we could swap the baristas and get the same result; it is a difference in the characteristics of the coffee cups as components of cognitive systems.[6]

These propositions are in turn supported by results from neuroscience. Sandra and Matthew Blakeslee synthesize numerous findings to show us the neural processes of distributed cognition.[7] One aspect of this is the existence of "body maps." These are created as our brains map our bodies onto perceived physical space. At the most basic level, your brain maps your body to the limits of

your physical extremities such as your fingertips. This explains why we are able to navigate the world without bumping into things too often. But our body maps are quite malleable in that they can extend out into the world to incorporate things that are not otherwise considered parts of our bodies. For example, when we hold tools our body maps extend to incorporate the tools, and when we drive cars our body maps incorporate the physical extent of the cars. There is now interesting work being done with virtual reality where peoples' brains are being tricked into comprehending that they have the bodies of lobsters. Not only are the lobster bodies assimilated into the body map schemata of these people but they actually learn to move their lobster appendages.[8]

Sandra and Matthew Blakeslee also describe the science around "mirror systems." These are neurological mechanisms for mapping our experiences onto parts of the world that are not explicitly connected to our bodies. An example of this would be a football fan watching someone kick a football. The same parts of their brains that show activity when they kick a ball themselves also show activity when they see someone else kicking a ball. Moreover, these parts of the brain are not those that fire in accordance with the muscle movement of kicking or the sensation of the ball hitting the foot. Rather, they are associated with goal-directedness and action. Blakeslee and Blakeslee apply this to trans-species potentialities. Their example is a dog whose ears betray his mental states and intentions.[9] When we see his ears held in a particular way, even though we have immobile ears, we perceive his mental state as though we were experiencing it. These authors argue that the mirror mechanism is responsible for much of what makes humans distinct, in that it facilitates mimesis, empathy, theory of mind, language, and culture.

According to these models, brains are not just processors for sensory information but parts of a system of information gathering by which neurons and sense organs operate with continual feedback, so that our bodies interface with environments to map ourselves onto the physical world. What all of these models have in common is a challenge to dualistic notions that hold the mind to be a constructor of worlds using material information gathered by the body. For Blakeslee and Blakeslee, mind is body is perception is environment. And we must not mistake them for disparate parts because, in terms of cognition, they are a whole. This is the first step toward recognizing that human cognition is not only extra-bodily but that it cuts across species.

Here Paul Keil's ethnographic material on sheepdog trialing is highly informative.[10] Sheepdog trialing is a sport in which dog handlers and dogs must cooperate to guide sheep through obstacle courses and into enclosures. What makes the sport challenging is that handlers cannot directly intervene in guiding sheep but must do so remotely by giving signals to their dogs. Keil's work is groundbreaking in that he conceives of sheepdogs and handlers as a cognitive system. In sheepdog trialing, the human takes an executive role and is aware of the goal of the activity, but the sheepdog micromanages the sheep. Drawing on the work of David Wood and colleagues, Keil calls this "cognitive scaffolding," with one being taking up the cognitive slack in the actions of the other being.[11] Keil also notes how handlers empathize with the sheep while giving instructions to dogs. If they see the sheep unsettled and about to bolt, they will instruct a dog to sit and allow the sheep to calm down. In this way, sheep, dog, and handler constitute the system. This example stands in contrast to the case study I present next, in that the humans involved are key components of the cognitive system in terms of its functioning. My case study comes from my ethnographic fieldwork in the mountains of northern New South Wales where a woman named Angie raises wild-born dingo pups to be rehomed.

It is important to note that dingoes are dissimilar to domestic dogs in many respects. Their semi-

domesticated ancestors were introduced to Australia about four thousand years ago, and since that time dingoes have become established as top predators in Australian ecosystems, as well as being loosely associated with Aboriginal people.[12] Comparative studies have shown that unlike “domestic” dogs, dingoes excel at independent problem-solving. They use their paws more than dogs and have shown innovative tool use in a case where an individual dingo moved a table in order to reach a food reward.[13] Physiologically, dingoes differ in their ability to rotate their paws and heads more than dogs; they also differ in reproductive rates—only having one litter per year. Anecdotally they have been found to be consummate escape artists, difficult to train, and possessors of a strong prey drive.[14] They are also notorious climbers. As such, they make difficult pets, but, for the right human, dingoes can provide a rewarding experience. I will show below how these distinctions from dogs are important to my thesis, because a difference in human cognition can amount to the difference between a dingo and a dog.

The setting for this case study is the mountainous region of northern New South Wales, where Angie lives in a remote corner of the forest with (at the time of my study) her four dingoes and one dingo/dog half-breed. Angie’s dingoes are wild-born rescues that were given to her as pups. She has had many dingoes, most of whom she has socialized and rehomed. She devotes a lot of time and energy to her dingoes, paying particular attention to their socialization and needs with respect to living with humans. Dingoes need constant training reinforcement; hence, they demand a lot from human caregivers, although as Angie will attest, there are no real “problem dingoes, just problem humans.” But dingoes also make demands in terms of managing their position within what they perceive to be a pack including humans, and this is what Angie focuses on.

Angie is a self-proclaimed free spirit, who says that she is attracted to this characteristic of dingoes. While she keeps them indoors at night to prevent them from getting into trouble with the wild dingo packs that live in the forest surrounding her cabin, she lets them out in the daytime and takes them walking in the forest. Angie distinguishes in cognitive terms between walking alone in the forest and walking with dingoes. When she is alone she becomes absorbed in what she calls an “existential state,” reflecting on her own life, her feelings, and her place in the world. But she notices when she’s going “inside her head” and often pauses and reminds herself to be aware of her present time and place, to “smell the smells, feel the air, plug into the universe.” She turns her attention to the bush and its colors, smells, sounds, and to the present experience of being among the trees. However, according to Angie, her awareness when alone is much diminished in comparison to its state when she is with her dingoes.

Angie reports that the forest comes alive when she is with her dingoes. According to her, there is a marked difference between her dingoes and her dingo/dog hybrid when it comes to how at home they are in the forest. While the hybrid is often dependent on Angie for guidance, the dingoes glide across the landscape like flowing water, completely in tune with their surroundings. She constantly watches them at these times: “They keep me there in the present.” On the one hand, this is so she can keep them under a certain degree of control. If they go too far ahead, or if they look like they are going to head in the direction of a neighboring farm, she calls them back to her. But this constant attention to the dingoes opens up a cognitive realm that is beyond what her body alone can experience. A clear example of this is the way her dingoes interact with the scent marks of dingoes from neighboring packs. A tree stump would be innocuous to Angie were she to encounter it on her own, but when her dingoes discover the scents of others on the stump it takes on added meaning. Through attending to the places where dingo packs share boundaries, Angie becomes aware of a realm of territories, pathways, and day-to-day movements that, due to her comparatively limited human olfactory sense,

would otherwise be hidden.[15] When the dingoes encounter snakes and goannas, Angie knows from their body language even though she has not seen the creature they are reacting to. When the dingoes see a goanna, they go into “hunt mode.” They become very alert, but not wary, with their ears pricked forward, and seem poised to pounce. When they see a snake, however, they assume a different disposition. They are equally alert, but their movements become very sharp as if they are ready to jump back in a split second. Angie says that she experiences the same disposition as her dingoes—keen intent or poised readiness. She says that she is never so aware of the forest as when she is with her dingoes, but ironically this is when she pays the least amount of attention to the forest itself. Her attention is focused on the dingoes, and she experiences her environment through them.

Back at the cabin, Angie’s cognitive realm is expanded dramatically again due to the presence of her dingoes. If a vehicle arrives at her home, Angie knows about it in advance because the dingoes give a warning howl as soon as they hear it approaching on the long track leading to her home. In fact, Angie is able to distinguish between different vehicles because the dingoes react differently to the engine noises of strange and familiar vehicles and even distinguish familiar vehicles belonging to different people. Inside her cabin Angie is also cognizant of the movements of the wild dingo packs that live in the surrounding bush. Her dingoes react to the faintest of howls, which Angie cannot hear due to the noise of the TV. She sees her dingoes react and mutes the TV, whereupon she can hear wild dingoes communicating up the valley. During the course of my field research, Angie was trying to recapture two dingo pups who had escaped an enclosure and were due to be relocated to Sydney in two weeks. As part of the recapture process, she was laying food out to lure them. While we were in the cabin discussing her dingoes, one suddenly sat up and gave a howl, at which point Angie knew immediately that one of the pups was near the food. When we went out to check, one of the dingo pups was indeed at the edge of the clearing. Neither of us would have known had the dingo in the cabin not informed us.

In light of this case study, a question emerges: where is the boundary of human cognition and, by extension, human wisdom? Is human cognition really embedded in systems, or is that one way of framing the way human bodies interact with the world? The answer lies in setting aside mind-body dualisms and recognizing that neural networks in our bodies recognize the world in any way they find possible. As such, a brain will incorporate a hand or a tool in hand or a tool in somebody else’s hand into mapping the world, because that is something that constitutes human wisdom. When Angie sees her dingoes raise their hackles and immediately feels their state of aggression, she is not processing sense perceptions in a rational disembodied mind. Rather, she is immersed in an expanded cognitive world that is mediated, not delimited, by her sense perceptions. But even more interesting is that she is not a crucial component of these cognitive systems. The dingoes would still react more or less the same way to snakes, goannas, and scents of other dingoes if Angie were not present. In this way, Angie is embedded in the cognitive system as a passive participant; the human component is de-centered and the subject of analysis becomes the system itself. To speak of human cognition as an expression of wisdom—assuming it is uncontroversial to do so—is to highlight the way in which human wisdom disseminates into, and is sometimes added onto, a very complex world. Rather than an inherited capacity or a combination of genes and learning in the individual, human wisdom is in fact immanent in human relations with a plethora of beings and things. This complicates the entire conception of human wisdom because, as I have demonstrated with respect to cognitive systems, these can function quite well without human involvement even though the emplacement of a human seems to lend them some sort of cognitive cachet. Human wisdom then is difficult to concretize because of its dependence

on relations; it manifests sprite-like through human engagement in cognitive systems and confounds attempts to deconstruct it as a solely human capacity.

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CHAPTER 8.

PRACTICAL WISDOM: GOOD REASONING OR GOOD ACTION?

CRAIG IFFLAND

In this chapter, I advance two theses. First, while attributions of prudence or practical wisdom to some agent presuppose that agent's possession of certain cognitive capacities, to state that an agent's activities presuppose the possession of certain cognitive capacities is not *eo ipso* to say the agent is practically wise or prudent. Second, attributions of prudence or practical wisdom are irreducibly normative, depending on our assessment of the practical reasoning, that is, the justifications and argumentation, that we judge to be the source and explanation of the agent's activities. That is to say, while we may attribute prudence or practical wisdom to an agent by virtue of his or her activities, those attributions presuppose the rectitude of the practical reasoning that is the origin of the teleological structure of those activities.

Following Augustine, Thomas Aquinas defines prudence as cognition of what should be desired and avoided.[1] The definition is normative, presupposing some cognizance of a standard in which one can perceive a certain thing as something that should be desired or avoided. By "standard," I do not mean cognizance of a proposition. When a chimp breaks off a branch, strips it of its leaves, and snaps it in half, she has a formidable tool for hunting a certain kind of prey.[2] I do not know of anyone that would claim this ability is a function of the chimp's thinking about or grasping some normative proposition about tools or hunting. Similarly, pre-linguistic members of the genus *Homo* attained food by scaring away a predator after it had killed its prey. This required some awareness of how to scare predators, coordination among the members of the group in collective scavenging, the effective use of tools to strip the prey of its meat in a short time, and knowing to leave the site before any other predators returned or arrived.[3] Nothing in any of these activities demands that these pre-linguistic humans had the capacity to apprehend some normative proposition about what it would be "good" or "bad" to do. Just as we do not need the chimp to tell us the normative propositions that guided her action in order to be warranted in attributing to her the use of a tool, so too we do not need these pre-linguistic human beings to tell us the normative propositions that guided their actions in order to be warranted in attributing to them the complex cognitive capabilities that are involved in the practice of "passive scavenging." [4]

All this is not to suggest that these abilities are disconnected from a standard about what these animals needed to flourish. All need to eat in order to survive, and if their environment affords them the possibility of prey that can be had by the use of sticks or passive scavenging, the use of sharp

sticks and passive scavenging for food is something each *should* desire. The actions of each group bespeak, at least, the right kind of desire given their specific mode of flourishing, and further, a correct understanding of the possibilities for achieving that desire in their present circumstances. Such acts seem rooted in past experience of the possibilities afforded by their environment and cognition of how a thing can be used to attain something at a distance from their present circumstances. In this, both groups look prudent, or practically wise, in making provisions for some common, future need. Indeed, Aquinas states that prudence is cognition of future things based on what is known about things in the present or past.[5] This does not mean that an action is prudent just because it cannot be adequately explained without positing some cognitive power like memory. Prudence is not a power, but a perfection of a power. For example, for Aquinas, a virtue is not a perfection of one's power to remember, but a perfection of one's power to reason in a practical mode, that is, toward the attainment of some end or good.[6] In other words, Aquinas's view is that prudence, while presupposing some capacity to remember, is nonetheless a perfection of one's capacity for *practical reasoning*. Considered as such, prudence involves the *deliberate justification* of some future action on the basis of some cognition of the past or present, which is an extra step beyond mere cognition of the past or present. In other words, because an agent has the ability to *reason*, it is sensible for us to speak of their actions as prudent or wise.[7] I turn now to a defense of this point.

Manifestations of practical wisdom certainly presuppose complex cognitive capacities, but when we say that someone is "wise" we do not intend to mark out a cognitive capacity. Rather, we are pointing out a praiseworthy trait of the individual's character. Wisdom inspires wonder and we marvel at the cognitive capacities of non-human animals and even pre-linguistic children. Yet we are reticent about marvelling at the exercise of these capacities when they are directed toward manifestly cruel or vicious actions. If our criterion for attributing wisdom is only that the actions of the agent in question exemplify the exercise of cognitive capacities for complex, creative, and even collaborative problem-solving, we will not be able to distinguish between the use of individual or collective cognitive capacities for good or ill. Let me give an example.

Both human beings and non-human animals can express ingenuity, creativity, and problem solving in the various activities that make up their hunt. A seasoned hunter can explain, in detail, the reasoning that went into a successful kill, even the kills of non-human animals. Yet we tremble, rather than marvel, when the hunter's game is another human being, as is the case in Richard Connell's short story *The Most Dangerous Game*.^[8] In that story General Zaroff, an excellent hunter who has grown bored of hunting non-human animals, has taken to hunting shipwrecked sailors who wash ashore on his private island. No amount of ingenuity and creativity in Zaroff's hunting can be a cause for attributing practical wisdom to him. This shows that it is not the ingenuity and creativity of the activities of the hunt that prompts praise or marvel specific to practical wisdom, but rather the goodness or uprightness of the practical reasoning that is the source and explanation of those activities.^[9] Prudence pertains to the right use of certain cognitive capacities and not merely to a behavioral manifestation of those capacities.

Why not say that the hunting of our chimpanzee and the passive scavenging of our pre-linguistic humans are behavioral manifestations of practical reasoning? Neither could be operating on the basis of their apprehension or application of a proposition—since, we presume, they lack the linguistic capacities to formulate such a proposition—but perhaps their actions are evidence enough of their making an *inference* from past experience, *drawing* certain conclusions from some evidence available to them, acting in view of certain *reasons* that serve to explain and justify their activities?^[10] There

is an assumption here, namely that an agent's thoughts, and by extension his or her reasoning, is something hidden or inner.[11] Because reasoning is "in the head" of the reasoner, we cannot come to know what she thought or reasoned without the agent's report (via language) as to the content of those thoughts.

What lies behind this assumption is a deep philosophical confusion about "mind" that the philosopher Ludwig Wittgenstein energetically wished to expel. As he pointed out, *what* I think or thought is not settled by a report of what *happens* or *happened* in my mind or head.[12] One could ask me, "who do you think is the President of the United States of America?" At any moment *after* January 20, 2017, I would say, "I think Donald Trump is the President of the United States of America." This does not mean, however, that at *that* moment, or any other *moment*, the statement "Donald Trump is the President of the United States of America" passed through my head. In fact, I do not remember if this statement has ever passed through my mind or imagination. Nonetheless, the failure to remember in no way precludes the truthfulness of my assertion that, since January 20, 2017, I thought, "Donald Trump is the President of the United States of America," and that, prior to January 20, 2017, I did *not* think, "Donald Trump is the President of the United States of America." What matters is not what I can remember passing through my head at this or that time, but what I would truthfully affirm as giving adequate expression to my thoughts at this or that time. For this reason, it is mistaken for us to assume that we cannot know what a pre-linguistic human or non-human animal thought without their being able to tell us what went on their head at some point of time. After all, there is nothing nonsensical about stating that a chimp *thinks* it can catch prey with a stick, or that a pre-linguistic human *thinks* it can get food by scaring away a predator. The truth of such statements is settled by appeal to the behavior of the chimp and the pre-linguistic human, which behavior gives expression to such thought.[13] Yet, not every kind of thought can be given non-linguistic expression in behavior, or at least, outside of a community that is shaped by various linguistic powers. Our pre-linguistic passive scavengers can think that they can acquire food by scaring away predators, but they cannot think that they are *justified* in depriving the predator of his kill *because*, for example, they are a higher form of life or God's elect. For such a thought cannot be expressed except through mastery of certain linguistic practices whereby we provide warrants and justifications for our actions through the use of "because" clauses in response to challenges or inquiries into our reasons for thinking ourselves justified in doing whatever we did.[14]

In order to settle the question of reasoning as the source of attributions of prudence and practical wisdom, one must ask what behavioral criteria would be required for us to be warranted in saying that some action was the result of an agent's reasoning. Let us suppose we are dealing with a man who is chasing a cat. One may say to him, "you are never going to catch that cat," to which he may respond, "you are right, I thought I could, but I cannot." To which one may reply, "why did you think you could catch the cat?" And the man may say: "because I've done it before" or "because I've been exercising lately." Here the man is providing us with a *justification* for his chasing the cat. In doing so, he is not reporting on some mental state antecedent or concomitant to his action. Nor is he interpreting his action, since an interpretation is only called for when there is some indeterminacy of meaning, and my *reasons* for doing what I did are not at all indeterminate to me. If the "because" clause is truthful—that is, he is not trying to hide his reason for chasing the cat—it is his reason or justification for chasing the cat. In this, the clause reflects his practical reasoning, his reasoning toward some end. Just as it is true that after January 20, 2017, I thought Donald Trump was President of the United States of America even though this proposition never crossed my mind, so too it is true that the

man thought himself justified in chasing the cat on account of his prior experience even though this practical proposition never crossed his mind. The criterion for one's having acted on reasons is one's ability to respond to questions about one's reasons and reasoning.[15] In the case before us, the man's response shows that he thought he needed to weigh his past experience in successfully catching cats against other reasons for not acting (e.g., the general human limitations in catching cats, the fact that the previous cats were much fatter than this cat, etc.).

Now, there may be reasons why a dog should or should not chase a cat. Suppose the cat is fairly fat. Knowledge of this fact could give one a reason for chasing the cat. However, if this fact is to be cited as a *justification* for chasing the cat, it would itself stand in need of some kind of explanation for why it should be taken as a justification in favor of chasing the cat. One knows from prior experience, for example, that fatter cats are easier to catch, and because one knows this fact from prior experience, one takes himself to be justified in chasing *this* cat because it is fat. This chain of reasoning cannot be laid bare to us without an ability of the agent to express his practical reasoning to explain his action. When we say, "the dog is justified in chasing that cat since it is fairly fat," we are expressing our reasoning, not the dog's hidden reasoning. We may say that a dog *thinks* it can catch a fat cat, but not a lean cat, inasmuch as, by its behavior, it shows such discrimination in its chasing of cats. But that one *thinks* or *believes* something does not mean that one *thinks* or *believes* one is justified in acting on the basis of that thought or belief. For I believe that I can catch a fat cat but not a lean cat, but this *belief* does not explain or justify my not chasing cats on the street. Indeed, this belief may play no justificatory role in my chasing cats on the street, as when I chase a lean cat, but not a fat cat, *because* the lean cat belongs to my neighbor.

It is one thing to say, quite sensibly, that a pre-linguistic human or non-human animal has learned how to do such-and-such in view of some goal, even learned that such-and-such is a better way of achieving some goal, since either of these can be given expression in its behavior. It is quite another thing to say, however, that the pre-linguistic animal does X rather than Y *because* it thinks it has *more* reasons or justification for doing X than it does for doing Y. So too, while one's actions may express a kind of know-how rooted in prior experience or training, this is not the same as thinking that one is justified in acting on the basis of its prior experience. A dog shows it knows how to sit by sitting, or to hunt game by tracking its scent, but it is not clear how anything in the dog's behavioral repertoire could count as its showing that it knows how to *justify* its acts. In other words, only language-users can take what they have learned, or prior experience, as a *justification* for taking some course of action but not others. We know this because language-users *do* justify their acts by appeal to their reasons and reasoning when asked or challenged. Of course, the reasoning of others is usually fairly transparent to us, or even uninteresting, and so we do not always need or want to know their reasoning in order to get on with our lives. That doesn't mean that there is no reasoning that can be the subject of our inquiry, however. We see a man in a suit, getting on an early morning train, and we assume that he is taking this train in order to get to work. Yet, unlike a pre-linguistic human, it makes *sense* to ask whether his reasoning in doing so is good or bad. Perhaps the principle or ultimate goal of his acts is to accumulate personal wealth or perhaps it is to serve the common good. Because we can ask him about his ultimate end(s), and because he can respond to these inquires, it is possible for us to make a judgment about whether his actions are evidence of good or bad reasoning, whether the man is practically wise or unwise. Because language-users can offer us their reasoning when asked, it is sensible for us to say that they act on the balance of reasons even when we are not interested in asking them about their reasoning in pursuing or avoiding certain courses of action. It is because human

beings *do* routinely justify their own acts that we can wonder about, guess, or even impute a certain form of justification or practical reasoning even when our interlocutor is not in a position to reveal his justifications—perhaps he is a character in a play or a politician who wants to hide his reasoning from public view. This imputation rests, however, not on an *inference* about what might be going on in his head, but rather on the presumed *ability* of the agent to be guided by reasons and to use these reasons as justifications and explanations of his own acts.

We now come to the end. I've argued that attributions of practical wisdom are not warranted by a mere exhibition of an agent's ingenuity in achieving some end, but rather by the good practical reasoning that is the source of that ingenuity. The attribution presupposes that the "wise" person is one whose reasoning is transparent to us or can be rendered so by her ability to offer justifications and explanations of her acts.[16] What sets a particular action apart as exemplifying practical wisdom is not so much what was done but the good reasoning with which it was done. It makes sense to speak of someone as practically wise when she has the ability to lay out her reasoning to us, rendering it transparent and teachable. As Aquinas says in the prologue to his commentary on Aristotle's *Metaphysics*, it pertains to the wise person to direct others because it is characteristic of wisdom to put everything in order.[17] Practical wisdom in human beings pertains to an ability to put things in their proper order in accordance with the good specific to human beings (i.e., a life lived in accord with the virtues of temperance, fortitude, and justice). The depth of human wisdom follows upon our ability to put things into their proper order by deliberating well and by explaining and justifying this ordering to others and ourselves by laying our reasoning bare for all to see. When we converse with the person who truly possesses practical wisdom, we uncover not only the order of reasoning that led her to perform some creative or ingenious act, but also the order of reasoning that animates her entire life. This is why we consult a "wise person," not just a wise mechanic. For the former, but not necessarily the latter, is purported to have a command over the ebb and flow of a well-lived human life that flows from her good reasoning about the ordering between the various competing goods that make up such a life. We seek the wise person for her counsel, her deliberation. The wisdom of the "wise person" is manifest more in her *reasoning* than in her *actions*. This is why we are not as likely to attribute wisdom to a good footballer as we are to a good friend, parent, or leader.

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[1] Thomas Aquinas, *Summa Theologica* translated by the Fathers of the English Dominican Province (New York: Benzinger Brothers, 1947), II-II 47.1 (hereafter *ST*). It is true that Aquinas speaks specifically of foresight in this connection. Yet, as I explain below, Aquinas does not mean *mere* foresight, but the use of a reasoned, justificatory inference from what has come before to what one should expect to come next.

[2] The example is taken from Agustín Fuentes, *The Creative Spark: How Imagination Made Humans Exceptional* (New York: Dutton, 2017), 75–6.

[3] *Ibid.*, 71.

[4] *Ibid.*

[5] ST II-II 47.1, 49.1 *ad* 3.

[6] ST II-II 47.2, 47.4. For Aquinas's understanding of prudence's relation to the power of memory, see ST II-II 47.3 *ad* 3 and II-II 47.16 *ad* 2.

[7] In order to avoid certain misunderstandings, I should make it clear that I do not mean to suggest that one's sense powers and appetites, including the passions, have no role to play in the development of practical wisdom. As Aquinas himself explains, the virtue of prudence does not establish the ends of virtue, but only the means thereto (ST II-II 47.6). It is the operation of other virtues, including those that are perfective of the concupiscible and irascible appetites shared in common with non-human animals, which establish these ends. Correctly understood, the operation of prudence *as a virtue* depends, in part, on the perfection of powers of the soul other than the intellect or will. As a result, I see no reason to deny that the evolution of human wisdom could be a piecemeal process in the sense that the development of the varied sense powers and appetites, even prior to the development of linguistic capacities necessary for practical reasoning, informs (and to a certain extent guides) the very exercise of practical wisdom in human beings. For a good discussion of the importance of the role of the passions in human action, see Jean Porter, *Justice as a Virtue: A Thomistic Perspective* (Grand Rapids, MI: Eerdmans, 2016), 187–203.

[8] Richard Edward Connell, *The Most Dangerous Game* (Rockville, MD: TARK Classic Fiction, 2008).

[9] Just as we engage in a form of teleological re-description of certain forms of pre-linguistic animal behavior by connecting an animal's past experience or training to what it does here and now, so too we engage in a form of teleological re-description of our own activities by affirming a chain of justifications that explain our present activities. For a landmark discussion of this point, see G.E.M. Anscombe, *Intention*, 2nd edition (Cambridge, MA: Harvard University Press, 2000), 37–47 and 83–9.

[10] I will leave it to the anthropologists and scientists to opine as to whether attributing such *inner* "reasoning" to animals or pre-linguistic humans is necessary in order to explain the capacities in question, but I want to challenge the assumptions about "mind" that animate this question.

[11] To begin with, I do not think practical reasoning involves being made to act by some thought about a proposition. The murderer can think "Thou shall not kill is a command of God" throughout the murder of his victim.

[12] Ludwig Wittgenstein, *Philosophische Untersuchungen/Philosophical Investigations*, translated by G.E.M. Anscombe, P.M.S. Hacker, and Joachim Schulte, revised 4th edition (Malden, MA: Wiley-Blackwell, 2009), 232–234 [PPF §316–322].

[13] As Peter Hacker has observed, "the limits of what a being can intelligibly be said to think are the limits of its possible behavioral expression of thinking" (*The Intellectual Powers: A Study of Human Nature* [Chichester, UK: Wiley-Blackwell, 2013], 392).

[14] *Ibid.*, 394. Of course, this does not mean that mastery of the concept of a "cause" is in no way connected to our sense powers. It does mean that we cannot master its *use* without language.

[15] *Ibid.*

[16] Although I cannot defend the point here, I am aware that my position here implies that "practical wisdom," properly so-called, cannot be attained by pre-linguistic human beings. That is not to suggest we cannot speak of "wisdom" in early hominids or non-human animals, but only that the virtue of practical wisdom, or prudence, presupposes a *capacity for practical reasoning* that is given expression through the use of language.

[17] Thomas Aquinas, *Commentary on Aristotle's Metaphysics*, translated by John Patrick Rowan (Notre Dame, IN: Dumb Ox Books, 1995), Prologue.

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CHAPTER 9.

CONCEPTS OF REASON AND WISDOM

MAUREEN JUNKER-KENNY

The pursuit of enquiries into the origins and the development of significant traits of conscious life already testifies to the human capacity for asking questions that go beyond individual impressions and experiences in the everyday lifeworld. The question of origins implies the ability to reflect not simply on what is given as concrete empirical entities, but to conceive of the cosmos in its totality. This ability to take a position which is at a distance from immediate needs points to a faculty that can only be accessed indirectly as a condition for features that are observable, while open to different interpretations. “Freedom,” “reason,” and “wisdom” belong to these self-descriptions; comparing their understanding in different schools of ethics that agree on the term “*animal rationale*” for humans will offer some insights into how a feature that can be investigated as a natural factor in an evolutionary perspective is articulated and shaped within normative frameworks. The elaboration of these traditions can be traced back to historical circumstances and locations, such as Athens, Jerusalem, and Rome, including their interaction and transformations as well as their trajectories into modernity; proposals that emerged in antiquity are still being debated as current possibilities for orientations in thinking. I will begin my comparison with an assessment of the role of philosophy regarding individual human sciences like anthropology, ethology, archeology, philology, or genetics (I.1). Having clarified that the distinct method of philosophy is based on self-reflection, I will then outline Paul Ricœur’s combination of two traditions of thinking on practical reason and wisdom, namely, those stemming from Aristotle and Immanuel Kant. Ricœur re-envisages these traditions as two levels of ethics leading to a third stage, judgment, titled “practical wisdom” (I.2). The second part of this chapter will contrast two views of language as a distinctive capability that makes us human in relation to its potential both for cooperation and evil. I will conclude by outlining the dimensions of a concept of “practical wisdom” that takes modernity’s insights into the constitution of human subjectivity seriously (II).

I. Concepts of Reason in Different Approaches to Philosophy

1. Reason in Philosophy and in the Enquiries of Individual Disciplines

Philosophers, the “friends of wisdom,” enquire into the human faculty of reason in order to give a critical account of the foundations of knowledge and reflected praxis. Since the second half of the

nineteenth century, the role of philosophy in universities has changed due to the rise of the sciences and humanities, which explore distinctive aspects in individual disciplines. A debate on the proper task and method of philosophy has ensued which can be followed in the paradigm changes reflected in proposals about which academic discipline should be guiding the enquiry into what it is to be human: history, sociology, biology, linguistics, or genetics? Which conception of “knowledge” should be leading these research projects? Should the method be exact-empirical, critical-transcendental, or historical-hermeneutical? Is “knowledge” a building site that is open to a plurality of enquiries, or is there a basic approach that strikes the dominant key and turns all other disciplines into contributors to its enterprise? The German philosopher and sociologist Jürgen Habermas proposed what he saw as a middle route between the metaphysical idea of an unchanging *philosophia perennis*, and a positivism that he had already combated with Theodor W. Adorno as the opposite of a critical enquiry. In his presentation at the 1981 Hegel Congress, “Philosophy as stand-in and interpreter,” Habermas conceded that the role of philosophy in a civilization analyzed by individual disciplines has to be adjusted to “interpreter” of the natural and human sciences and “placeholder” for universalist questions; the goal remains, however, to retain the critical and uniting function of reason.[1] This integrating capacity is applied to two tasks: i) the mediation of the expert cultures among each other, and ii) the communicative practices of the lifeworld. It is to “help set in motion the interplay between the cognitive-instrumental, moral-practical, and aesthetic-expressive dimensions that has come to a standstill today like a tangled mobile” to “overcome the isolation of science, morals, and art and their respective expert cultures.”[2]

At the same time, the position that philosophy has a method of its own which is different from investigations in individual disciplines is no longer defended. This is where colleagues in Continental philosophy and theology have elaborated their reasons for disagreeing with this curtailment of the genuine capacity of philosophy. In *Postmetaphysical Thinking II*, published thirty years after his 1981 presentation, Habermas considers it necessary to highlight again the irreplaceable significance of “self-reflection.”[3] This term denotes what Ricœur identified as the specificity of philosophy against the reductionisms he feared as much as Habermas. In Ricœur’s *Lectures on Ideology and Utopia*, the capacity for self-reflection is the antidote to ideologically enclosed pursuits. He distinguishes two factors, namely, the internal human capacity and the variety of its historical articulations: “Self-reflection has both an ahistorical factor, what I have called its transcendental component, and a cultural component, a history.”[4] The status of reflexivity is also one of the lines of division with other philosophical colleagues. In a 1987 response to Habermas, Dieter Henrich defended it as a capacity that is as original as intersubjectivity, and the key marker against attempts to naturalize pursuits that point to human freedom.[5] The debate on the “transcendental” method enquiring into the conditions of the possibility of human performances cannot be pursued here any further, but the term “self-reflection,” used by Habermas in his earlier critique of the German philosopher Hans-Georg Gadamer, points to a specificity of human consciousness that can only be disclosed indirectly and that consists in going behind empirically observable features.

2. “Practical Wisdom” as the Third Stage in Ricœur’s Combination of Aristotle’s and Kant’s Approaches to Ethics

Ricœur can understand the two approaches to ethics, one orientated towards *eudaimonia*, the other towards principled autonomy, not as alternatives but as two stages, because for him Aristotle’s highest

virtue of justice is compatible with Kant's definition of morality as "good will." [6] His interpretation of the flourishing life as striving to "live well, with and for others, in just institutions" [7] takes elements of Aristotle's *polis*-centered approach in a universalist direction. The key reason to begin with an ethics of striving, rather than with the steep entry of the "ought" encountered in deontological ethics, is that the wish to live in just institutions arises from the same level of morality as do the desire for personal fulfilment and the reciprocity of friendship. The just is first an object of desire, of a lack, of a wish. It begins as a wish before it is an imperative. [8]

The second stage of this ethics, necessary in view of the human penchant for evil or "power over," portrays deontology as the "sieve of the norm:" "it is owing to the wrong that one person inflicts on another that the moral judgment...has to add the predicate of the obligatory to that of the good, usually under the negative figure of what is prohibited." [9] The "sieve" filters out maxims that do not meet the prohibition to instrumentalize the other for the agent's own benefit. It is needed since humans not only lack insight, but can have evil intentions as well. Ricœur devises a third stage, titled with the Aristotelian-sounding term "practical wisdom," bringing together level 1, the original striving to live well, with level 2, the moral ought, in judgements on concrete situations. This stage of finding equitable solutions for the persons and goods in question requires "imagination." The task is to mediate between step 2, the "exceptionless universality" of the Kantian moral law, and step 1, the "perspectivism of personal singularity" [10] of the values and priorities chosen in the Aristotelian striving for a flourishing life.

How can the general rule of level 2, the categorical imperative of unconditional respect for the other which extends to all with the same validity, and level 1, the individual in her uniqueness, be encompassed at the same time? In the following characterization, it becomes clear that Kant's *Critique of Judgment* is the key reference text: the "invention of an appropriate solution to the unique situation stems from what, since Kant, we have called the productive imagination, in order to distinguish it from the merely reproductive imagination." [11] "Practical wisdom" as defined by Ricœur cannot be identified with the given cultural value systems which offer a general communitarian standard. While Ricœur relates imagination to the symbolic resources available, among them religious narratives and hopes, he points to the thoroughly innovative character of the conclusion represented by the term "conviction": it rests on individual conscience and is geared towards protecting the singularity of the other. He is careful, however, to distinguish this regard from "arbitrariness" or "decisionism" without criteria that is in "complicity" with the "rigidity" of exceptionless universality: [12]

Practical wisdom consists in inventing conduct that will best satisfy the exception required by solicitude, by betraying the rule to the smallest extent possible.... Practical wisdom consists here in inventing just behavior suited to the singular nature of the case. [13]

Highlighting the role of conscience and personal decision, Ricœur proposes an understanding of "conviction" that is the result of "productive imagination" in the face of conflicting claims, not a verdict made once and for all and unmovable.

3. Language as the Origin of Distinctively Human Cooperation, or as the Capacity for Distance from Given and Immediate Contexts?

No matter which unifying concept is used, "reason" in the sense of *Vernunft*, not of purposive rationality (*Verstand*), or "wisdom," or "freedom," the status of these key interpretive terms remains unprovable and endlessly contestable. On the other hand, concepts like these are necessary for at least two reasons. First, a heuristic term is needed for gathering evidence for or against any interpretation

of what can count as “human.” Second, without a normative self-understanding communities and societies would lack any symbolic integration, be it membership in a *polis* aware of the paradox of submitting oneself freely to governance; the shared historical foundation of an empire (for example, Rome, *ex urbe condita*);[14] or a territory-transcending cooperation in delegitimizing war and injustice contained in the vision of all the nations worshipping the one God who created the world and them (Isaiah 56 and 66). Unity of perspective is implied in agency, if this term is to denote more than behavior, namely, a conscious initiative or response to life’s conditions and to others in their unpredictable overtures and reactions. If “wisdom” is selected as the guiding term, it will require further specification as to the basic model of ethics chosen to elucidate it. All such definitions of a core, basis, or essence of a phenomenon imply two operations: outlining the circumference of the entity in question—a specific religion, a school of philosophy, an era—through historical research, and identifying its unifying core through conceptual work.[15] Enquiries into the specificity of humanity as such, as distinct from a culture or an era, draw the largest possible circle.

The endowment of language which will feature in any account of this scope, however, has given rise to quite opposite evaluations. Habermas establishes language as the overlooked enabling ground of cooperation. In the third phase of the Frankfurt School, after the second phase of the *Dialectics of Enlightenment* marked by the Holocaust and the Second World War, he sought to reconnect with the first, interdisciplinary phase of Critical Theory. Max Horkheimer, Theodor W. Adorno, Erich Fromm, Walter Benjamin, and others had engaged in developing an analysis of modern society by relating Karl Marx to Sigmund Freud, highlighting the need to include the context of origin and the context of use of theories. Habermas continues this critical enquiry into reason which he sees as embodied in language, providing the basis for a communicative rationality:

The human interest in autonomy and responsibility (*Mündigkeit*) is not mere fancy, for it can be apprehended *a priori*. What raises us out of nature is the only thing whose nature we can know: *language*. Through its structure, autonomy and responsibility are posited for us. Our first sentence expresses unequivocally the intention of universal and unconstrained consensus.[16]

The experiments and conclusions Michael Tomasello has drawn in *A Natural History of Human Morality* can be seen as empirical validation for this thesis, although the debate on joint intentionality in non-linguistic animals goes on:

The cooperative rationality we are positing here is the ultimate source of the human sense of “ought.” Early human cooperative rationality expands human pro-attitudes to include the welfare of others...and it focuses on the individual decision-making in the context of a joint agent, “we,” formed by a joint commitment. These new elements... created a socially normative sense of “ought”...a new social order, based on processes of joint intentionality and second-person agency—in which it made sense to act morally.[17]

By contrast, a different guiding idea than stated by Habermas in 1965 for the evaluation of language as an evolutionary game-changer can be found in the French philosopher Marcel Hénaff’s linking of cruelty as a specifically human trait to language with its capacity to establish a distance to the immediately surrounding world. In a text written for a recent *Societas Ethica* conference, he points out what is missing in biological and ethological approaches:

the fact that humans are a symbolic species, an animal endowed with language, which changes everything in prodigious ways; this fact opens a new world of problems. Language gives rise to a new order: the order of thought; thus arise a distance and a power of the virtual that completely change our relationship to the world and above all to other humans. Contrary to what could have been expected, this extraordinary increase

in cognitive abilities does not decrease the violence that haunts our species; it merely alters and above all complexifies it; it supplies it with unprecedented resources and gives it access to forms of expression found in no other animal species. This specificity can be summarized with one word: cruelty.[18]

One could add to Hénaff's analysis by drawing on the nineteenth-century religious thinker Søren Kierkegaard's interpretation of the human as a being that is conscious of its utter facticity, the completely unnecessary status of its existence. In its anxiety and attempts to ground itself, human freedom is marked by despair: inauthentic at the aesthetic level, authentic at the level of ethical choice of either despairingly wanting to be itself or despairingly not wanting to be itself. For Kierkegaard, in view of a human existence that is torn between finite choices and infinite possibilities, the only resolution to be found where "despair is completely eradicated" is when "the self is grounded transparently in the power that established it," namely, God.[19] In Hénaff's analysis, the only remedy available to stop the cycle of human cruelty is "forgiveness."

Enquiries both into human origins and the development of wisdom, as articulated in different systems of ethics, encounter the abysses of finite freedom. For Ricoeur, the question of whether one can forgive belongs exactly to practical wisdom in its mediating capacity between valid universal rule and singularity. When a perpetrator has violated the prohibition of violence and instrumentalization, the victim can choose whether to "untie" the agent from her act, restoring her to a new original agency by distinguishing the self from the actualizations of its freedom: "You are worth more than your acts." [20] The outcome of practical wisdom is not a foregone conclusion, however; it is an act of freedom based on a judgment that can avail of the symbolic worlds of the agents with their narratives, visions, and reservoir of sources of meaning which allow their imagination to find an inventive response to a situation of conflict. It is the faculty of judgment (*Urteilkraft*) that makes it clear why morality is not a game of rules but requires imagination.[21]

This understanding of practical wisdom differs from the emphasis on "community," "dispositions," and "character" typical for current versions of virtue ethics. A principled restriction to a community of shared values would make it an insiders' ethic [22] unable to rise to the universalist scope of both biblical monotheism and deontological understandings of morality as the capacity for goodwill in every human. Some versions tend to take mere habits as expressions of ethical conduct.[23] The focus on "character" reduces the moral self to the "idem" aspect of natural continuity, while failing to account for the "ipse" aspect of willing to live "with and for others in just institutions." [24] The lack of a theory of self that is based on an analysis of human subjectivity is evident both in contractual theories of justice and an Aristotelian account of the "good," despite the merits of practical reasoning it supplies regarding orders of priority. In view of the daunting infinity of options of an unsecured self which is conscious of its temporal finitude, a "practical wisdom" that has its origin in the human will, not in the cognitive insight privileged by Greek approaches to ethics, can resolve to reject evil and extend the forgiveness that Hénaff sees as the key response available to humans:

the infinity of possibilities and representations language opens up for us, indexed on the violence and energy present in our species, has radically transformed emotional bonds and turned impulses into a desire as immense as the worlds born of thought; but at the same time as those emotions of attachment and love, emotions of rejection and hatred are also caught in the power of the infinite. Against this evil no ritual or law can stand. Faced with this hatred that sometimes inhabits and grasps us, there is only one possible answer: the decision to reject it. This is the power to start over, which we call forgiveness. It is probably the only radical answer to radical evil.[25]

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CHAPTER 10.

WISDOM AND FREEDOM AS REASON - SENSITIVE ACTION CONTROL

AKU VISALA

Given the fact that philosophers are, by definition, lovers of wisdom, it is surprising that there is no philosophical consensus on what wisdom is. Socrates could be deemed wise because he acknowledged the limits of his knowledge. This implies that wisdom could be seen as a form of epistemic and moral humility. One is wise when one realistically assesses the limits of one's knowledge. On the other hand, one could see Socrates as having access to a specific kind of knowledge—moral knowledge. According to Aristotle, for instance, young people can be intelligent but not really wise. This is because wisdom is a form of knowledge, *phronesis*, that pertains to how one should live. The wise in the ways of practical wisdom are people who know what is good and how to achieve it, and are able to live by it in the varying circumstances of life. In this sense, wisdom is a virtue, a habituated set of practices and behaviors that enable one to live a good life.[1] This Aristotelian idea of wisdom as a virtue combining experience, understanding, and right emotions has had a significant role in the theological tradition of the West. Most notably, Thomas Aquinas thought that wisdom, *prudentia*, meant understanding the proper aims and goals of human life and the ability to live accordingly. Wisdom “is of good counsel about matters regarding [a person's] entire life, and the end of human life.”[2]

In this chapter, I will attempt to develop this Aristotelian/Thomistic notion of wisdom further. Specifically, I am interested in the ways wisdom might require a certain kind of psychological freedom. Both free will and wisdom seem to depend on reason-sensitive action control on the basis of shared reasoning. I will begin by exploring “wisdom” as developed by the philosopher Alasdair MacIntyre, who identifies three major prerequisites for developing wisdom: the individual must be informed and guided by a virtuous community; she must also have the capacities for reason and self-governance. After examining these three factors, I discuss recent work in the cognitive sciences that might give some evolutionary and cognitive depth for such a view.

Wisdom and Freedom: Reason-Guided Self-Control

MacIntyre has put forward an account of human moral life that is sensitive to vulnerability, dependence, and our connections to other forms of biological life.[3] For MacIntyre, humans are biological organisms, like all animals, but nevertheless possess certain unique features. One of these features is the possibility to become what MacIntyre calls an *independent practical reasoner*. I take it that

excellence in independent practical reasoning constitutes the *phronesis* and *prudentia* that Aristotle and Thomas discuss. It is worth quoting MacIntyre at length:

What we need from others, if we are not only to exercise our initial animal capacities, but also to develop the capacities of independent practical reasoners, are those relationships necessary for fostering the ability to evaluate, modify, or reject our own practical judgments, to ask, that is, whether what we take to be good reasons for action really are sufficiently good reasons, *and* the ability to imagine realistically alternative possible futures, so as to be able to make rational choices between them, *and* the ability to stand back from our desires, so as to be able to enquire rationally what the pursuit of our good here and now requires and how our desires must be directed and, if necessary, reeducated, if we are to attain it.[4]

Here we see three requirements for developing excellence in practical reasoning. First, the individual is always part of a community. Constant interaction between the community and the individual is crucial because the individual can thereby learn to calibrate (“evaluate, modify, or reject”) her practical judgments against the standards of others. The community not only provides education and training, but functions as the source of one’s views of the good and models of good life. In this sense, there is no moral development without a moral community.

Second, the individual must develop a number of capacities that fall under the category of *reason*. The individual must be able to identify and understand the norms, ideas, and roles the community shares. Without this ability to recognize what others take as good reasons and good life, there could be no moral development. In addition, the individual must develop the ability to represent and evaluate alternative future scenarios to enable planning and goal-oriented behavior.

Third, and perhaps most important, is the ability to “redirect and re-educate” or to “stand back from” our desires. This “standing back” cannot be achieved by simply understanding good reasoning. It requires self-control and the ability to adjudicate how one’s actions develop in time. For MacIntyre our actions, like those of other animals, occur mainly because of our natural desires. These include biological desires for sustenance and health as well as social and moral desires like recognition, friendship, respect, and love. In addition, humans have a peculiar capacity to exert control over their desires, thereby controlling, at least to some extent, the sources of their own actions. In other words, they can choose to act upon one desire instead of another. Or they can choose, based on rational considerations, to inhibit their short-term desires for some long-term benefit. By exerting self-control or self-governance, the agent can have a certain amount of control over her desires. This is what philosopher John Searle calls the Gap.[5] The Gap is the place between desires and beliefs, on the one hand, and action, on the other. The Gap is where the conscious self operates: it assesses different reasons for actions, evaluates desires, and ultimately decides which reasons and desires the agent acts upon.

Now we can ask whether any of the above has any connection to free will and responsibility. I submit that the connection is this: free actions are products of an agent’s practical reasoning. What makes human beings free and responsible is their ability to practice their capacity for reason-based action.[6] In the philosophical literature on free will and responsibility, theories that identify free will with *reason-responsiveness* are quite popular. The basic idea of these theories is rather simple: what constitutes free and responsible action is that the agent is acting on the basis of practical rational considerations without internal or external compulsion. One of the most popular reason-responsive theories has been put forward by philosophers John Martin Fischer and Mark Ravizza.[7] In this account, the agent is responsible for her actions when her actions are under her control. Control is analyzed in terms of psychological mechanisms: the mechanisms that produce free actions have to

be reason-sensitive in a specific way. It is this sensitivity that distinguishes responsible actions from mere reactions and compulsive or otherwise obsessive behaviors.

Culture Is Our Survival Strategy

In the previous section, I have provided a brief outline of wisdom as *phronesis* and suggested how it connects with free will. I will now suggest that both evolutionary and cognitive considerations not only support this account of wisdom and freedom, but give it much-needed richness and depth. Whatever else we are, we are an evolved species. I also take it as a given that culture has played an integral role in human evolution. Putting aside the question whether non-human animals have culture, we can say that humans are the only species for whom hypersociality through culture has become the first and foremost survival strategy. Humans are characterized by their immense capacity to learn and transmit the results to adjust their beliefs, behaviors, and practices accordingly. This ability to learn and create cultural environments has fed back into our biological evolution itself so that it is appropriate to call humans the *biocultural species*.^[8] One prerequisite for being such a species is a form of flexible behavior that is sensitive to the social and cultural environment. Given the enormous plurality and variety in the evolution of cognition literature, I have decided to focus mainly on psychologist Roy Baumeister, because his work provides an elegant picture of moral agency that is psychologically and biologically plausible. Baumeister begins from the fact that human behavior seems to exhibit certain features that non-human animals are seldom capable of. He writes:

We assume that something about the way humans choose and act is different from what other animals do. Humans' greater flexibility and deliberate contemplation of alternatives make their behavior arguably freer than the more rigid and short-term decision styles of other animals. This is the reality behind the idea of free will.^[9]

For Baumeister and his colleagues, humans have a unique ability to learn new information, respond to their physical and social environment, and adjust their behavior accordingly. At its best, this is what Baumeister refers to as *responsible autonomy*: autonomous agents are capable of taking into account social, moral, and legal expectations, norms and prescriptions, and take responsibility for them by providing publicly acceptable reasons or justifications for their actions. I take it that Baumeister's responsible autonomy is either close or identical to MacIntyre's independent practical reasoning. Responsible autonomy comes with a species-unique cognitive system for cultural living. First, responsible autonomy only makes sense in a community of individuals where shared norms and behaviors exist. In other words, responsible autonomy is, as MacIntyre points out, a communal product. Baumeister goes on to say that an individual organism would have no use for free will without a community. Second, responsible autonomy includes the cognitive ability to identify and acknowledge reasons for action, shared norms, and expectations that come from moral and legal considerations. One also needs a set of cognitive capacities that allow for the imaginative creation and assessment of alternative future scenarios and counterfactual scenarios. Without such capacities, it would be impossible to create and execute the long-term planning crucial for the survival of both individuals and the group. Finally, and most crucially, individuals must develop an ability to control their actions and regulate their desires and emotions.

In Baumeister's view, the evolution of these cognitive capacities has made humans uniquely capable of cultural life. Given the fact that hypersociality and culture are successful strategies for survival, we should assume that such cognitive mechanisms emerged via natural selection as successful

adaptations at a time when human groups started growing in size and social structure became increasingly complex. Next, I will briefly look at some components of Baumeister's view.

Self-Governance and Action Control

I will begin with "action control," which is essentially the ability of the conscious self to work in Searle's Gap. As already noted, Baumeister thinks that human behavior is uniquely flexible and variable. This is possible because human actions do not simply spring automatically from beliefs and desires. Instead, a form of executive control governs at least some of our actions. The extent of this control is a disputed matter. Some scholars, like psychologist Daniel Wegner, think that the conscious self has no executive control over behavior; every action is ultimately caused by mechanisms outside conscious control.[10] Fortunately, there are good reasons to reject this pessimistic view of executive control. Although we have good evidence that our cognitive systems function more independently and automatically than previously thought, we do *not* have good reasons to think that executive control of the conscious kind is a complete illusion.[11] Baumeister agrees:

Free will in the sense of self-control and rational, intelligent choice comprises an important set of psychological phenomena and is plausible in terms of the evolution and construction of the human psyche. Quite likely human conscious processing emerged as a way to facilitate this new form of action control.[12]

Conscious executive control is like a supervisor of a large collection of sub-systems, akin to a chief engineer who oversees a ship's large engine room. It oftentimes does not initiate actions directly but it can, in the long run, shape and rework the sub-systems and influence how they react in different circumstances. One of Baumeister's main findings has been that executive control of actions is somewhat limited and its functioning is related to other conscious cognitive systems. His work on the ego depletion effect has made an impact on public consciousness. The main idea is that exerting conscious action control draws upon a limited resource.[13] The lack of that resource will, in turn, impair a variety of different cognitive processes. In a number of experiments, for instance, Baumeister and others noted that making demanding choices seemed to impair the subsequent self-control of the subjects. Immediately after facing moral dilemmas, the subjects would succumb to temptation more easily. Furthermore, when subjects were put in situations where they had to exert self-control and resist temptation, they resorted to poor decision-making strategies afterwards. Their decision-making strategies were more passive, they more often than not maintained the status quo, and they exhibited a greater than usual number of biases.[14]

Baumeister also found an interesting link between other cognitive functions and ego depletion. When self-control was strained, automatic cognitive processing tended to remain unaffected: forming new memories and retrieving old ones, which are mostly automatic processes, were not impaired. However, tasks requiring conscious processing, such as drawing logical inferences, were indeed impaired. In my view, this result highlights the connection between rationality and free action. Furthermore, after difficult tasks of self-control, the subjects also exhibited lack of creativity and initiative. When the subject's ego was depleted, she tended to be more passive and beginning new tasks was more difficult. Similarly, creativity turned out to be more difficult after demanding tasks of decision-making and self-control.

Reason: Prediction and Justification

Baumeister and others have recently highlighted the fact that cognitive scientists and psychologists

have too often looked at cognitive processing from the point of view of the past. Emotion, memory, and perception, for instance, are often seen as driven by past experiences. Instead, Baumeister wants to argue that most human cognitive functions are future-oriented. As a result, perception is more about anticipating possible future events than about receiving present signals. Memory is more about the construction of future possibilities than about storing representations of past events. Similarly, emotion is more about guiding future actions than about reacting to extant conditions determined by past experiences.[15]

Again, consciousness seems to have a significant role to play in controlling and organizing future-directed intentions and actions. According to Baumeister, conscious processes are crucial for both long-term planning and the formation of distal intentions. These abilities are needed, for example, when individuals must choose between different but incompatible courses of actions. Consciousness seems to make this kind of cognitive operation possible by enabling the running of offline, complex mental simulations. Such simulations also bring a certain amount of coherence to other mental functioning by stimulating, gathering, and integrating information from different sub-systems of the brain.[16]

In addition to imagining future possibilities, reason has another crucial function: recognizing and providing reasons for actions. In addition to Baumeister's work, this idea has been developed in depth recently by evolutionary psychologists Dan Sperber and Hugo Mercier.[17] According to Sperber and Mercier, human reason did not evolve as a general-purpose problem-solving device. Instead, it is mainly an adaptation to social living. Even logical inferences and other forms of abstract and conscious reasoning mainly take place in a social context. They write:

Reason, we argue, has two main functions: that of producing reasons for justifying oneself, and that of producing arguments to convince others. These two functions rely on the same kind of reasons and are closely related.”[18]

The first of these functions is to facilitate the complex and varied social coordination and cooperation that are the hallmark of our species. In and through the ability to recognize and provide good reasons for one's action, individuals learn what to expect from one another. It is precisely this ability to give and take reasons that enables our varied practices of moral responsibility, blame, and praise. The second function is that of argumentation. Argumentation and public reasoning are, for Sperber and Mercier, ways to create and foster trust and enhance communication. We have reason so as to convince and gain the benevolence of those who do not yet trust us. Such a view of reason contrasts strongly with the more traditional view of reason as a generic problem-solving mechanism aimed at finding out the truth in all domains of life. Sperber and Mercier call their alternative model of reason *interactionism* to highlight that human reason is, first and foremost, a form of social competence.

Conclusion

My aim in this chapter has been to explore a view of wisdom, inspired by Alasdair MacIntyre and others, as excellence in practical reasoning. I have suggested that wisdom in this sense requires a certain form of free will, that is, reason-sensitive action control. To make this view of wisdom and its link to freedom more plausible, I have pointed towards some models of reason and self-control in the cognitive sciences. I hope that this cognitive and evolutionary background gives some plausibility and psychological depth to this view of wisdom as practical reasoning. I am painfully aware that developing this view more fully would require much more work (which I will hopefully get to later).

I want to tentatively draw some conclusions from what has been said above. First of all, if Baumeister is correct, an individual can train her ability to control her actions via conscious effort, thereby expanding the set of possible future actions. In other words, one can practice one's action control and become better at it. This conclusion, if correct, points to the psychological reality behind the MacIntyrean account of wisdom: self-control comes about only through experience and practice; one is not born with it. Only after facing many difficult practical decisions and cognitively demanding situations can people begin to develop willpower and self-governance. In time, responses and desires can change, becoming more integrated with consciously adopted norms and values. This, I take it, constitutes the process of acquiring wisdom.

Regarding the mechanisms themselves, it seems to me reason-sensitivity can also be trained and developed, not wholly unlike a virtue. Although Fischer and Ravizza do not discuss this issue directly, their account does suggest that the agent can get better at it with time and experience. Fischer and Ravizza talk about reason-sensitivity as a matter of degree: an agent's psychological mechanisms can be weakly or strongly responsive to reason.[19] This already implies the possibility of developing one's reason-responsivity in some domain of life.

Moreover, Fischer and Ravizza also provide an outline of the historical process through which an agent develops into a moral agent. This process involves the taking of responsibility for one's actions and understanding the psychological mechanisms that are driving them (inclinations, character, and so forth).[20] Again, it seems to me that we could see wisdom as a strong form of "taking responsibility." An agent is wise when she is able to recognize her character, her actions, and their consequences, as well as understanding herself to be accountable for them in front of others. This form of self-knowledge and control does not come about automatically but requires experience and feedback from the moral community.

What emerges from these considerations is a rich and deep picture of the relationship between freedom and wisdom. Most humans come into this world equipped with the cognitive machinery that makes attaining wisdom possible, at least in principle. We all acquire the abilities for some kind of self-governance, future-planning, and reason-sensitivity. Nevertheless, this natural cognitive endowment does not automatically result in wisdom without conscious effort and constant feedback from the moral community itself. Wisdom and freedom are achievements rather than gifts.

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PART IV.

WISDOM IN THE MINOR KEY

CHAPTER 11.

EVOLUTION IN THE MINOR KEY

TIM INGOLD

The Major and the Minor

There are two kinds of science. One of these has long been ascendant in the western tradition. It imagines a world of elementary constituents, particles of matter that interact and combine in ever more complex and diverse configurations to compose the world we know from experience. In this world, solidity is primordial, fluidity derivative, identity and constancy come before difference and variation, movement can be described as the displacement of a body from point to point across the void of space, and complexity can be factored out by way of the quantitative computation of its elements. But the world imagined by the other kind of science is opposite in every way. It is matter-full, not full of matter; its elements are given not as discrete particles but in the plenum of materials. Here the properties of things emerge not as the compound effects of punctuated interactions, but as variations or irregularities in the material flux. The slightest deviation, amplified in its effects, can spin out a cascade of more or less ephemeral forms. Differentiation and heterogeneity, then, are not so much statistical as topological, produced in the folding and crumpling of surfaces and volumes rather than the aggregation and dispersal of particulate substance. Things in this world are not naturally solid; they have to be kept that way and, like eddies in a stream, they will do so only for as long as the flow carries on.

Following Gilles Deleuze and Félix Guattari, I shall call the first kind of science—the one with which we are most familiar—the science of the major.[1] I shall call the second the science of the minor. I shall insist that we cannot have one without the other, that the major always trails the minor like a thing and its shadow, even though the latter is routinely suppressed. This is as true of the sciences of life as it is of physics and chemistry, and as true of the sciences of mind as of those of life. It is with the latter that I am principally concerned here. I want to show that the theory of evolution by variation under natural selection, while almost universally accepted today, is written unequivocally in the major key. As such, it is fundamentally incomplete, shorn of the minor variations that are the essence of life itself. As Alfred North Whitehead observed long ago, there are two ways of apprehending living things: either from the outside, as the embodiments of evolved design, or from the inside, by joining with the generative movement of their growth and formation.[2] To follow the second course is to enter into an evolution in the minor key. But this is as much an evolution of mind

as it is of life, if indeed the two can be distinguished at all. That is where wisdom comes into the picture.

In the major, the mind figures as a suite of cognitive capacities—or more comprehensively as an intelligence—fashioned like the body by the cumulative effects of natural selection. Intelligence, we suppose, is a property of the self. It belongs to the individual and underwrites its ability to interact with others in a way that is both intentional in its objectives and cognizant of the intentions of others. But in the minor, mind is not a property but a process, the infolding and unfolding of a continuum of affective relations. The mind infolded is what I shall call the soul. Wisdom, I shall argue, lies in its unfolding. If intelligence underwrites the power of intentionality, wisdom is about attending to things, both opening up and responding to their presence. Where the self is the seat of intention, the soul is the wellspring of attention. As the self is to the soul, so intelligence is to wisdom, the major to the minor. Wisdom, in short, is not an evolved capacity of mind but the mind evolving in the minor key. To bring wisdom back into our thinking about evolution, then, is not to speculate on the nature and origins of intelligent design. It is rather to recognize that there is another side to the evolutionary process that is about neither intelligence nor design, but about the ongoing generation of being, or in a word, *ontogenesis*.

The Evolution of Life

To begin to unpack this rather condensed formulation, let me return to Whitehead. In *Science and the Modern World*, based on a series of lectures presented in 1925, Whitehead argued that there are two sides to what he called “the machinery involved in the development of nature.” The first, generally going under the rubric of “natural selection” and associated with the name of Darwin, has “a given environment with organisms adapting themselves to it.” The second, “the other side of the evolutionary machinery, the neglected side, is expressed by the word *creativity*.”^[3] What is this creativity to which mainstream science, according to Whitehead, has turned a blind eye? Many biologists, architects of the so-called modern synthesis of Darwinian theory and population genetics, were convinced that variation under natural selection is itself a creative force. One of them was Theodosius Dobzhansky, according to whom selection is the “antichance factor” that would test the genetic variations produced by chance mutation, in countless permutations and combinations, so as to arrive at adaptively coherent patterns. For Dobzhansky, selection is creative precisely because of its capacity not just to weed out deleterious mutations, but to construct such patterns from the building blocks of heredity. This creativity, Dobzhansky thought, bore comparison with the arts of invention, having all the qualities of intelligent design but with the selective figure of antichance substituting for any transcendent or mortal design agent. Indeed, we can regard every new pattern, he declared, “as an artistic embodiment of a new conception of living.”^[4]

A conception of living is one thing, however; life itself is another; and to have constructed a design for a new form of life is not enough to fashion a living being. In an evolution that consisted only in the phylogenetic succession of designs and their modification, *ontogenesis* could be no more than a spin-off, expended within each generation in bringing about the replication of design elements in the next. Life, it seems, falls through the cracks of hereditary variation and recombination. And it was specifically the creativity of the life process itself that Whitehead was after. His inspiration owed much to the philosophy of his French contemporary Henri Bergson. In Bergson’s understanding, there is nothing creative in the rearrangements of elements already known. It would be like shaking a kaleidoscope: every shake reveals a new pattern, but there is nothing in the new not already present in

the old. Similarly, the recombination of hereditary elements—that is, of elements that, *by definition*, are already present at the inauguration of every new life-cycle—is bereft of creative potential. However, there is more to life and growth, Bergson insisted, than the reconfiguration of the known, and it was in this excess that he found the source of creative evolution.[5] It is as if life were ever surpassing itself, giving rise to further life as growth gives rise to further growth. This is the life of *natura naturans*, of nature's becoming, rather than *natura naturata*, the infinite diversity of ready-created forms which so impressed Dobzhansky.

To refer to this process of nature's surpassing itself, Whitehead coined the term "conrescence." [6] *Crescence* means always undergoing creation—growing and developing—rather than that which is already created; the prefix *con-* means "together with, or alongside." Literally, then, conrescence is the condition of *things or beings undergoing creation together with or alongside one another*. This is the condition of living beings, ontogenetically and relationally co-evolving. In order to grasp this evolution, however, it is necessary to imagine the world in a way that is very different from what is commonly assumed in the science of the major. The majority assumption is that a living organism is an object, albeit of great complexity, constructed from simpler elements by means of templates that have themselves been assembled from a basic biochemical vocabulary. This assumption, however, both depends on and in turn reproduces the imagination of a world composed of primordially discrete and enumerable entities. As nature "builds up" from the elementary to the complex, we suppose that it is the mission of science to "drill down," to engineer in reverse what nature has first assembled in order to reveal what are often dubbed the building blocks of life and the principles of their construction. Indeed, the very idea of complexity precipitates its opposite, namely simplicity, with its connotations of singularity of form and homogeneity of substance. Merely to say of an organism that it is complex is to take it for a whole that can, in principle, be analyzed into its simpler parts.

However, there are things, in our experience, that defy such analysis. Is a crumpled piece of paper more complex than its planar equivalent? Do we simplify our clothes by ironing them? Is a river in spate, a stormy sea, or a cloud-ridden sky more complex than the gentle flow, flat calm, or ethereal blue of river, sea, or sky in fair weather? Questions of simplicity and complexity do not arise here because in every case, we do not start with a vacuum filled with matter but with a matter-full plenum, rendered heterogeneous through differential infolding and unfolding. The crumples of paper and crease-lines in fabric emerge as the material is first folded up and then unfolded. Likewise, the river's eddies and ripples can be understood as the folds of its running waters, the foaming waves as folds of the sea, and clouds as folds in the crumpled air-mass of the sky. In every case, the fold is intrinsic to the material: difference, in other words, is brought about from within. It is interstitial. I refer to the process of folding, accordingly, as one of *interstitial differentiation*. [7] What if we were to think of life, too, as such a process? It would be the task of life, then, not to assemble parts into wholes, distinguished by the diverse configurations of their elements, but to draw things out from the primordially undifferentiated flux of potential and hold them there, albeit only for a while, until they dissolve once more. It would be a task, in short, of differentiation, not of construction. [8]

This is precisely how Bergson thought of it. Life in general, in his view, is movement or flow; it is the very substance of time or duration, and of our own existence as temporal beings. We cannot go against it, or resist it entirely, but we can temporarily draw it aside. Every living organism, according to Bergson, comes into being through such a deviation in the flow. You could compare it, as he did, to a whirlwind or to an eddy in the stream. Something—some irregularity of bank or bed—causes

the otherwise evenly running waters to swerve. Amplified and accelerated under its own momentum, the swerve turns in on itself to become a vortex, holding back the waters caught up in it until they are released once again into the mainstream. Thus, while life in general continually advances, along a line that would be perfectly straight were it not for the irregularities in its course, particular manifestations of life lag behind, never stopping the flow but deflecting it into circuits, each of which is a life-cycle. Though we might imagine the life-form to be a relatively stable, self-contained object, with an inside and an outside, Bergson shows us that the appearance is deceptive, for in truth—as he put it—“the very permanence of their form is only the outline of a movement.”[9] Like the eddy in the stream, the living organism is not a container and it has no content. Its topologically convoluted surfaces, which defy any opposition between interior and exterior, are really but folds in the plenary fabric of the ever-worlding world.

The Self and the Soul

Let us now turn from life and the organism to wisdom and the soul. For it is my contention that a parallel argument applies. I aim to show that just as the organism is a vortex in the flow of life, so the soul is a vortex in the flow of awareness or consciousness. In this regard, the soul’s enfoldment of wisdom stands in stark contrast to the intelligence of the self.[10] As wisdom is the shadow of intelligence, so the soul is the shadow of the self. To explain the contrast, we have first to address a confusion that afflicts much anthropological writing on the soul. This concerns the question of what it means to say of the soul that it is an interior property of being, in essence spiritual rather than material or physical. While the historical tendency in the Judeo-Christian tradition has been to narrow the soul to human beings, thanks to their exceptional mirroring of divinity, people of other faiths—or whose practices appear to rest on alternative ontological foundations—are reportedly more generous in crediting some form of inner life to non-human kinds.[11] Most generous of all are people known to anthropology as “animists,” including many indigenous folk around the world in regions as diverse as Amazonia, Southeast Asia, and the circumpolar North. For them, not only are animals and plants of every kind potentially and often multiply endowed with souls, but so also are manifold phenomena that we might think of as inanimate, from hills and mountains to rivers and pools, stones, and even artefacts.

If there is one characteristic of animism that we can all accept, writes Philippe Descola in his magisterial survey of the diverse ways human beings have sought to organize their relations with the world they inhabit, and to render this world intelligible, it is “the attribution by humans to non-humans of an interiority identical to their own.”[12] In this plethora of souls, common to all, beings and things of different kinds are distinguished, according to Descola’s account, by their physical properties. Animals, for example, are distinguished by their bodies, which enable them to operate in the particular ways they do: fish to swim, birds to fly, humans to walk, and so on. Everything has a soul, but everything also has its distinctive way of making its presence physically manifest in the world. Indeed, for Descola, this division between what he calls “interiority” and “physicality” is by no means unique to animism but underwrites all human efforts, whether practical or linguistic, to come to terms with being. For those of us raised in western societies and who consider ourselves to be “modern,” the same division appears in the familiar form of a dichotomy between mind and nature. What is peculiar to animism, distinguishing it—*inter alia*—from the naturalism of the west, is that the attribution of interiority is generalized across the board rather than confined to humans.

Conversely, manifest differences on the plane of physicality are not assimilated in animism, as they are in modernity, to a universalizing concept of nature.

The concept of interiority, however, inevitably begs the question “interior to what?” This, I think, is where Descola goes wrong. In opposing it to physicality, he contrives to set up the interior as a bounded domain, set over against an exterior world. As the occupant of this domain, the soul appears to be contained. From the point of view of its possessor, it is “in here”; the physical world “out there.” Locked up inside its bodily or earthly container, the soul is immobilized. It cannot, then, be animate in itself; it cannot live or breathe. It can exist only as an abstract principle, of which life is no more than an exterior emanation. This is not unlike the way in which modern thought construes the intelligence of the self: as a hidden design agent that resides inside its hard bodily shell and pulls the strings of action. The self thinks, reflects, forms its own theories of what might be out there, or of the thinking of selves equally hidden from direct perception, considers its options and delivers its intentions. It is left to the body to engage in lively intercourse with the world. The mistake that Descola makes, along with legions of anthropological predecessors, is to suppose that the soul of animism is similarly enclosed within its physical housing, thereby insulated from the turbulence of worldly existence. For everything that people credited with an ontology of animism have been telling us points to the contrary.[13]

What they tell us is that the soul is itself the breath of life; that souls are not agencies but movements, that they are sites not of intention but of affectation, that they are not closed but radically open to the world and therefore vulnerable to attack or loss, that they are concentrations of energy and vitality that must ever remain in circulation if life is to carry on. How, then, should we think of the interiority of the soul? The answer, I suggest, is to shift to the minor key and enter into a plenary world of concrescence, where things—to adopt an apt expression from Erin Manning—are not yet settled but ever “edging into form.”[14] Interiority, in such a world, conveys a quality not of containment but of *immanence*. It means participating fully in the relations and processes that continually give rise to forms, rather than taking refuge within the bounds of forms already taken. To participate is to abide in the interstices of the world, in its differential becoming. It is to inhabit a fold in the surface of being wherein, as with the singular surface of a Möbius strip, its twin faces—of interiority and physicality—become one. Far from being *opposed* to physicality, as is the interiority of containment, the interiority of immanence runs into physicality, and physicality into interiority, with no breach of continuity.[15] Apprehended topologically, in the minor key, the world has only one surface, and every soul is borne along in its folds.

Let us return to Bergson’s image of the living organism as a vortex brought about by a swerve or deviation in the current of life. We have noted that the vortex is not a container and it is not contained; it is rather an ever-emerging form of turbulence. The soul, likewise, can be envisaged as a vortex in the stream of consciousness, continually winding and unwinding, infolding and unfolding, in an unceasing circulatory movement. Here’s philosopher Michel Serres, in *The Birth of Physics*, baring his own soul: “I am myself a deviation, and my soul declines, my global body is open, adrift. It slips, irreversibly, on the slope. Who am I? A vortex.”[16] Serres’s soul is not inside his body; on the contrary, it seems that his body is like a ship in a maelstrom, adrift in the vertiginous tumult of his own soul. Only at the eye of the vortex does stillness reign. Like the vortex, the soul arises in a deviation, a transient “falling out of step” with life, as Gilbert Simondon describes the process of ontogenesis—or what he calls individuation—wherein the metastable forms of being emerge from the generative flux of becoming.[17] In this falling out of step also lies the work of memory. Indeed, in a certain sense,

the soul is memory, understood not as a faculty of cognition but as a winding up of the generative forces of life which—like the winding of a spring-loaded clock—both holds out against the passage of time and charges the body with incipient movement. In this charge lies the potential for future transformation.

Wisdom is Ecological

That brings me back, finally, to wisdom. My thesis is that wisdom lies in the transformative potential of the soul. I have four points to make in support of this thesis. The first is that wisdom is quite different from knowledge; indeed, they may operate at cross-purposes. The self, in carving out a place for itself in the world, seeks the safety and security of established positions. Every increment of knowledge adds another stone to the walls with which it shores itself up against the onslaught of physical externality. Thus, knowledge breeds inattention, as the self is driven ever further within a citadel of its own making. The soul, by contrast, is defenseless, and therein lies its wisdom. Whereas knowledge treats the world as its object, for wisdom the world is its milieu. Knowing is about fixing things within the concepts and categories of thought; wisdom unfixes and unsettles. To know is to have things accounted for, explained away, or embedded in context so they no longer trouble us; to be wise is to bring things back into the fullness of presence, to pay attention, and to care. Knowing is rational and intellectual; wisdom relational and affective. Knowledge has its challenges, wisdom has its ways; but where the challenges of knowledge close in on their solutions, the ways of wisdom open out to a process of life. Where knowledge protects, wisdom exposes; where knowledge makes us safe, wisdom makes us vulnerable. Knowledge empowers, wisdom does not. But what wisdom loses in power it gains in existential strength. For while knowledge may hold the world to account, it is wisdom that brings it to life. Knowledge is in the major key, wisdom in the minor.

My second point is that wisdom is fundamentally attentional. It continually draws our awareness out into the world, rather than referring it back to an originating intention in the mind of the subject. For an act to be intentional, according to the psychology of cognition, it must be founded in an evolved capacity to grasp what is “out there” within the frame of received concepts and categories. You first have to know with what or whom you are dealing; only then can you interact with them. In the case of other persons, this means speculating on their mental states, or on what their intentions might be, on the evidence of observed behavior. In short, you have to be in possession of what psychologists call a “theory of mind.” Closure, here, is the default position, from which we are supposed to attribute intentions, motives and standpoints to others. But the soul, as we have seen, is not a sanctuary. It does not aim to theorize about the world, or about other minds, from within the space of its own reflections. Rather, it already mingles with the ebbs and flows of the phenomenal world, even before there can be subjects with intentions, or objects toward which these intentions are directed. The soul is there in the very incipience of the world, in its moment-to-moment coming-into-being. In its wisdom it cuts through the transverse connections between intentions and their objects as a river between its banks. This flow has neither beginning nor end, neither origin nor destination. For as life generates further life, wisdom perpetually surpasses itself.

Thirdly, while wisdom is different from knowledge, it is very close in its meaning to skill. For skill lies not in the imposition of form from without, upon homogeneous matter, but in the division, from within, of materials that have their own vitality and inclinations. The wise practitioner knows to respect these inclinations and to work with them rather than against them. In effect, wisdom—just like life itself—is a process of interstitial differentiation. It draws out form from within the flux

of materials. The judgement of wisdom, therefore, does not sit in sovereignty over the world, but enters into it, always *in medias res*, going along with things and splitting them this way and that. It is not transversal, delivering a final verdict for execution on the basis of information received, but longitudinal, following the grain of the world's becoming and bending it to an ever-evolving purpose. The very etymology of the word "skill" points to judgment of this kind. With its roots in the Middle Low German *schillen*, "to make a difference," and in the Old Norse *skilja*, "to divide, separate, distinguish, decide," it also shares an etymological affinity with the word "shell," a casing that is opened up by splitting or cleaving along the grain.[18] Thus wisdom is not a faculty, not a supplement that is added on to a being that perhaps some have and others do not. It is not possessive at all, but existential. Wisdom is not what you have but what you are. It is a way of going along in the world, and it has paths rather than end-points.

Wisdom, in short, evolves in the minor key. It is alive with transformative potential, but this is not a potential that is ever realized. For wisdom does not transform the world: it is rather the world's never-ceasing transformation of itself—that is, its worlding. This is my final point, and once again it distinguishes the minor from the major. In an evolution in the major key, as we have seen, every life begins with a novel conception and ends with its material realization. In the same vein—and referring specifically to human life—we speak of education as enabling the immature human being to fulfil his or her potential. Once fulfilled, the potential is exhausted, used up. Wisdom's potential, on the other hand, like that of life itself, is both inexhaustible and undestined. One can never say of life, or of wisdom, that it is ever closer to its realization or further from it. For it is a movement not of closure but of opening: an opening to experience, to becoming, to difference. Like a spring from its source, wisdom continually wells up from within the continuum of affective relations that animates the soul. To borrow another phrase from Erin Manning, wisdom is the "potential for a collectivity alive with difference." [19] But this is not collectivity as it would be understood in the science of the major, as a plurality of discrete individuals. It is rather an ecology of relations, unfolding from the inside in a continual movement of interstitial differentiation. This unfolding is an evolution in the minor key. And wisdom, as its dynamic, is not cognitive but ecological.

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- [2] Alfred North Whitehead, *Science and the Modern World* (New York: Macmillan, 1925), 465.
- [3] Whitehead, *Science and the Modern World*, 465. All quotations from Whitehead in this paragraph are from the same page.
- [4] Theodosius Dobzhansky, "Chance and Creativity in Evolution," *Studies in the Philosophy of Biology*, edited by Francisco J. Ayala and Theodosius Dobzhansky (London: Macmillan, 1974), 329.
- [5] Henri Bergson, *Creative Evolution*, translated by Arthur Mitchell (London: Macmillan, 1922).

- [6] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (Cambridge: Cambridge University Press, 1929), 410.
- [7] Tim Ingold, *The Life of Lines* (Abingdon: Routledge, 2015), 23.
- [8] Contemporary developmental biology is beginning to come round to this view. See, for example, Mary Jane West-Eberhard, *Developmental Plasticity and Evolution* (New York: Oxford University Press, 2003); Sonia E. Sultan, *Organism and Environment: Ecological Development, Niche Construction, and Adaptation* (New York: Oxford University Press, 2015).
- [9] Bergson, *Creative Evolution*, 135.
- [10] This comparison of the soul and the self draws much of its inspiration from Roy Wagner. See Roy Wagner, *The Invention of Culture* (Englewood Cliffs: Prentice Hall, 1975), 93–94.
- [11] This contrast between western and other traditions should not be overdrawn. Aristotle—and following him, Thomas Aquinas—had no hesitation in attributing souls to animals, and even plants. The human soul was nevertheless always considered unique in its capacity for self-reflection.
- [12] Philippe Descola, *Beyond Nature and Culture*, translated by Janet Lloyd (Chicago: University of Chicago Press, 2013), 129.
- [13] As Eduardo Kohn argues in his study of the Runa of the Ecuadorian Amazon, animism not just a way of making intellectual sense of a world “out there.” Rather, “it captures an animation that is emergent with life” (Eduardo Kohn, *How Forests Think: Toward an Anthropology Beyond the Human* [Berkeley, CA: University of California Press, 2013], 94).
- [14] Erin Manning, *The Minor Gesture* (Durham, NC: Duke University Press, 2016), 112.
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CHAPTER 12.

A RESPONSE TO TIM INGOLD: EVOLUTION IN THE MINOR KEY

KAREN KILBY

Tim Ingold's paper is rich, suggestive, challenging, and even lyrical. He has managed to traverse an enormous intellectual range, from Alfred North Whitehead to Gilles Deleuze and Félix Guattari, from interpreters of Charles Darwin to interpreters of animism to topology, while even, at one point, giving us something reminiscent of a hymn of praise to wisdom from the Hebrew Bible—the soul is “there in the very incipience of the world, in its moment-to-moment coming—into-being...[in a] flow [which] has neither beginning nor end, neither origin nor destination” (compare, for instance, Proverbs 8:22–31).[1] There is a kind of intellectual virtuosity to the paper and it tends to confirm the impression that social anthropologists can be the most intellectually adventurous of all academics.

I want to begin by venturing a simplified account of what I take to be the three basic steps of the paper. In each of these steps there is a contrast, and each of the contrasts exemplifies the overarching contrast with which the paper begins, namely, the contrast between two ways of doing science, the major and the minor.

The first step is to adopt the perspective of Whitehead and Henri Bergson about life and its development. Over against more familiar and mechanistic views of evolution, this is an attempt to think about the development of life from within, not to see it as the gradual making-complex of what are, at an ontologically ultimate level, simple parts, but instead as something else, specifically, movement and flow. Ingold enriches this material, drawn from Whitehead and Bergson, with his own topological images of folding and unfolding. Both the image of the stream with its eddies and the image of the paper or cloth with its fold and wrinkles help us, imaginatively, to escape the presumed self-evident proposition that the way things evolve is from simple to complex, thereby escaping in turn the idea that, at its heart, reality is derived from lots of separate individual bits combined through processes of chance and selection.

The second step is to propose a parallel: if we understand life in these terms of flow and vortices within a flowing stream, we can also understand the soul—or maybe just *soul*—as a vortex in the flow of awareness. Soul is contrasted with self, but an important element in this part of the argument is to bring out the inadequacy of imagining the soul as *in* the body, in the sense of being contained, bound, or locked up. If we have learned from animists that it is possible to think of interiority and soul in relation to more than human beings, we must not make the mistake of thinking of this interiority as a matter of “being contained within.”[2]

The third step is to expound on what such a conception of soul means for wisdom itself. Wisdom, Ingold proposes, is the transformative potential of soul, the world's never-ceasing transformation of itself. The contrast here is between the wisdom of the soul and knowledge of the self, which is indicated in a whole series of sub-contrasts—intention/attention, self-protection/defenselessness, the world as object versus the world as milieu, and so on.

The first question I'd like to ask is about the overarching major/minor contrast. It would be easy to misread or mishear this as a contrast between good and bad: it would be easy to fall into the supposition that Ingold is proposing that the major is bad and the minor is good, that we should jettison the major in favor of the minor, the self in favor of the soul, knowledge in favor of wisdom. In fact, however, on a more careful reading, this is *not* what is being proposed, but rather that the major *without the minor* is inadequate. Ingold does not advocate a rejection of science in the major key, but recognizes its inadequacy when considered on its own and acknowledges the need for its shadow.

Nevertheless, we are left with a puzzle. Presumably one of the things that an advocacy for the minor, for the significance of soul and wisdom and so on, entails is a rejection of dualism. Presumably a dualistic, oppositional, this-or-that, a-against-b thinking is part of the mechanistic mindset of the major key, not part of a kind of thinking which focuses on flow and relationship as the ultimate base. Yet the whole pattern of Ingold's argument, while not an out-and-out rejection of the major, is nevertheless strikingly oppositional—wisdom is defined in apparently absolute contrast with knowledge, just as is soul with self. There is, on the one hand, the self building up knowledge, brick by brick, in a sort of defensive stance towards an outside world which it treats as object; and, on the other hand, the soul's vulnerable, non-defensive wisdom in inhabiting the world as its milieu. Might there then be a performative contradiction in Ingold's argument, or at least some indication of an as-yet-incomplete intellectual project? The very moves Ingold makes to go beyond the too-limited thinking of the major, do these very moves exhibit, quite strikingly, the thought-patterns of the major?

A second question focuses more particularly on wisdom. Normally when we talk about wisdom, we also have in mind the possibility of its absence, of foolishness, naiveté, or stupidity. Some people, we would say in day-to-day language, are wise, and some are not; some decisions are wise and some are not. What, if anything, given this account of wisdom as "the world's never ceasing transformation of itself," would count as *not* wise?[3] Is there anything that is not "the world's never ceasing transformation of itself?"

My questions so far have arisen from an attempt to follow the inner logic of Ingold's argument, but what of the encounter between disciplines? How ought a *theologian* specifically respond to this argument? My own reaction, as a theologian, is to find it strangely familiar, in spite of all its obvious differences from what I usually read. In its breadth and ambition, in its attempts to reshape our ways of thinking at a deep level, in the difficulty of testing it, Ingold's approach seems to me, if not actually a theology (because God is not mentioned) a kind of quasi-theology, the articulation of an over-arching vision not too different from what religions offer.

Does this mean, then, that a Christian theologian should feel sufficiently competent to go into professional mode, delivering an instant analysis and assessment, possibly critique, of the views presented in the paper? It depends on one's understanding of the nature of interreligious dialogue, I think. In my own view, whatever the right response to the presentation of an overarching vision that differs significantly from one's own may be, the one thing that *cannot* be right is a straight leap to judgment and evaluation. My only leap, then, will be to a final question: how, on the account offered

in this paper, might we understand the relationship between doing science in the minor key and religious speculation?

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[1] Tim Ingold, “Evolution in the Minor Key,” in *Evolution of Wisdom: Major and Minor Keys*, Agustín Fuentes and Celia Deane-Drummond (Notre Dame, IN: Center for Theology, Science, and Human Flourishing/Pressbooks, 2018). In the New Revised Standard Version translation, Proverbs 8:22–31 reads: “The Lord created me at the beginning of his work, the first of his acts of long ago. Ages ago I was set up, at the first, before the beginning of the earth. When there were no depths I was brought forth, when there were no springs abounding with water. Before the mountains had been shaped, before the hills, I was brought forth—when he had not yet made earth and fields, or the world’s first bits of soil. When he established the heavens, I was there, when he drew a circle on the face of the deep, when he made firm the skies above, when he established the fountains of the deep, when he assigned to the sea its limit, so that the waters might not transgress his command, when he marked out the foundations of the earth, then I was beside him, like a master worker; and I was daily his delight, rejoicing before him always, rejoicing in his inhabited world and delighting in the human race.”

[2] Ingold, “Evolution in the Minor Key.”

[3] Ibid.

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CHAPTER 13.

IN SEARCH OF WISDOM'S ROOTS

DYLAN BELTON

For the purposes of this chapter, I wish to put aside normative connotations associated with the category of wisdom and focus more on what can be called fundamental philosophical-theological anthropology and on the evocative notion of wisdom's depth. In other words, I wish to speak of the deep organic rootedness of the capacities that make possible the unique human way of being in the world. This demands an analysis of "the organic," which, in what follows, I will do with the aid of phenomenological perspectives and of what Hans Jonas called the "philosophy of life," a discipline aimed at analyzing the unity between the philosophy of the organic and the philosophy of mind.[1] Mind's roots are in, and remain in, the organic: we may speak then, as the philosopher Mark Johnson does, of the body in the mind.[2] What follows in this chapter remains programmatic and explorative, and at an abstract level of analysis. For scientists and philosophers, the following approach to human evolution and wisdom raises difficult questions about the relation between phenomenology and the life sciences. For theologians, the framework outlined here can be read as one that turns theology again toward a fundamental anthropology of the human being as spirit in the world; that is, it directs attention toward the relation between the categories of matter (or, the organic) and spirit (or, the intellect) within a fundamental anthropology. I will return to this latter issue briefly in the conclusion.

What one claims about the nature and evolution of the organic will determine how one approaches fundamental anthropology and, hence, the nature and evolution of human wisdom. In other words, and to reiterate the obvious, accounts of human wisdom are intrinsically connected with accounts of the organic. An analysis of human wisdom cannot simply concentrate on "mind," "intellect," or "reflexive thought" (often with a focus on what takes place in the brain) but must also take account of the body, hence the "organic." To focus only on higher-level cognitive capacities, such as the capacity for abstract thought and language, runs the risk of forgetting both the body and the soil of perception from which human reflexive thought never extricates itself. Human reflexive thought takes for granted what one might call the wisdom of the organic. Stated as such, I have, however, introduced an inevitable division between reflexive thought and the organic. While I will outline one manner of understanding this division in this chapter, I am simultaneously seeking to emphasize that human wisdom, however refined in its distinctiveness, is always rooted in, or intrinsically bound up with, the organic, something classical theism ought not be troubled by. To put it within a Thomistic idiom: the intellectual soul is the form of the body and the unique human capacity for abstraction and

reflexive thought is intrinsically unified with bodily perception. The human is a substantial unity, and there is only one unified activity of knowing that is simultaneously both sensible and intellectual.

What one claims about the organic either unites the organic and the mind, viewing the emergence of human reflexive thought as a seamless expansion of principles already present in, say, other hominid species, or it creates a chasm between the two, requiring either the positing of a novel metaphysical principle or a divine intervention.[3] To demonstrate one way of uniting the two, I will speak briefly about Neo-Darwinism (ND) which, in some circles, has become something akin to a *Weltanschauung*, extending a certain logic to multiple domains of inquiry. This logic claims to provide the principles of continuity between the human and the rest of the organic realm. *If* one accepts the logic of ND and the account of the organic as is implied by certain reductive forms of the ND paradigm, then attempts to understand the deep evolution of human wisdom will lead one to the departments of sociobiology and evolutionary cognitive psychology. For ND, it is their proponents, in the final analysis, who have the proper conceptual and explanatory tools to explicate the deep roots of human wisdom.

How then does ND, especially in its more reductive forms, understand the organic? I take ND to be a gene-centered account of the organic. The development of the organism is understood, for the most part, as a reading-off of (or “expression of”) context-free information contained within the genome. ND is, moreover, thoroughly adaptationist in its explanatory orientation, viewing the organism as an individual who is part of a population that has, through a process of random variation and natural selection, evolved various “solutions” to environmentally set challenges. This adaptationism is intrinsically linked to the philosophy of the organism adhered to by Darwin and undergirding ND. From a philosophical standpoint, the organism is reducible to a bundle of adaptive traits each of which, at some point in the past, possessed fitness value and were therefore “selected-for.”[4] As the philosopher Marjorie Grene notes, the organism is here understood as the sum total of means to survival.[5] Such a vision entails that the organism is akin to a “natural artifact,” best explained by a strategy of reverse engineering.

Once this logic is extended to the study of human behavior and cognition, the outcome is inevitably something like the disciplines of sociobiology and evolutionary cognitive psychology. An adaptationist approach to mind and cognition is entirely warranted if contained within certain boundaries. However, once it becomes the dominant model for understanding human behavior and cognitive capacities, then what inevitably emerges is a vision of cognition according to which the mind-brain is divided up into various “modules,” each forged over time through natural selection and operating as an information- or symbolic-processing device. The problem of the unity of such modules and the phenomenological sense of an “I” is sometimes ignored, or their supposed unity with “I” is designated illusory.[6] Furthermore, for some traditions of cognitive science, the real causal work takes place in the region of the sub-personal cognitive unconscious. As the philosopher of mind Evan Thompson points out about this form of cognitivism: “Thought corresponds to nonconscious, skull-bound, symbol manipulation. It takes place in a central cognitive module of the brain separate from the systems for perception, emotion, and motor activity. The cognitive unconscious is neither somatic nor affective, and it is lodged firmly within the head.”[7] Such a perspective is, furthermore, often accompanied by a still dominant objectivist model of meaning within contemporary cognitive science and philosophy according to which meaning is essentially bound to language (i.e., is propositional).

Thompson points out a further important relation between certain forms of cognitive science and

ND. ND regards the environment as strictly distinct from the organism to which it poses certain selective pressures, and so does the environment, for cognitive science, stand external to mind, serving as the source of informational input and selection pressures that require problem-solving solutions from the cognitive subject. Thought, in turn, consists of symbolic representations inside an organism's mind-brain that "refer" to an external environment. Cognitive modules that allow for more sophisticated symbolic manipulation and for more accurate representation of the environment would, in turn, possess fitness-enhancing properties. Outlining the evolution of human wisdom is then, one might say, a project that seeks to gain ever greater clarity on these problem-solving and representational devices which constitute human cognition and which served (and perhaps continue to serve) fitness-enhancing functions. To speak of wisdom's evolution is to speak of an increase both in accurate representation of the environment and cognitive adaptive techniques. Operative here is an adaptationist logic according to which the evolution of human wisdom is simply the extension of instrumental rationality. Within this framework, there can be no ontological leap in the evolutionary emergence of the human being.

The scope of positions within ND and cognitive science as well as the connection between the two, is, of course, far more diverse and complex than what I have outlined here. The aim of this brief account of ND and cognitive science has therefore been only to highlight one example of a specific logic which can be utilized to unite the organic and the mind.[8] However, for many scholars both within and outside of the sciences, standard adaptationist accounts of the human being, while surely part of the "story," simply will not suffice. Where does one turn if the framework and logic outlined above are no longer sufficient?

I can outline in what follows only one such possibility, namely, one driven by phenomenological analyses. I do not seek to achieve a detailed analysis but rather to develop a certain vocabulary for approaching the organic and hence the notion of wisdom's depth. For anyone turning to the encounter between the science of the organic and phenomenology, the work of Francisco Varela and Humberto Maturana on *autopoiesis* is of central importance. In the 1970s, both Varela and Maturana shared a dissatisfaction with the then-dominant understanding of mind and the organic in terms of information processing. What is lacking in such accounts is an awareness of cognition as not simply passive, but as actively achieved by the living agent who thereby "fashions a world of meaning from within." [9] Indeed, in their book *The Tree of Knowledge*, Maturana and Varela sought to root "knowing" as the "bringing forth of a world" in the very organization of organic being per se. [10] Crucial here is their account of the basic formal pattern of life as *autopoietic*. Autopoietic systems generate themselves as ontological unities. An organism achieves and sustains its own identity, one that is utterly different from the passive identity of inorganic entities. An autopoietic system produces its own components and generates a boundary between its inside and outside, a process which Varela and Maturana describe in terms of sense-making and the bringing forth of a world. [11]

This account entails the immediate entrance of inwardness, meaning, and normativity into an account of the organic. As Varela and Maturana suggest, in achieving and sustaining its identity the organism distinguishes itself from what is external to it, and yet in this very process brings about a unique "perspective" on the world. The autopoietic system has as its counterpart what has come to be known as an *Umwelt*, an environment pulsating with meaning, such that it is impossible for us not to interpret organic life from the "inside," so to speak. The "environment" as perceived by the lab observer lacks the surplus of meaning that defines an organism's *Umwelt*. Some perturbation that disturbs an organism is never mere information for the organism that sets off a linear causal sequence:

for any organism, this perturbation is interpreted from a perspective according to certain norms that govern the kind of being that it is. Put succinctly: “to live” is both to construct and sustain an identity over and against the “external” world, a process that is one of sense-making which immediately brings value and meaning into existence. This sense-making as constitutive of the organic per se is the most basic form of intentionality.[12]

Those working within this framework seek to avoid speaking of cognition in terms of information-processing, computation, etc. As Thompson defines it, “cognition is behavior or conduct in relation to meaning and norms that the system itself enacts or brings forth on the basis of its autonomy.”[13] Indeed, Thompson has argued that once one understands the organic in terms of autopoiesis and cognition as defined above then there is justification for speaking of cognition as co-extensive with organic being per se. According to this perspective, the cognitive capacities we associate with the human mind can be viewed as the enrichment of principles present at the origin of organic life. Notice that with this account of life and cognition we have moved out of the gene-centered and adaptationist framework, as well as any sort of computational model of cognition. We are talking about only what is entailed once one adopts an autopoietic account of the organic, irrespective of questions about natural selection, etc.

If we bring Jonas into the discussion, it is possible to find the tools for speaking of the organic in terms of freedom, teleology, and self-transcendence. Jonas’s phenomenological perspective views the evolution of the human being in terms of an enrichment of principles operative from the very origins of life: “The great contradictions that man discovers in himself—freedom and necessity, autonomy and dependence, ego and world, connectedness and isolation, creativity and mortality—are present *in nuce* in life’s most primitive forms...”[14] Jonas identifies metabolism as the basic process of life, and he characterizes this process as a revolution within the order of being and as the first shimmering of freedom, characterized in this most basic mode as the freedom of form from matter: it is the form or pattern of the metabolizing organism that perdures throughout its life cycle, not its material. This freedom is, moreover, a needful freedom. In its metabolizing activity the organism generates, achieves, and sustains its identity over against an external environment. But the metabolizing organism is, at the same time, utterly dependent upon material exchange with what is external to it. This led Jonas to apply the notion of self-transcendence to the organic per se: in order for the organism to sustain itself, to achieve its identity ever anew, it must be continuously moving beyond itself in engagement with the world. Needful freedom entails self-transcendence as its correlate. It also entails the much maligned and misunderstood notion of teleology: “organic individuality is achieved in the face of otherness, as its own ever challenged goal, and is thus teleological.”[15] Teleology is simply the concomitant of want.

The repertoire of concepts applicable to the organic per se that we have attained in this brief overview is rich: selfhood, agency, identity, cognition, value, normativity, purpose, teleology, freedom, self-transcendence, and *Umwelt*. Each of these concepts, of course, requires more detailed attention. And the framework I have begun to outline faces difficulties. The likes of Varela and Maturana are emphatic that mind at the human level can be understood as the enrichment of the same pattern that marks “the living as such,” but the details of this enrichment and its relation to evolutionary theory remain unclear. Similarly, mind or cognition are spoken of in a somewhat monistic manner, almost synonymous with perspectival “sense making” or “*Umwelt* forming.” But what requires further scrutiny is whether and how “mind” at the human level is in fact merely an enrichment of what we find *in nuce* in life’s origin or whether there is a different pattern involved. This matter does not seem

to me to be definitively settled.[16] Finally, the problem of how to develop an account of evolution that is both philosophically and scientifically rigorous and that can complement this phenomenological tradition also requires urgent attention. In other words, can this phenomenological approach be integrated into a theory of evolution in a manner that is not merely an extrinsic embellishment to a scientific explanation? This is, of course, a task for scientists and philosophers, not theologians. Resources, I suspect, exist in the form of Developmental Systems Theory, Evo-Devo, what some have called the Extended Evolutionary Synthesis, and what Thompson, Varela, and Rosch have called the “enactive” account of evolution, all of which offer new accounts of the organism, genetics, self-organization, and the relation between the organism and the environment, and all of which seek to resist an overtly adaptationist framework. I can only note in passing that working within these evolutionary frameworks with an account of the organic as outlined above opens up the opportunity for reformulations of the notion of cognition and intelligence that steer us away from thinking of them only in terms of adaptive problem-solving. For instance, according to what has come to be called an “enactive” account of evolution, intelligence “shifts from being the capacity to solve a problem to the capacity to enter into a shared world of significance.”[17]

I must narrow down in conclusion and will do so by focusing on one notion discussed above, that of the *Umwelt*, for it is in relation to this notion that the problematic category of spirit (central to certain fundamental philosophical and theological anthropologies) can be approached anew. The human being always lives in a meaningful environment. Unlike in the case of other animals, however, the human *Umwelt* is a cultural reality, and the human is not born biologically attuned to a *specific* environmental niche to which the species was adapted by natural selection. We cannot talk then of a single human *Umwelt* but can speak only of multiple constructed ones to which we are attuned in different and complex ways. This attunement is, moreover, constituted and sustained not simply by cognitive processes in the brain but by what the French philosopher Maurice Merleau-Ponty called the lived-body (i.e., by what I am calling here our organic being). In other words, the *Umwelt* that the human being stands over against in reflexive thought is one to which we are attuned by means of the lived-body and, as such, is pregnant with pre-reflexive meaning. It is at this point that important questions arise: what is the relation between these reflexive intellectual acts which are distinctive to humans as linguistic beings and the pre-reflexive perception achieved by the lived-body? What is the relation between reflexive thought and the human *Umwelt*? The human, like all organic life, is an activity of self-transcendence, but this activity in the human case is unique; it is a movement within which a distance is created between the reflexive “I” and the *Umwelt*. According to the early phenomenologist Max Scheler, the human is, in fact, *umweltfrei*, and it is this being-*Umwelt*-free that characterizes spirit as world-openness.[18] To speak then of spirit-in-the-world is, from the phenomenological perspective, to speak of a process in which a strange identity is achieved: the human *qua* lived-body is attuned to an *Umwelt* while, simultaneously, a reflexive self is generated that possesses itself and that has the capacity to stand at a distance from its own physiological and psychic states and its *Umwelt*. And it is this capacity for standing at a distance which allows the human to objectify itself as well as the beings it encounters in its environment and, when necessary, to re-evaluate its world of meaning and alter it according to values that often go against its organic well-being. Such a vision does not necessarily entail a Platonic or Cartesian form of dualism; this reflexive “I” is not a “substance,” and it always remains rooted in perception. But it is this gaining of a distance, this world-openness, that inaugurates and makes possible the unique adventure of human history.[19]

What is at stake here for the theologian? What I have outlined above does, I believe, offer a

means for enriching the theological category of “nature” or “matter” that, at least within Catholic theology, is defined as oriented toward spirit but in such a way that the latter (spirit) is in no manner reducible to or simply emergent from “matter” (i.e., the organic per se). The crux of the controversy comes down to the nature and origin of what characterizes spirit as *Umwelt*-free, world-openness. While the phenomenologist may sit on the explanatory fence, so to speak, the theologian, metaphysician, and scientist cannot. Max Scheler designated spirit a new principle and Catholic magisterial theological statements have tended in this direction as well.[20] As Karl Rahner put it in his text on “hominization:” “[spirit’s] ontological root and ground is different in kind from matter, that is to say, can only come about by the creative positing of a truly new, original and different kind of reality, and not as something derivative.”[21] Stated otherwise: when it comes to the human being’s “spiritual nature,” its origin can in no manner be a simple evolutionary development from what comes temporally before it (i.e., from what I have called the organic in its widest sense). Indeed, Rahner describes the human as embodied spirit in an explicitly Schelerian manner: “We [human beings] stand not only in an environment as a part of it, as determined by it; to be human is to have a world, which we oppose to ourselves, from which we detach ourselves, in thought and in action...we make the environment of our physico-biological life into our ‘object,’ into our world.”[22] Here is the challenge then: a fundamental theological anthropology has to account for not only the deep rootedness of “mind” in the organic but also for this non-reducible emergence of spirit, this “detachment” between the human *Umwelt* (related to what I have here called the organic and the lived body) and reflexive thought, and it must do so without falling into an ontological dualism and without adopting a framework of arbitrary divine intervention.[23]

Although I cannot develop this further here, I note briefly in closing that accounts of anthropological unity already exist in, for instance, the Thomistic tradition, which has always placed a decisive emphasis on the substantial unity of the human being. As a substantial unity, the human cannot be analyzed into extrinsically related capacities with its own selection history. To reiterate the Thomistic axiom: the intellectual principle is *the form* of the human body. And what this entails is that “reason” or “intellection” is not a distinct principle that interacts causally with organic-bodily acts but is rather the *human form of these acts*. [24] From the Thomistic perspective, it is the emergence of this *unity* that needs to be accounted for. Furthermore, any account of “detachment” or “division” within the human self must be situated within this metaphysical commitment to the substantial unity of the human being.

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- [1] Hans Jonas, *The Phenomenon of Life* (Evanston, IL: Northwestern University Press, 2001).
- [2] Mark Johnson, *The Body in the Mind* (Chicago: University of Chicago Press, 1987).
- [3] The evolutionary emergence of the human being would then in fact be akin to the sort of “leaps”

that mark, for instance, the first emergence of life.

[4] There are of course invariant aspects of an organism, and one problem that Darwinism has always faced is the explanation of these invariant features as well as the “unity of type.” See G. Webster and B.C. Goodwin, “The Origin of Species: A Structuralist Approach,” *Journal of Social Biological Structures* 5 (1982): 15–47.

[5] Marjorie Grene, *Approaches to Philosophical Biology* (New York: Basic Books, 1968), 60.

[6] It may of course be ignored simply because the question of unity is one that is answerable only *outside* of cognitive science itself.

[7] Evan Thompson, *Mind in Life* (Cambridge, MA: Belknap Press, 2007), 6.

[8] With that said, proponents of ND will inevitably approach the human being with what may be called the “Zoological Gaze.” See Philip Sloan, “Questioning the Zoological Gaze: Darwinian Epistemology and Anthropology,” in *Darwin in the Twenty-First Century*, edited by Philip R. Sloan, Gerald McKenny, and Kathleen Eggleston (Notre Dame, IN: University of Notre Dame Press, 2015): 232–68.

[9] Andreas Weber and Francisco Varela, “Life after Kant: Natural Purposes and the Autopoietic Foundations of Biological Individuality,” *Phenomenology and the Cognitive Sciences* 1 (2002): 97–125.

[10] Humberto R. Maturana and Francisco J. Varela, *The Tree of Knowledge* (Boston, MA: Shambala Publications, 1987).

[11] *Ibid.*

[12] There is a complex debate about whether autopoiesis by itself logically entails “sense-making.” See Ezequiel Di Paolo, “Autopoeisis, Adaptivity, Teleology, Agency,” *Phenomenology and the Cognitive Sciences* 4 (2005): 429–52.

[13] Thompson, *Mind in Life*, 126.

[14] Hans Jonas, *Mortality and Morality: A Search for the Good After Auschwitz*, edited by Lawrence Vogel (Evanston, IL: Northwestern University Press, 1996), 60.

[15] Hans Jonas, *Philosophical Essays: From Ancient Creed to Technological Man* (Englewood Cliffs, NJ: Prentice-Hall, 1974), 197.

[16] Although I cannot delve into it here, current work on embodied cognition by the likes of Mark Johnson can provide a crucial supplement to what I have outlined. See Mark Johnson, *The Body in the Mind* (Chicago: University of Chicago Press, 1987).

[17] Francisco J. Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind* (Cambridge, MA: MIT Press, 1993), 207.

[18] Max Scheler, *The Human Place in the Cosmos*, translated by Manfred S. Frings (Evanston, IL: Northwestern University Press, 2009).

[19] How this world-openness is connected to *language* is a subject that requires further attention.

[20] See, for instance, Pius XII, *Humani Generis*, encyclical letter, 1950.

[21] Karl Rahner, *Hominization: The Evolutionary Origin of Man as a Theological Problem*, translated by W.T. O’Hara (Freiburg-im-Breisgau: Herder and Herder, 1965), 20.

[22] Karl Rahner, *Hearer of the Word*, translated by Joseph Donceel (New York: Continuum, 1994), 42.

[23] In this respect, Rahner’s *Hominization* text demands more attention.

[24] For a helpful discussion of these issues, see John O’Callaghan, “Aquinas’s Rejection of Mind, Contra Kenny,” *The Thomist: A Speculative Quarterly Review* 66.1 (2002): 15–59.

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PART V.

WISDOM'S PARADOX

CHAPTER 14.

SPEAKING OF WISDOM: HOW LANGUAGE SHAPES THE CONCEPTION OF OURSELVES

JAMES STUMP

As the Project Leader for a research grant on human identity, I interact and work with many people who experience a barrier in reconciling evolutionary science with their theological tradition. The particular fear voiced most often is that evolutionary science will undermine the concept of the human person they have inherited from their faith. In response, as the Project Leader for BioLogos (a nonprofit organization founded by Francis Collins) I attempt to illustrate in this chapter how science does not undermine theological concepts of the human person. In addition, I urge people to resist jumping to that verdict without analyzing and assessing recent work in various disciplines. As I do so, the question that pervades my research is: what does it mean to be human in light of evolutionary science *and* Christian theology? A wide range of different topics and questions could be included in this question. However, my own training has drawn me to the philosophical aspects of the question of language: whether it is uniquely human, and more particularly, how it contributes to our experience of the world. For the purposes of this chapter, I have applied my developing views and claims on language to the concept of wisdom and pointed toward some relevant avenues for further inquiry.

I. We live in a Different World because of Language

Ernst Cassirer was a mid-twentieth century philosopher, best known in academic circles for his massive study *The Philosophy of Symbolic Forms*. In a more popularly-oriented book published in 1944 he wrote:

No longer in a merely physical universe, man lives in a symbolic universe...No longer can man confront reality immediately; he cannot see it, as it were, face to face. Physical reality seems to recede in proportion as man's symbolic activity advances. Instead of dealing with the things themselves man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms, in artistic images, in mythical symbols or religious rites that he cannot see or know anything except by the interposition of this artificial medium.[1]

What if Cassirer had lived in the twenty-first century? The “physical reality” many of us encounter on a daily basis is splotches of ink on a page or, increasingly, patterns of pixels illuminated on a screen. These splotches and pixels transport us into a symbolic universe where we rarely notice the physical

realities. And whether academics or not, we live in a world that is populated with things like nations and political parties, sitcoms and cricket matches, religion, and conferences. Where does wisdom fit into this world? I want to approach this question from the perspective of language in conversation with several recent books that acknowledge a constitutive role for language. By drawing on the work of Terrence Deacon, Charles Taylor, Mary Midgley, and Rowan Williams, I will develop the argument that our words do not merely name things that exist independently of us. Rather, the symbolic nature of language allows for an interplay between words and ways of being such that our human activities cannot be understood apart from the influence that language has on them. These activities constitute much of our waking lives, so there follows the claim that we live in a different world than that of species without language.

It is an open question whether we, humans, are the only species on earth to possess language. This question is beyond the purview of this chapter, but I will draw upon the work of the anthropologist Terrence Deacon to briefly elaborate.[2] Deacon claims there is a qualitative difference between the symbolic language we use and communicative signs that merely act as indices, such as the different calls vervet monkeys use for different kinds of predators they detect; bees that do a little dance to indicate to other bees where the nectar is; and even trees in a forest that communicate with chemical signals distributed through an underground network of fungi. All the trees, bees, and monkeys are doing is responding instinctively to a sign that is correlated with some bit of physical reality—they do not know what it “means.” More controversially, but still plausibly defensible in my mind, is the proposition that when apes are trained to use some sign language, they are similarly communicating, but not thinking symbolically. From the description of these situations, we might see these signs as referring to other things. But even the word “refer” carries with it other connotations that we can’t easily disregard in our assessment of the situation. This is Deacon’s point about symbols: they not only refer to some object in the “real” world, but they also refer to other symbols. They are situated within a complex system of symbols with a high level of interplay between them. There are no one-word languages. Too often our attempt to understand what language is doing is modeled on simple situations that can mostly be treated in isolation from the rest of our language like, for example, referring to this desk or that tree outside. The topic addressed in this volume, wisdom, is a much more interesting example of the power of symbolic language. It does not have a direct referent in the physical world as the word “tree” does, nor does it even have a fairly straightforward definition like other abstract nouns (e.g., “democracy”). The meaning of “wisdom” is caught up in its relationship with other words. But this is not just a circle of words that relate to each other; these words and concepts constitute something more. They frame the way we experience the world, opening us to subtleties and differences we would not see if we had no words for them.

In his very interesting recent book *The Language Animal*, Charles Taylor advocates for the constitutive view of language stemming from the philosopher Johann Herder, who argues that language makes possible a different kind of consciousness.[3] This begins with the insight that pre-linguistic beings can react to their surroundings, but language enables us to “grasp something *as* what it is” and opens up new aspects of an agent’s mental life.[4] As a person with language, I now can wonder if I have grasped a situation correctly. Is “anger” the right word for what I’m feeling, or does this emotion differ enough to be called something else, like “indignation” or “resentment?” As my language takes on a finer grain, my experience itself reflects that. According to Taylor, linguistic beings are ushered into the realm of values and morality: was my response of indignation an appropriate response to the situation? For Taylor, “prelinguistic animals treat something as desirable

or repugnant by going after it or avoiding it. But only language beings can identify things as *worthy* of desire or aversion.”[5] Language opens up a new range of experiences, a more complex gamut of emotions, and even introduces values. These seem to set us apart in radical ways from non-linguistic beings. Taylor notes:

We can't explain language by the function it plays within a pre- or extra linguistically conceived framework of human life, because language through constituting the semantic dimension transforms any such framework, giving us new feelings, new desires, new goals, new relationships, and introduces a dimension of strong value.[6]

Perhaps we can claim, on this view, that wisdom is one of those things that has opened up to us because of language. Wisdom was not something existing independently of us in the sense that we merely bumped into it at some point in our species' history and gave it a name, like discovering the planet Neptune. But neither is it true to say that we have “made it up,” so to speak, as we have made up, say, academic conferences. Wisdom is part of the symbolic world, but it is not merely a construct. This statement requires further nuance, so here is my next claim:

II. The Symbolic World is not Reducible to Physical Realities

Think of words like *indignation*, *academic conferences*, and *British pounds*. It seems correct to say that these words merely name constructs or social realities. For a clearer example, consider *unicorns*. We could all give some conceptual analysis of a unicorn and agree that it is horse-ish, one-horned, and frequently appears around rainbows. But that broad agreement does not somehow confer reality onto unicorns. From this example, it is safe to say that we have words for things that do not really exist apart from our words. They are merely conventions. Moving a little further down the spectrum toward the less clear examples: what about a species? To what does that word refer? Does it have reality above and beyond the individuals that comprise it? What exactly went out of existence when the last dodo died, besides that particular bird? It had no offspring, and neither did any of its very close relatives. But how close do relatives have to be to “count” here? Evolution has rendered this question problematic. Maybe a species too is a social reality or convention, but there is some debate about that.[7] Some would say the word *species* is really just shorthand for a particular collection of individuals and cannot ultimately be defined without some arbitrariness.

But what about something like *love*? To what does that word refer? Can we explain it away like we did unicorns? Is love a convention? I hope not. Can it be reduced to physical realities, such that the word is just a shorthand or placeholder for a more complex physical existence? I am leery of attempts to reduce such concepts to physical correlates. Based on a recent article in *Frontiers in Human Neuroscience* about fMRI images of the brain looking for love, a number of neuroscientists have concluded:

Reviews of these studies conclude that love is accompanied by significantly increased activation in brain regions such as the ventral tegmental area (VTA), medial insula, anterior cingulate cortex (ACC), hippocampus, nucleus accumbens (NAC), caudate nucleus, and hypothalamus. At the same time, deactivations can be found in the amygdala, prefrontal cortex (PFC), temporal poles, and temporo-parietal junction (TPJ; Zeki, 2007; de Boer et al., 2012; Diamond and Dickenson, 2012; Tarlaci, 2012). Cacioppo et al. (2012) have suggested that romantic love-related brain regions can be divided into subcortical and cortical brain networks where the former mediates reward, motivation, and emotion regulation, and the latter mainly supports social cognition, attention, memory, mental associations, and self-representation.[8]

Those who are more cautious in their language speak only about the correlations between some range of experience to which we have given a word like “love” and the brain activity that accompanies that experience. Others are not so cautious about identifying these very human and personal concepts with bits of matter. For example, Francis Crick pronounced (with all the authority bestowed on him for his scientific exploits) that “you, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their attendant molecules.”[9] Here there are two different sets of terms—one that is amenable to scientific treatment, like *nerve cells* and *molecules*; and the other, what we might call personal concepts like *you*, *your sorrows*, *ambitions*, *free will*, etc. Crick thinks the terms in this latter set are just silly names we have given to things we didn’t really understand and that once we do understand them we can see that they are nothing but the things more accurately named by the scientific language. I, however, want to claim that both sets of terms legitimately identify aspects of reality, which leads me to the next claim.

III. The Scientific and Personal Images are both Legitimate Re-Presentations

In a classic paper, mid-twentieth century philosopher Wilfred Sellars referred to these two different sets of terms as different pictures by which we have represented ourselves:

The philosopher is confronted not by one complex many-dimensional picture, the unity of which, such as it is, he must come to appreciate; but by *two* pictures of essentially the same order of complexity, each of which purports to be a complete picture of man-in-the-world, and which, after separate scrutiny, he must fuse into one vision.[10]

Developing the metaphor of pictures, we might think about these two sets of terms and the concepts they name as styles of painting. Picasso’s *The Old Guitarist*[11] from his blue period of expressionism, and his *Guitariste*[12] in the style of cubism are both representations of the same subject. Yet they look very different and could not be fused into one coherent image without a significant breach of artistic integrity. Each style intends to highlight or draw out different aspects of the thing it represents.



By analogy, a scientific description and a personal (or even theological) account of the nature of human beings may look very different, but that does not count against the legitimacy of either. What

should be considered is whether the models are good representations in the “style” each intends. However, Sellars claimed that fusing these into one vision was the goal. How to do this? Typically, we attempt to reduce one of them to the other, and in our day and age it is the personal image that is reduced away. I claim next:

IV. The Two Images or Discourses Cannot be Reduced to Each Other

The second of the books I commend as worthwhile reading on the topic of language, and specifically the limits of scientific language in describing all of reality, is Mary Midgley’s *Are You An Illusion?*^[13] Midgley takes the reductivists to task, adopting Descartes’s strategy when, in his *Meditations*, he claimed that even if he was being deceived about everything else, it was still he who was being deceived. He must exist. Midgley wonders: if we have been deluded into thinking that there is a self, just what is it that is being deluded? Can we eliminate talk of selves and their intentions, free will, love, and wisdom? No, she says.

What are we to do with these two different sets of concepts that do not seem translatable into each other? Are they describing the same thing? Instead of artistic styles, Midgley uses a different metaphor, comparing these two ways of understanding a person to the information drawn from our different senses. An electrical discharge in the atmosphere might be understood by vision as a bolt of lightning, and by hearing as a clap of thunder. Vision and hearing are not perceiving two different events, but these senses detect different kinds of information about that one electrical discharge. And we cannot reduce or translate one of these into the other without losing something.^[14] The implication is that the way of knowing we call “science” does not tell the whole story of the thing it describes. Instead, we have different language traditions—different discourses—that have developed over time to pick out different features of reality. Midgley notes:

The relation between the two subject matters needs then to be explicitly stated and thought about. But there is still no reason to expect that one of their messages will turn out to be real and the other illusory. These two languages are not rivals, competitors for a prize marked “reality.” They merely do different work. Their differences simply show that when we talk about the same topic, we are considering it from different angles and asking different questions. There need be no suspicion that either account is illusory unless we see something that really indicates fishiness.^[15]

This dual view of humans is not without precedent. The early twentieth century Jewish philosopher Martin Buber claimed that “the world is two-fold for man in accordance with his two-fold attitude.”^[16] He called these the “You-world” and the “It-world” depending on whether we treat our experiences as originating from a subject (a You) or an object (an It). He described our dual attitude toward other human beings as follows:

When I confront a human being as my You and speak the basic I-You to him, then he is no thing among things nor does he consist of things.... Even as a melody is not composed of tones, nor a verse of words, nor a statue of lines—one must pull and tear to turn a unity into a multiplicity—so it is with the human being to whom I say You. I can abstract from him the color of his hair or the color of his speech or the color of his graciousness; I have to do this again and again; but immediately he is no longer You.^[17]

Here we have different aspects of the human experience that are amenable to different kinds of description. When we treat humans as objects, we put them under the microscope and explain their activities using the language of science. We do fMRI scans to see what their brains are doing and find causes. But when we treat them as subjects, we explain their actions by appealing to reasons.

The third book I will discuss is Rowan Williams's *The Edge of Words*.^[18] Based on his Gifford Lectures in 2013, it primarily considers the extent to which a kind of natural theology can be elaborated from our language itself. I will highlight two points for consideration from this very rich and rewarding book. Williams speaks of our language shifting register when we come up against the limits of what we describe and explain. We have language that is suitable for describing, say, the behavior of neurons, but at some point, in speaking of human behavior, we have to shift to speaking of intentions or will, and we find the neuron language is no longer suitable or sufficient. Williams develops a theory of constitutive language by claiming that language "creates a world, and so entails a constant losing and rediscovering of what is encountered."^[19] Language re-presents what is there, and so continually creates afresh "the life of what is perceived."^[20]

This brings me to a second point from Williams, which relates to the historical development of these language traditions. According to his analysis, to understand any particular utterance is to know what to say in response, to know how to "go on" in the conversation. He claims: "Rather than being a matter of gaining insight into a timeless mental content 'behind' or 'within' what is said, it is being able to exhibit the next step in a continuing pattern."^[21] That means that whatever we say about something must reckon with and reflect not only some external reality, but also what has already been said about it, along with how the world has already been represented by others. As a result, we find ourselves inescapably in a language tradition or discourse. But there is not just one possible thing to say next; the conversations could go off in different directions, explaining the development of these two different discourses, these two images we have of ourselves as subject and object. Understanding one aspect of a human takes us in the direction of what we can say about humans scientifically; but we can also re-present the human experience with "personal" terms like intention, love, and wisdom. To discount one of these discourses is to settle for just one perspective, a limited point of view. We will understand a human being more completely when we are involved in both conversations.

Briefly, in conclusion, if we stand in a tradition of conversation about wisdom, what do we say next? How do we "go on" in the conversation? First, this consideration of the role of language suggests that we remember that wisdom is part of the personal discourse. Wisdom is not a property of objects, but of subjects, and the collection of terms we have for describing and explaining subjects cannot be eliminated without massive loss. The reductive strategy of Crick might illuminate some aspects of human experience, but I am deeply skeptical of a science of wisdom that attempts to tell the whole story by reducing wisdom to the kinds of terms suitable for scientific explanation. Secondly, the constitutive role of language means that our conversation about wisdom contributes to what wisdom *is* and thereby contributes to the kind of beings we are. Since at least Socrates in the western philosophical tradition, and separately begun among the Hebrew people, humans have discussed wisdom and thereby created modes of life—ways of being—in which wisdom is recognized and enacted. Representing ourselves and our experience in such terms has had an effect, and we cannot go back and un-say these things that have contributed to the cognitive environment within which we attempt to understand ourselves. As Sellars notes: "if man had a radically different conception of himself he would be a radically different kind of man."^[22] So when we conceive of ourselves as having a potential for wisdom, we are a different kind of thing than if we did not. That has consequences and perhaps even the moral implication that we ought to continue the conversation about ourselves in ways that makes it possible for us to truly be *Homo sapiens*—the wise people.

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CHAPTER 15.

WISDOM OR FOLLY? UNDERSTANDING THE CROSS IN AN EVOLUTIONARY WORLD

CHELSEA KING

“For the message of the cross is foolishness to those who are perishing, but to us who are being saved it is the power of God. For it is written: “I will destroy the wisdom of the wise, And bring to nothing the understanding of the prudent.”[1]

There are some potential problems with considering the Cross emblematic of “wisdom.” Christians, including St. Paul as quoted above, have wrestled from the beginning of the tradition with the basic question: what do we make of the Cross? How do we make sense of the New Testament account that declares that the Crucified One died for the sins of humanity? If we understand this as a sacrifice, we are faced with the next question—to whom was the sacrifice offered? Did God demand this kind of sacrifice in order to redeem us? These questions have haunted and fascinated theologians for centuries.

When we move into the interdisciplinary world where theology and science, and in particular, theology and evolutionary theory, converse, figuring out what to do with the Cross becomes even more of a puzzle. Typically, theologians interested in evolutionary theory have focused on the Incarnation over the Crucifixion. In *The Divine Milieu*, for instance, Pierre Teilhard de Chardin explores Christ as the Alpha and Omega Point and describes all of the natural world striving towards its fulfillment in spirit.[2] Jesus is understood as the Cosmic Christ—fully encompassing all of creation in His Being. Karl Rahner also focuses his attention on the relationship between the Incarnation and evolutionary theory. For Rahner there is no “essential opposition” between matter and spirit, and matter develops and opens itself up to spirit.[3] Spirit and matter are united and realized in the person of Jesus Christ in the hypostatic union.[4] Christ is the *telos* of the evolutionary process—the “final cause” of evolution.

Whether or not these approaches are adequate or theologically sound is not my primary concern. What I wish to emphasize is that theological reflection is lacking when it comes to understanding the Cross in an evolutionary world. The Cross tends to be just a blip on the radar, a minor incident that happened; not all that important, almost like an inconvenient part of the larger story of salvation.[5] However, when we bypass the Cross, we are missing potentially fruitful insights about what wisdom entails. In order to demonstrate this, I first want to explore more carefully what we mean by the human niche and its relation to the rest of the created world.

The importance of niche construction theory within the Extended Evolutionary Synthesis (EES) should not be underestimated. Niche construction theory presents biology with a philosophical shift in the way that natural selection is understood as a principle explanatory power. As the anthropologist Agustín Fuentes states, “evolutionary theory has come to a point that mandates a move away from focusing exclusively on natural selection, genetic-based fitness, and their relationships to individuals to a systems approach.”[6] Instead of viewing natural selection as the main way of explaining change, niche construction theory focuses on the “building and destroying of niches by organisms and the synergistic interactions between organisms and environments.”[7] This so-called “systems” approach allows evolutionary biologists and anthropologists to understand the interconnectedness of humans and organisms with the environment. It is a dynamic process, one that cannot be simplified or reduced to the passing on of genes. The EES suggests that we can no longer think of organisms as simply pre-programmed genetically for a preexisting environment. As the anthropologist Emily Schultz points out, niche construction theory falls under a type of relational evolutionary thinking that is, in fact, quite different from Neo-Darwinian reductionism: “Relational evolutionary thinking moves evolutionary discussion away from reductionism and sterile nature-nurture debates and promises to enable fresh approaches to a range of problems across the subfields of anthropology.”[8] Moreover, “organisms can engineer the environment in ways that affect the development and selection of their descendants as well as their own lives.”[9] Biologists are now recognizing, more so than before, that the organism has the ability to construct its niche to a certain extent and modify the environment.

The term “environment” can and ought to be interpreted broadly. It can be as simple as a particular physical ecosystem (worms in the soil, for example), but when speaking of the human sphere, it can refer to culture and religion. This broader understanding of “environment” is what is sometimes referred to as the “biocultural perspective.”[10] What this perspective tells us is that both the historical and current social contexts can “affect genetic and other biological patterns.”[11] This affects various developmental outcomes, which then feed back into the system. This feedback implies that particular socioeconomic environments can have effects on the development of human beings. The term “biosocial inheritance” refers to the social “adversity or advantage that is transmitted across generations through mechanisms both biological and social in nature.”[12] In other words, the age-old dichotomy between the “biological” and “social” can no longer be maintained. By seeing and understanding organisms through a more holistic lens, we can begin to recognize that *everything* plays some kind of role in the development and flourishing of an organism. Tim Ingold offers a very intriguing and compelling argument on this point, stating that we must expand what we mean by “biology” if we are to rid ourselves of this unnecessary dichotomy. Ingold notes that for Charles Darwin and those who came after him, the evolution of species “*in nature* was also evolution *out* of it, in so far as it progressively liberated the mind from the promptings of innate disposition.”[13] Nature is something that is separate from “us” and absolutely separate from our culture. The notion that there is something innate comes from a tendency to “transpose, into the organism, a set of abstract specifications derived from our external observation of them.”[14] It became easy for people to associate *biology* with *genetics* and refer to culture as something entirely distinct. As Ingold states, “the very notion of biology has come to stand in for the belief that at the heart of every organism there lies an essential specification that is fixed from the start and remains unchanged throughout its lifetime.”[15] Crucially, what these findings reveal is that human beings are not separate from nature, and thus the very notion that they ought to have “dominion” over the earth is wrongheaded and

dangerous. It ignores the fact that human beings are deeply embedded in the lives of other organisms and vice versa. The human niche does not operate in a vacuum; human beings have evolved side by side with other species and have constructed niches which have impacted their own evolution and that of other species' evolution.

While human beings are clearly deeply connected to the environment, it is also true that they have evolved certain capacities that have allowed them to be the "ultimate-niche constructors." [16] The capacity for human reason and symbolic thought, along with the capacity for cooperation and thinking *within a group*, has allowed the human being to flourish in a variety of important ways. As both Celia Deane-Drummond and Agustín Fuentes write, "for humans, even early ones, their social relationships, landscapes, and the biotic and abiotic elements they encounter are embedded in an experiential reality that is infused with a consistent potential for meaning derived from more than the material substance and context at hand." [17]

But of course, the story of humanity is no fairy tale (neither for our own species, for others, and for the planet). For along with these capacities for cooperation and empathy are capacities for violence, war, genocide, and ecological destruction. This darker side of humanity, while not its only side, has fascinated many anthropologists. Are human beings basically violent, aggressive, and "warlike," or are they cooperative, peaceful, and altruistic? Fuentes challenges this static vision of the human person and states: "anything we might term *human nature* is complex and it might be more fruitful to envision multiple human *natures*." [18] The human being is dynamic and develops certain capacities that do not determine, but rather open up, potential realities and create new trajectories. New kinds of questions begin to emerge in anthropology when we begin to consider the human being as dynamic. What kinds of trajectories has the human being taken? What kinds of capacities have evolved over time? What can the archeological record reveal to us about who we have been, who we are, and potentially who we will become?

Learning through imitation allows the human being to create new worlds together in community, ponder about the past and imagine things that do not exist. One may suggest that this is where the propensity towards the religious emerges. [19] Of course, the formation of language, imagination, and other symbolic capacities is important for passing on traditions and ideas, but it is also where certain concepts come to the forefront. Human beings have the capacity to form distinctions and identities within a group. While this seems like a rather neutral notion, the formation of identities, particularly group identities, may be a precondition for war. [20] This is not to say that identity formation directly causes something akin to war among human beings, but it is surely a factor that enables intergroup violence to take place. As Brian Ferguson states:

Comparing situations around the world, several sets of circumstances appear again and again in the record before, or as, war developed. Rather than the cause of war, they may be thought of as preconditions that make its inception or intensification more likely. These preconditions are not independent, and many causal linkages connect one or another. But with several of them put together, the stage is set for whatever spark that finally starts the fire. [21]

These circumstances include a sedentary lifestyle, an increase in population density, and especially pertinent to this paper, the formation of group identities. This encourages "a shift from homicide targeted at specific individuals, to the more warlike 'any of them will do.'" [22]

War between humans is not the only "dark" side of being human. Our capacity to make distinctions between each other and form collective identities is the same capacity that allows us to make an even greater distinction between ourselves and our nature, which can then lead to assumptions that we

are here to pillage the natural world, doing whatever we please. We are deeply embedded in a world of greed and consumerism, and here in the United States, the mentality of individualism pervades our culture. This state of mind has led our species to become quite successful and has arguably given us a certain capacity for “wisdom” understood as pattern-making, which has further enabled us to outcompete other species. But this success has come at a great cost to other creatures, the planet, and humanity. I think that the understanding of Christ Crucified in Christian theology directly confronts this so-called wisdom, overturning it entirely. From the perspective of Christian faith, God challenges human wisdom through the Cross. What appears to be completely foolish is, scripture informs us, divine wisdom. What is this wisdom? Instead of power and might, we are confronted with weakness.[23] And it is in that weakness that power and strength are properly understood.

There are two main aspects of the Cross I want to draw our attention to: first, it is a message of salvation, and, second, a way of imitation. Both aspects enable us to see what divine “wisdom” means in the evolutionary world that I have been describing. I will begin with the notion of salvation. The Christian tradition has tended to affirm that Christ comes to die for the sins of humanity and humanity alone.[24] If the Cross is understood as the way sins are forgiven, then it makes some sense to focus exclusively on human beings and their salvation. We hardly want to attribute sin to non-humans. I am inclined to believe that sins committed by human beings are quite different in kind and degree than any “sins” that non-human creatures might commit. However, if human beings are closely connected to the environment and to non-human niches, we can see how salvation can be applied universally. If the human being is not understood as separate from the rest of the environment, then the salvation of the human being must necessarily extend to all of creation. While non-human creatures do not need forgiveness for their sins, they most assuredly do need healing. And it is through the suffering of Christ that those wounds are healed.[25] On the Cross, we see one who is suffering. The theologian Jürgen Moltmann puts forward a seemingly compelling connection: love necessarily entails suffering of some kind, and since God is love, God must be capable of suffering.[26] Moltmann’s desire to claim that God suffers is motivated by his awareness of the suffering of the world. According to Moltmann, Christ suffers willingly on account of his mission and his preaching.[27] It is not something that Christ does because he needs to appease an angry God. Christ’s sufferings should not be viewed as the archetype of suffering that exists in the world. Moltmann’s insistence on the suffering of God is not meant to be a glorification or validation of innocent suffering, but to reveal Christ’s suffering with others. In a mystical sense, the wounds of Christ heal the wounds of those that have been abandoned and abused. I think that this formulation speaks directly to the biocultural perspective—Christ does not simply come to redeem human beings, but because of our connection to the rest of the world, Christ’s redemptive power expands to all creation. Focusing on the Cross allows us to attend to the suffering in the world in a way that a singular focus on the Incarnation does not do. The “wisdom” here is that of God—it is a wisdom that tells us that God does not abandon his creation, even though creation itself has rebelled in some way against the Creator, creating false dichotomies and divides that allow for violence to occur. Wisdom here is understood as forgiveness and healing. Wisdom means sitting with the ones who suffer on account of sin—with those who are complicit and with those who suffer its consequences.

Now, what would it mean for us to imitate the Cross? To follow in Christ’s footsteps? This is the second aspect of the Cross—a way of imitation and discipleship. On the Cross, Christ offers himself in self-sacrifice. Here, the only way to defeat evil is to allow it to take Him over entirely. Power is not defeated by (conventional) power. The radical claim of the Christian faith is that it is

in weakness and love that evil is finally defeated. If Christians are to follow this example fully, it means cultivating a greater care and concern for our fellow human beings, for the world in which we live, and questioning our assumptions about what is “right and good.” In his encyclical *Laudato Si’*, Pope Francis exemplifies this calling and offers a fairly rigorous critique of capitalism, ecological destruction, and human greed.[28] The wisdom here is one that counters common notions of power and control. It is a wisdom that is not obvious, but it is also a wisdom that speaks to what it means to be properly human. Following the Crucified One means living out our capacity for compassion, altruism, cooperation, and self-sacrifice. It means living out fully the human niche—as it was intended by the Creator.

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- [3] Karl Rahner, “The Unity of Spirit and Matter in the Christian Understanding of Faith,” *Theological Investigations 6* (London: Darton Longman & Todd, 1969).
- [4] Karl Rahner, *Foundations of Christian Faith*, translated by William V. Dych (New York: Seabury, 1978), 18.
- [5] To name just a few theologians who tend to bypass discussion of the Cross: Pierre Teilhard de Chardin, Karl Rahner, and John Haught. Celia Deane-Drummond tackles this very issue, arguing that this tendency to overlook the Cross has to do with a wider marginalization of Christology within these contemporary theological conversations (*Christ and Evolution: Wonder and Wisdom* [Minneapolis, MN: Fortress Press, 2009]).
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[16] Agustín Fuentes, “Humans as Niche Constructors, as Primates, and with Primates: Synergies for Anthropology in the Anthropocene,” *Cambridge Anthropology* 30 (2012): 140–44.

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[18] *Ibid.*

[19] *Ibid.*

[20] While the evidence for war is difficult to discern in the archeological record, the very first signs of warlike activity thus far occurred 12,000–10,000 BC at Jebel Sahaba, Sudan, where bodies were found with embedded projectiles. See R. Brian Ferguson, “War Before History,” in *The Ancient World at War*, edited by Philip de Souza (London: Thames and Hudson, 2008), 15–27.

[21] *Ibid.*, 24.

[22] *Ibid.*

[23] 2 Corinthians 12:9: “And he said unto me, ‘My grace is sufficient for thee: for my strength is made perfect in weakness.’”

[24] By “Christian tradition” I am referring to both scripture and reflection of scripture by certain theologians such as Augustine of Hippo, Irenaeus of Lyons, Athanasius of Alexandria, and Thomas Aquinas. There are of course theologians who have attempted to expand their understanding of salvation to include other non-human creatures (for example, Maximus the Confessor and Francis of Assisi) but none have attempted to argue that *the Cross* is salvific for non-human creatures in the same way it is for human beings.

[25] 1 Peter 2:23-24: “Who, when He was reviled, did not revile in return; when He suffered, He did not threaten, but committed *Himself* to Him who judges righteously; who Himself bore our sins in His own body on the tree, that we, having died to sins, might live for righteousness—by whose stripes you were healed.”

[26] Jürgen Moltmann, *The Crucified God* (Minneapolis, MN: Fortress Press, 2015), 332.

[27] *Ibid.*, 65–6.

[28] Francis, *Laudato si'*, encyclical, May 24, 2015.

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CHAPTER 16.

THE LANGUAGE OF REALITY: HOW HUMAN BEINGS CREATED THE WORLD

STEWART CLEM

In his book *God Matters*, Herbert McCabe wonders why we are unable to ask the question, “why does the world exist?” We find it reasonable to ask the question “why does this exist?” about events or things or whole classes of things, but somehow, we find ourselves unable to ask this question about the world as a whole. “The belief that such a question is unaskable,” McCabe writes, “is based, firstly, on the fact that we have no answer to it, and, secondly, on the fact that the language in which it is asked is exploratory; we are using words in ways that are stretched beyond their familiar use.”[1] McCabe, following in the tradition of the philosopher Ludwig Wittgenstein, acknowledges the profound limits and power of human language. As a Christian, McCabe believes in the existence of God, but “[t]o exert the existence of God...is not to state a fact within an established intellectual system but to claim the need for exploration; it is to claim that there is an unanswered question about the universe: the question ‘How come the whole thing instead of nothing?’”[2] For McCabe, stretching language to its limits does not necessarily lead us into nonsense—it often opens a window into reality itself.

But where did language come from? Since Charles Darwin, scholars have sought to understand how and why language could have evolved in human beings. Even as biologically-focused theories have given way to gestural, symbolic, and community-based theories of language’s development, the current literature is dominated by an emphasis on language as an extension of preexisting biological capacities. This is understandable from the standpoint of those working within the sciences. For those who wish to derive normative or axiological significance from the evolution of language, however, there remains a temptation to collapse into reductionist understandings of language—and, by extension, of human nature. Such reductionism can only explain language as a tool given to us by evolution for the more efficient expression of our basic animal impulses. Any additional functions of language (such as wordplay or making puns) are an aberration, at least from an evolutionary standpoint. But what might it look like if we began our inquiry by asking what language *does* rather than *why* it evolved?

In his recent monograph *The Language Animal*, the philosopher Charles Taylor gives us resources for understanding how the semantic dimension of language transforms any pre- or extra-linguistic framework through which we might trace its evolutionary development. This transformative feature of language, he argues, is the key to understanding what it means to be human. Taylor renders Aristotle’s definition of the human being *zoon echon logon* (traditionally translated “rational animal”)

as “animal possessing language.”[3] The centrality of language to “human nature” (a contested term, to be sure) cannot be understated. For Taylor, the specific difference of *Homo sapiens* is not something that can be described in terms of instinct or recurring behavior patterns; rather, the emergence of language in human beings introduces a “capacity to change, even to transform ourselves, which has no parallel among other animals.”[4] Whatever formal similarities we might find among other species that use vocal or gestural signification are of minimal significance for understanding human modes of communication; only human beings are capable of transforming their lived experience through the communal enterprise we call *language*.

To support this claim, Taylor appeals to the notion of linguistic *rightness*. Since “language can only be understood if we understand its constitutive role in human life,”[5] and human life is manifestly social, the question arises as to how language can operate as a shared project. For Taylor, language is the “domain of right and wrong moves,”[6] but we should not mistake this as *task* rightness. That is to say, “words” are not mere instruments for conveying more basic and fundamental “ideas” from one person to another, like prisoners tapping in code to one another through the walls of their cells. If this were the case, then it would be very difficult indeed to claim that human language is significantly different from nonhuman animal communication. Linguistic rightness is not defined as success in completing some non-linguistic task; rather, rightness refers to a kind of shared linguistic recognition, while acknowledging “the relevance of a challenge that we have misspoken.”[7] *Getting things right*, from a linguistic standpoint, necessarily depends on a mutual recognition of the world we live in and a shared focus on some particular feature of that world, as well as an ability to reflect mutually on that shared focus.

The preceding analysis might leave some readers wondering what exactly is new about Taylor’s arguments. After all, many philosophers of language—not least Wittgenstein and his followers—have been attacking the designative, instrumental view of language for several decades. This consideration, alongside the fact that Taylor does not show much interest in the work of contemporary analytic philosophers, might lead one to assume that he has simply ignored vast swaths of the relevant literature. But there are at least two features of Taylor’s monograph that distinguish it from other works in the field that share similar concerns.

The first novel feature is that Taylor draws upon a vast treasury of resources to bolster his arguments. Most of his philosophical insights are drawn not from discussions within contemporary philosophy of language but from German Romantic theories of language. Longtime readers of Taylor will find this unsurprising, given his intellectual history, but this feature alone sets his project apart from mainstream post-Fregean discourse[8] on the nature of language. In one of the few places where he does delve into typical post-Fregean waters, he apologizes to the reader for “dragging all that old stuff up again.”[9] Taylor also draws liberally on developments in evolutionary theory and recent studies in the social sciences. In light of this project’s aims, he is explicit in giving priority to ontogenetic study over phylogenetic.[10] While we might fantasize about having a complete evolutionary story that would unlock the many mysteries of language, Taylor contends that we largely lack “undoubtedly real knowledge about how humans evolved” and instead must rely on speculative deductions.[11] But if instead we turn to the ontogenetic development of language, which we are able to observe firsthand, there is much that we can learn.

Taylor cites numerous studies in comparative and developmental psychology to support his notion of linguistic rightness. The chapter on “How Language Grows” is largely dedicated to examining the ontogenetic development of language and the insights this gives us into what it means to learn how

to speak and how to use the “right” words. An examination of human ontogeny reveals that we “learn language in exchange.”[12] But the purpose here is not merely to offer a social-scientific analysis. He turns once again to the German Romantic tradition and, in particular, to the work of Johann Gottfried von Herder, who observed that humans are free from the absolute “command of instinct” (as he put it) that dominates the existence of nonhuman animals. Herder’s notion of reflection (*Besonnenheit*) becomes an anchoring point for Taylor’s development of the linguistic dimension. The human ability not only to *experience* but to *reflect on* our experience—as well as our ability to share our reflections with other human beings—is the source of language’s creative power. “Linguistic beings,” writes Taylor, “are capable of new feelings which affectively reflect their richer sense of their world: not just anger, but indignation; not just desire, but love and admiration.”[13] The relationship between language and the irreducible rightness of the linguistic dimension is reciprocal: no language without the linguistic dimension, and vice versa.[14]

There are several excurses in which Taylor explores a dazzling array of subjects—art, metaethics, ritual, and narrative—but the bulk of his monograph is devoted to defending two theses: 1) that human linguistic capacity extends far beyond encoding and communicating information, and 2) that this limited conception of language arose out of modernist theories in the wake of Descartes—namely in the works of Thomas Hobbes, John Locke, and Etienne Bonnot de Condillac. The latter approach, which he dubs the “HLC” model, stands in contrast to his own preferred “HHH” model (designating the works of the German Romantics Johann Georg Hamman, Johann Gottfried Herder, and Alexander von Humboldt). The reader, who sees little discussion of current advocates of the HLC model in Taylor’s book, might be forgiven for assuming they are few and far between. Taylor is not so generous in his assessment of current scholarship and he hopes to eradicate any remaining traces of the HLC model in the way we think about language.

This leads to the second novel feature of Taylor’s book, his choice of targets. These targets fall into three categories. The first category includes those, such as Steven Pinker and Noam Chomsky, who advocate for enframing theories of language, in which language functions as a kind of “code” for transferring information.[15] While these thinkers make for obvious opponents to Taylor’s model, they are not the only ones prone to HLC-inflected mistakes. As an example of the second category of targets, Taylor cites the early twentieth-century pragmatist George Herbert Mead, who, on the whole, sought to combat the Cartesian understanding of the self and its crippling effects on one’s perception of oneself in relation to others. Yet Mead’s break with Cartesian monological epistemology was insufficiently radical, Taylor argues. On his reading, Mead describes the realization of the “self” *alongside* the realization of an intersubjective world. While this is an improvement over Descartes, it does not go nearly far enough. Taylor suggests that we should instead invert the Cartesian priority, such that self-awareness emerges out of a prior awareness of intersubjectivity.[16] The third category includes those proponents of constitutive theories similar to Taylor’s HHH model who nevertheless commit Cartesian peccadillos on occasion. Here he cites the work of comparative psychologist Michael Tomasello, whom he otherwise admires, as a cautionary tale for those who uncritically adopt the dominant vocabulary of psychology, which often harbors monological assumptions. Even Tomasello uses descriptors such as “perceiving communicative intentions” to describe the human capacity for language. For Taylor, this cedes too much ground to the notion that the individual subject—not the relational mode of linguistic beings—should take priority in our analysis of language.

Apart from the volume’s success as a novel and persuasive argument in favor of a constitutive theory of language in its own right, this book deserves the careful attention of theologians. While

Taylor himself only hints at the theological import of his arguments, they are simply waiting to be gleaned by those concerned with the problems surrounding theological language. More specifically, this volume can be profitably read alongside Rowan Williams's Gifford Lectures, published as *The Edge of Words: God and the Habits of Language*.^[17] Williams's insistence that language transcends material reality to the point that we cannot understand the world without it meshes perfectly with Taylor's main theses.^[18]

The similarity between Taylor's and Williams's analyses of language is striking. Williams shares the view that language is not fundamentally about the transfer of information from one container to another, but rather is concerned with "establishing a world in common."^[19] His analysis focuses on the material nature of language—that is, he makes a distinction between "description" (the conventional assumption of how words relate to the world) and "representation" (which relates to how we structure our perceptions in cooperative activity involving both the material universe and other speakers of our language). The radical implications of this view become clear as Williams explains that language is "the natural integrating factor in the evolving material universe. Rather than looking to material processes, understood in a mechanical fashion, as the key to understanding what language is, it would be nearer to the truth to say that we look to language to show us what matter is."^[20] This is to say both that: language is an aspect of material reality and our embodied existence, *and* that language transcends material reality to the point that we cannot understand the world without it.

To conclude, I would like to extrapolate two principles based on the insights of Taylor and Williams, assuming they are right. These are principles for interdisciplinary research regarding the significance of language and what it can tell us about being human. The first principle is that language (not just "words") *creates* reality and does not merely communicate or describe an independent reality. Or, following Herbert McCabe, we might say that language under pressure can offer surprising new insights into reality. The second principle is that we will never grasp the significance of human language (insofar as it informs our understanding of human *wisdom*) if we limit our inquiry to the evolution of language. Or, put differently, it is misguided to assume that a complete evolutionary story (with no gaps or loose ends) will fully answer the question of how language helps us understand the meaning of wisdom. We must resist the temptation to think that unlocking the hidden details of the evolution of language will answer all of our questions about its significance for human beings. Even if we are able to provide a full account of *why* language arose in human beings, we are still a long way off from answering the question: What does the possession of language mean for us as human beings *now that we have it*? That is to say: this is where the interdisciplinary task begins, not where it ends.^[21]

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- [3] Charles Taylor, *The Language Animal: The Full Range of the Human Linguistic Capacity* (Cambridge, MA: Harvard University Press, 2016), 338.
- [4] Ibid., 339.
- [5] Ibid., 261.
- [6] Ibid.
- [7] Ibid., 7.
- [8] Gottlob Frege (1848–1925) is widely considered to be the father of what is now known as analytic philosophy, with its emphases on the formal structure of arguments and the relationship between language and logic. Frege set the terms for nearly all the debates that continue under the banner of “philosophy of language” today.
- [9] Taylor, *The Language Animal*, 112.
- [10] Ontogenesis refers to the growth and development of an individual organism, whereas phylogenesis refers to the development and diversification of an entire species.
- [11] Taylor, *The Language Animal*, 68.
- [12] Ibid., 61.
- [13] Ibid., 28.
- [14] Ibid., 29.
- [15] Ibid., 332.
- [16] Ibid., 64–5.
- [17] Rowan Williams, *The Edge of Words: God and the Habits of Language* (London: Bloomsbury, 2014).
- [18] Taylor acknowledges the considerable overlap between his and Williams’s projects (*The Language Animal*, 89n8), but unfortunately the authors’ publication schedules did not allow for any direct interaction.
- [19] Williams, *The Edge of Words*, 99.
- [20] Ibid., 102.
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CHAPTER 17.

TIMELESS WISDOM

ADAM M. WILLOWS

In this chapter, I will discuss the nature of time. I would like to begin by making three claims that I will rely on in my argument but do not intend to defend at length.[1] The first, I assume, will receive general agreement: that rational thought is required for at least some kinds of wisdom.[2] I might claim it is *always* required, but that is not what I am doing here. Nor do I claim that it is the only thing needed for wisdom. Think of rationality as a match to wisdom's fire; you do not need a match to start a fire, and it is not enough on its own, but there are particular ways of lighting a fire that do not work if you leave out the match.

My second claim is that you cannot be rational if you do not have free will. I am deliberately leaving the definition of "free will" a little loose here, simply because I think my argument holds for either compatibilists or libertarians. To sketch out that argument: rationality (and intentionality) are essentially deliberative; deliberation requires choice, and choice requires free will. From 1 and 2, I conclude that free will is required for the exercise of at least some kinds of wisdom.

Lastly, claim 3. If any of my three claims raises eyebrows I think it will be this one, because it is certainly the focus of active debate. It is that consciousness is irreducible. By this, I mean that it is not possible to provide a complete or satisfactory account of consciousness by providing a complete account of its constituent parts, or any particular conjunction of events, because it is more than the sum of those things. Consciousness may or may not arise, or be emergent, from those parts or events; that is a different question. Regardless, it is not itself reducible to those parts. It may be that consciousness is a biological phenomenon caused by lots of "building blocks" like different brain states, etc., but it is not itself made up of those "building blocks"—it is a unified state.

I will begin the main part of my discussion with a few examples of how we *talk* about time. Here is one set: "I did that last week"; "Today is my wedding day"; "She is starting school next year." And here is another: "I was born in 1973"; "The meal did not come until an hour after we ordered"; "The commemoration will be held on the 500th anniversary of the battle." There are two fundamentally different ways of organizing temporal relations operating in these examples. The first set is organized according to the past, present, and future. It describes one fixed point in time and a particular property/relation that point has—either past, present, or future. In the philosophy of time, this set, the past/present/future set, is called an "A-series." The second set is organized according to whether

something is earlier or later than some other point in time. This kind of ordering of time is called a “B-series.”

Notably, A-series relations are always changing. Today is *not* always my wedding day. At the moment, 2019 is next year. Soon it will be this year; in 2020, it will be last year. On the other hand, B-series temporal relations are fixed. I am *always* born in 1973; no matter when you are, the ordering of the meal precedes its arrival by one hour. In sum, A-series relations are about past, present, and future; B-series are about “earlier” or “later.” There is an ongoing debate about whether one or both of these are actually *part* of time, or only part of our *experience* of time. One group, the “A-theorists,” argues that both series are part of time, independently of us, and our ordering of events into earlier or later *depends* on the existence of past, present, and future. The “B-theorists” argue that only B-series relations are objective; past, present, and future are features of our perception of time, not of time itself. The argument is an argument over the question, “does time pass?” A-theorists say yes; B-theorists say no. What I want to do here is to look at one of the consequences of the A-theorists’ position.

A-theorists are committed to the proposition that past, present, and future are real features of time: there must, then, be something different about them. Why is the present different from the past and the future? In my view, it is not sufficient to say something similar to “the past has already happened and the future has not happened yet,” because that amounts to saying “the past is the past.” Since we are talking about how to distinguish temporal relations, it is important to make that distinction without reference to the temporal relations themselves if our distinction is not to be circular. The answer typically given is that the present is the locus of *causality*; I refer to this as efficient causation. Most A-theorists are presentists, so to speak, meaning that they hold that only the present exists. The future is brought into being by the present and hence does not exist. The past is gone and does not exist either. This is a pretty typical view shared by, among others, St. Augustine: “If past and future events exist, I want to know where they are.”[3] A few subscribe to a “growing world” theory whereby the past continues to exist but in a causally inert fashion, meaning that reality accumulates as events move from future to past.[4]

In either case, the present is special. It is also difficult to explain, a fact noticed by Augustine over 1,600 years ago. In his discussion of time, Augustine asks how long, exactly, is the present? It seems as though it cannot be any length of time because any given length of time seems to allow for division. The present cannot be a day long, because the beginning of the day is in the past while the end is still in the future; equally, the present cannot be an hour long, or half an hour, and so on, down to the nanosecond. Augustine concludes:

If we can think of some bit of time that can be divided into even the smallest instantaneous moments, that alone is what we call the present. And this time flies so quickly from future into past that it is an interval with no duration.[5]

It would appear that there are two options, both of which Augustine mentions. Either we say that the present is the smallest possible unit of time (what actually is being undetermined); or, the present is durationless, a point of nothingness between past and future. Augustine’s response is to say that the present does not exist at all, and indeed that the past and the future do not exist either.

Following the A-theorists, however, the present *does* exist. But whichever of Augustine’s options we choose (smallest possible unit of time *or* no duration), the present does not last a very long time at all. To return to my earlier claims, if the A-theorists are right, then whatever the present *is*, it is

far too brief for rational thought to occur; indeed, it seems far too brief for thought or action of any kind.[6] Perhaps this transience is not concerning; after all, each present causes the next in a chain of causation so that eventually we get movement and thinking, even if by the end of an action the cause that initiated the action no longer exists. To recall my third claim that *consciousness is irreducible*, this is not the kind of thing that consists of a group of constituent parts. If the A-theorist is right, then consciousness cannot exist because none of the states that produce it exist at the same time. At best, a growing world theorist *might* be able to claim that consciousness exists but is causally inert; it cannot do anything. But I take it that consciousness is required for all other things that we identify with a self, such as intentions, choice, and deliberation. Without consciousness, there is no choosing because there is no agent to choose; there is just a series of happenings.[7] There is no free will. And—recall my other claims—without free will there is no reasoning and at least some kinds of wisdom are not possible. Augustine does not make this precise point, but he does discuss the impact of time on the self:

I am scattered in times whose order I do not understand. The storm of incoherent events tear to pieces my thoughts, the inmost entrails of my soul, until that day when, purified and molten by the fire of your love, I flow together to merge into you.[8]

In my view, then, if you are going to talk about wisdom—at least, the fullness of wisdom—I think you have to be a B-theorist. Time does not, in and of itself, pass. Although we experience time passing, this is to do with our perception, rather than with the nature of time. By way of encouragement, I thought I would mention one or two areas of work in theology and anthropology that suggest that this view is, at least, worth taking seriously. First, work in anthropology and biology has shown that the language we speak appears to have a significant effect on the way we experience and conceptualize time. For example, Mandarin speakers tend to conceptualize time vertically, and English speakers think of time horizontally.[9] It also appears that external and internal factors like particular events or emotions can impact the way we experience duration.[10] I described the debate between the A- and B-theorists as a question about the passing of time. It is no coincidence that another way the debate is sometimes presented is as a disagreement between *tensed* and *tenseless* theories of time.[11] From my limited understanding of the scientific research, it is at least possible that the way our languages employ tense changes the way we *experience* tense. In other words, some of these things are an indication, perhaps, that this experience is subjective: a feature of human perception, not constitutive of time itself.

Theologians ought, I think, to at least be comfortable with the idea that time is not necessarily as we experience it, simply because tradition and scripture alike suggest that God's experience of time is not the same as our own. During theologian Niels Gregersen's keynote speech at the Human Distinctiveness – Wisdom's Deep Evolution conference, we heard that wisdom is about being comfortable with the *now* of time and overcoming the flight of time. Gregersen also noted that only wisdom makes us superior to time and thus makes us free. I would agree with this assessment and provide one additional thought: only by being free from time (at least, the passage of time) can we be wise.[12]

Now I want to close this thought experiment by talking about why this might matter practically. In 2017, some members of our research team attended a symposium closely related to this project – Humility, Wisdom, and Grace in Deep Time. I suggest that when we engage in projects talking about “deep time,” the way we think about time matters. At the very least, this ought to encourage a perspective shift by making the *reality* of our evolutionary ancestors more apparent. Remember, A-

theorists think that the past no longer exists or, at the very least, is causally inert. It is not “real” like the present. But the B-theorist disagrees. What we perceive as past is *precisely* as real as what we perceive as the present. It is just as true that the *australopithicene* Lucy fell out of a tree (or whatever killed her) as it is that I am presenting this chapter. We can see one of those and not the other, but that is our problem, not Lucy’s, and she does not deserve to be condemned to metaphysical irrelevance because of it. In conclusion, any theology, Christology, anthropology, or eschatology that ignores or has no place for our evolutionary ancestors is just as flawed as one that ignores or has no place for modern humans. I am not saying that our evolutionary ancestors necessarily have to have the *same* status as modern humans; but they have to have *some* status. As long as we have no account of that status our thought about humanity and creation is incomplete.

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- [1] This chapter’s text was presented at the *Evolution of Wisdom* Conference, Notre Dame London Global Gateway in July 2017, and it represents an exploration of ideas in progress, rather than my complete or finished thought on the topic.
- [2] By “rational thought,” I mean the ability to make logical inferences and draw conclusions that compel belief/assent.
- [3] Augustine, *Confessions*, translated by Henry Chadwick (Oxford: Oxford University Press, 1998), XI. xiii.
- [4] See Ned Markosian, “Time,” *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, January 24, 2014.
- [5] Augustine, *Confessions*, XI, xv.
- [6] I am here following the argument of Robin Le Poidevin, “Time and Freedom,” in *A Companion to the Philosophy of Time*, edited by Adrian Bardon and Heather Dyke (Oxford: Wiley-Blackwell, 2013), 535–48.
- [7] For a more complete discussion of this subject, see John Searle, *Rationality in Action* (Cambridge, MA: MIT Press, 2001).
- [8] Augustine, *Confessions*, XI, xxix.
- [9] Orly Fuhrman et al., “How Linguistic and Cultural Forces Shape Conceptions of Time: English and Mandarin Time in 3D,” *Cognitive Science* 35.7 (September 2011): 1305–28.
- [10] Heather Dyke and James MacLaurin, “Evolutionary Explanations of Temporal Experience,” in *A Companion to the Philosophy of Time*, edited by Adrian Bardon and Heather Dyke (Oxford: Wiley-Blackwell, 2013), 521–34.
- [11] A-theorists hold that time is *tensed*: past, present, and future exist independently of us. B-theorists hold that time is *tenseless*: past, present, and future are not part of time itself.
- [12] It is interesting to note that in the *Confessions*, Augustine’s motivation for discussing time is his attempt to better understand the origins of creation. The passage immediately preceding the main section is about wisdom, which Augustine says is the Beginning (XI, ix).

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CHAPTER 18.

TRAUMATIC VIOLENCE AND CHRISTIAN WISDOM: POSSIBILITIES FOR WOUNDING AND HEALING

JULIA FEDER

In this chapter, I examine the deep evolution of the human imagination in conversation with contemporary anthropological research to construct an evolutionary-informed trauma theology. This history will allow me to draw three (related) conclusions. First, a human traumatic response to violence (and, furthermore, the very interpretation of an experience as “violent”) is conditioned by the distinctively human symbolic imagination formed in and through wisdom. Second, posttraumatic recovery and growth is similarly conditioned by the distinctively human symbolic imagination formed in and through wisdom. Third, there are resources in the Christian tradition, as a “school of [human] wisdom,”[1] to help facilitate posttraumatic healing. To flesh out this third point, I will explore the sixteenth century writings of the Spanish mystic Teresa of Avila on prayer and courage.

Due to the structure of the distinctively human cognitive-behavioral niche, when human beings have negative experiences, particularly ones that threaten their capacities to integrate these experiences into an overarching worldview, these negative experiences can take on a traumatic quality. With traumatic experiences, the harmful effects of the negative experience do not pass or fade after the experience is over. A feeling of being both physically and psychologically overwhelmed by an external threat endures even after this threat is no longer present. This traumatic response to threat is made possible by the distinctively human symbolic imagination itself. The ways in which human beings rely upon each other to survive create the conditions for acute vulnerability, particularly to interpersonal forms of harm. The ways in which human beings construct symbolic worlds create the conditions for generalizing about human experience, drawing conclusions, and replaying events until they fit into a livable symbolic framework. This also creates the conditions for social roles and expectations that can later be violated. Violations of these expectations are often experienced by humans as a form of personal betrayal since social expectations concretely and specifically construct the shared social world. Also, the ways in which human beings cooperate with each other in order to construct their worlds and accomplish goals simultaneously create the conditions for systemic forms of violence (e.g., militarization, economic oppression, racism, sexism, or rape cultures).[2]

The study of trauma in the academy has developed over the last 150 years as an interdisciplinary project. Since the 1980s, Christian theologians have made some contributions to this conversation, generating a subfield within the broader discipline called “trauma theology.” Despite the reality that

traumatic violence has been central to the Christian story from its very beginnings (one thinks here of the trauma experienced by the early followers of Jesus who witnessed his crucifixion, as well as the trauma experienced by those who later suffered similarly violent deaths) systematic reflection on trauma for the purposes of constructing a “trauma theology” is a relatively recent development in the history of academic theology. Several contemporary theologians, including Jennifer Erin Beste,[3] Serene Jones,[4] Shelly Rambo,[5] Pamela Cooper-White,[6] and Flora Keshgegian,[7] have undertaken explicit engagement with secular trauma studies in order to reflect more deeply on the nature of Christian salvation. In this chapter, I focus on the work of Serene Jones since her description of traumatic violence resonates in some interesting ways with the conversations we have been exploring about wisdom, evolution, and theology at the Center for Theology, Science, and Human Flourishing. Jones argues (more explicitly than any other trauma theologian to date) that the human imagination is the primary site of wounds following traumatic violence and the task of Christian theology in a posttraumatic context is to offer a way to heal this wounded imagination or, as Jones puts it, to offer “stories of new imaginings.”[8]

For Jones, the term imagination “refers to the thought stories that we live with and through which we interpret the world surrounding us.”[9] This understanding of imagination hints at both its symbolic and social structure, though perhaps not self-consciously, and thus intuits the rich research anthropologists have done on the nature of the distinctively human imagination. Yet this remains a mere intuition for Jones, as she does not engage evolutionary research specifically.

For Jones, Christian prayer practices can function as “imaginative practices”[10] that craft the soul, helping us to “hold” suffering as we “continue to experience the ravaging force of traumatic events.”[11] She argues that prayer can transform an imagination wounded by traumatic violence.[12] This happens as traumatized people tell the stories of their trauma to God and God acts as witness to the sufferers’ stories. In this dynamic process of “testifying and witnessing,” she writes, “a person’s own story undergoes a transformation as it is pulled into and redefined by the divine story of God’s constant presence with us, and God’s promise to ultimately redeem the harm done to us and thus make ‘all things right.’”[13] This transformation happens in three stages, mirroring psychologist Judith Herman’s influential work on the three components of traumatic recovery.[14] First, prayer establishes safety for the traumatized individual by assuring her of the benevolent sovereignty of God who orders and stabilizes the world and is fundamentally trustworthy. It is also God’s desire for humans to act as agents in their own lives such that divine agency and human agency are non-competitive.[15] Second, prayer provides an opportunity to lament, remembering what has happened and mourning what has been lost. This can be especially aided with the accompaniment of Scriptures which provide a language for pain, rage, and even a desire for revenge (without having to act on these desires). Third, prayer provides an opportunity to reconnect with everyday life via practices of thanksgiving whereby the imaginative landscape can be broadened beyond the violence the sufferer has experienced.[16]

Jones turns explicitly to John Calvin’s reflections on the psalms as an instruction in these three movements of prayer, surely influenced by her own Reformed background, yet I consider that other resources in the Christian tradition might be even more helpful. In particular, the writings of Teresa of Avila (1515–82) foreground prayer practices as capable of generating courage—a virtue necessary in the process of posttraumatic healing and one critical to the creative imaginative process itself. Teresa’s theology of prayer speaks to the same three moments in posttraumatic recovery that both Herman and Jones do, but with a particular attention to the role of courage or “endurance” in the practitioner

of prayer. As Herman writes in her own book, recovery requires a “tolerance for the state of being ill.”[17] In other words, it requires a kind of strength of “holding on,” a capacity to endure in a good and worthy task despite hardship. This is a classic definition of courage in the Christian tradition.[18]

In Teresa’s thought, prayer practices provide opportunities for individuals to build trust, practice vulnerability, and encounter modified risk. These are the capacities that, on the one hand, are wounded by trauma, but that, on the other hand, remain central to the successful negotiation of the (socially constructed) human landscape. In Teresa’s most mature work, *The Interior Castle* (1577), she describes the soul as a castle with walls made out of diamond or very clear crystal.[19] The castle is composed of six sets of rooms and in the very center of the castle there is a singular room which she terms “the seventh dwelling place.”[20] In this center point God dwells, and from it light emanates into all the surrounding rooms. The project of the life of prayer is to learn to move from the outer portions of the castle, where most people spend their lives, into the interior parts of the castle, where God dwells. To accomplish this task requires trust that the King of the castle is one with whom you would want to spend time and who wants to spend time with you. Indeed, to enter a castle without knowing you are welcome would be quite a risky endeavor. Movement toward the center of the castle requires vulnerability to the relationship into which one enters, but also the vulnerability to know oneself as one is. To recognize ourselves as castles made out of diamond in which God dwells, is to recognize ourselves as “magnificent” and beautiful.[21] Yet, it is also to know ourselves as “filthy” and “lowly” because it is God who illuminates us (not ourselves) and we often fail to have the courage to dwell within and, instead, choose to dwell in the exterior portions of the castle or the courtyards where reptiles, insects, and vermin also reside. Those individuals who remain in these outer areas believe mistakenly that they too are these nasty creatures, since they spend so much time with them.[22] Victims of sexual trauma, who often struggle so acutely with feelings of shame and self-disgust because of what has been done to them, can perhaps understand well the dangers of this mistaken solidarity with filth (identity transference). Teresa describes those who only dwell in the external portions of the castle as people who have difficulty understanding themselves as wealthy persons who are able to dwell in the luxury of the inner castle and can converse with (and indeed marry) its King.[23] Teresa compares those who do not practice prayer to those who do not care for their bodies and allow themselves to atrophy from lack of exercise or rehabilitation after an injury; they do not nurture their own full functionality and health.[24]

Writing a decade earlier in her autobiography, Teresa makes even clearer that she views some relationships as damaging or destructive. Christian love, then, does not entail an unqualified openness to all—some need to be resisted, especially those who exercise power unjustly. Her autobiography, interestingly, was written at the command of the Inquisition as a means to interrogate whether she was under the influence of the devil. But Teresa used the directive to write as an opportunity to instruct other women in ways to be resistant to male religious authorities who wish to silence them. She instructs her female readers to choose a confessor wisely and ensure that this confessor keeps the details of her interior life confidential to minimize opportunities for confusion on his part.[25] She gives multiple examples from her own life in which she did not follow this advice, describing the harm she suffered at the hands of confessors who falsely believed she was deluded by the devil, pointing, then, directly to the situation which prompted her writing. As she describes it, she was made to feel confused and tried very hard to believe the judgment that she was under demonic influence.[26] She was “terrified,” “fear[ful],” “completely agitated and wearied,” and in intense “affliction” until God appeared to her in a private vision and told her: “Do not fear, daughter, for I am, and I will not

abandon you; do not fear.”[27] As she narrates it, these divine words instantly gave her a calmness, strength, and courage that no person could have given her, even after hours of persuasion. She now has the confidence that the devils cannot hurt her, for she is a servant of a King who is more powerful than any of them. She loses all the fears that have plagued her and believes that the tables have now been turned—the devils are afraid of Teresa, she has power over them now, and they seem to her no more than “flies” and “cowards.”[28] She writes: “Not a fig shall I care then for all the devils in hell: it is they who will fear me.”[29] Recall, however, that it is the committee of male clergy who incited this pain in her and who caused her to believe that devils were appearing to her. She now realizes that the “devils” were always an illusion, a mere suggestion of the priests, and it is they who were the actual agents of harm. Teresa’s cursing of “devils” here encodes an indirect cursing of bad clergymen who doubt her divine favor; the cursing of the devil is subordinate to the cursing she would like to unleash upon bad confessors. This is confirmed by a statement at the end of the chapter that bad confessors are to be feared more than the devil himself.[30]

Therefore, for Teresa personal vulnerability, when able to be controlled, should only be directed toward those who can be trusted. Teresa opens herself up in vulnerability to God, but she guards herself against devils (in her autobiography) and against the vermin of the castle (in *The Interior Castle*), making sure to let as few into the rooms as possible,[31] bringing into clearer focus the political weight of the metaphor of the castle as a defensive, protective structure. Trauma victims, as they progress in healing, find that they must practice regulating vulnerability: they limit their exposure to untrustworthy individuals and relationships (e.g., those who have abused them in the past), but simultaneously work to relearn gradations of powerlessness and passivity in planned encounters with danger or risk (e.g., wilderness trips, martial arts training, prayer, and so forth).[32]

Specifically, in the case of defensive measures taken against devils in the *Life*, Teresa speaks of God giving her the courage to engage in bodily combat. She writes,

If this Lord is powerful, as I see that He is and I know that He is, and if the devils are His slaves (and that there is no doubt about this because it’s a matter of faith), what evil can they do to me since I am a servant of this Lord and King? Why shouldn’t I have the fortitude to engage in combat with all of hell? I took a cross in my hand, and it seemed to me truly that God gave me courage because in a short while I saw that I was another person and that I wouldn’t fear bodily combat with them; for I thought that with that cross I would easily conquer all of them.[33]

The nature of the qualified vulnerability that Teresa takes up, thus, involves the body as well as the spirit. If not conquered through the power of God, devils have the ability to wreak bodily havoc and therefore must be vanquished in a bodily fashion. The conquest of these devils, however, does not consist in their disappearance. Teresa still sees these devils from time to time, but she has no reason to fear them. She writes that instead:

“There was no doubt, in my opinion, that they were afraid of me, for I remained so calm and so unafraid of them all. All the fears I usually felt left me—even to this day. For although I sometimes saw them, as I shall relate afterward, I no longer had hardly any fear of them; rather it seemed they were afraid of me.”[34]

This points us to the nature of traumatic healing: the restored trauma survivor does not experience the disappearance of traumatic memories, but can acknowledge the presence of these memories without experiencing them as overwhelming all other aspects of memory as well as a vision of the future.

If the life of prayer involves openness or vulnerability to God, it also includes resistance to or

even defensive combat with others, particularly those who exercise unjust power. It also involves loving service to others, particularly those who are powerless and in need. In other words, this understanding of prayer is a model of relationality or collaboration according to the pattern of the Magnificat: the powerful are to be brought down from their thrones, the lowly lifted up, the hungry filled with good things, and the rich sent away empty (Luke 1:52–53). In the center of the castle of the soul, the seventh dwelling place, Teresa writes, we can experience spiritual marriage with Christ, and, as she calls it, “another heaven.”[35] Spiritual marriage with Christ in this final stage of contemplation is permanent[36] and entails the complete sharing of property; Teresa has a claim to what belongs to Christ and he pledges to care for what belongs to her.[37] There is a great sense of “stability” and the gifts of increased “determination.”[38] Teresa compares this seventh dwelling place to a wine cellar in which God gives the soul something to drink so as to restore its strength and nourish it.[39] The purpose of prayer, then, is to gain the “strength to serve”[40] community members through “the birth always of good works, good works.”[41] As Rowan Williams comments, it is precisely the inner stability provided by the divine union in this final stage of prayer that generates virtuous activity.[42] Teresa commends her sisters to virtuous action in the world, concentrating on those in proximate need, advising them to always stretch their capacity for acts of love, and promising that God will multiply any efforts made in good faith.[43] Thus action characterized by the full development of humility and self-knowledge in the seventh dwelling place represents a form of eschatological hope in God; with the help of our small efforts, God will bring about the transformation of the world. Teresa writes that “if we do what we can, His Majesty will enable us each day to do more and more, provided that we do not quickly tire.”[44] Thus even limited, mundane actions of love between religious sisters have an enduring significance since they embody God’s salvific love for the world as a whole.

A theological framework for healing from traumatic violence that prioritizes courage, like Teresa’s, can offer victims of trauma an opportunity to reclaim agency, appropriate power, and resistance in the face of apparent powerlessness. Teresa’s image of the soul as a castle, a fortified structure, highlights the kind of strength that she recognized is available to one who practices prayer. Paradoxically, as a person becomes transparent to God, moving within the structure towards the center, she gains the strength to persevere in radical relationality to God and comes into right relationship with others—serving her sisters and learning to ignore (or even scare) those who oppose love of God and good work in the world. This, therefore, is wise collaboration. Prayer is an imaginative practice that helps the practitioner relearn trust in herself and in a relational other (God), see herself as capable of resistance and aggression toward others, and see herself as having gifts of love and healing to share with others. It is this full range of relationality that is lost with trauma (as one is reduced to a powerless victim) and that must be restored in a posttraumatic context in order to experience healing.

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- [2] I develop this point further in Julia Feder, “Human Suffering, Evolution, and Ecological Niches: Edward Schillebeeckx in Dialogue with Niche Construction Theory,” *Journal of Religion and Society* Supplement 16 (2018): 150–64; Julia Feder, “The Impossible is Made Possible: Edward Schillebeeckx, Symbolic Imagination, and Eschatological Faith,” *Philosophy, Theology, and the Sciences* 3.2 (2016): 188–216.
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- [9] *Ibid.*, 20.
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- [11] *Ibid.*, 52.
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- [19] Teresa of Avila, *The Collected Works of St. Teresa of Avila*, vol. 2, *The Interior Castle*, translated by Kieran Kavanaugh and Otilio Rodriguez (Washington, DC: Institute of Carmelite Studies, 1980), 283.
- [20] *Ibid.*, 427–50.
- [21] *Ibid.*, 286.
- [22] *Ibid.*, 286.
- [23] *Ibid.*
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- [26] *Ibid.*, 205–6, 219–20.
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- [28] *Ibid.*, 222.
- [29] *Ibid.*, 223. The translator adds in an explanatory footnote: “The fig, or ‘fico’, is a contemptuous motion, thus, she is cursing the devils here and proclaiming that they should fear her.”
- [30] *Ibid.*, 223.

- [31] Ibid., 287.
- [32] See Herman, *Trauma and Recovery*, 137–8, 143, 197ff.
- [33] Teresa of Avila, *Life*, 222.
- [34] Ibid.
- [35] Teresa of Avila, *Interior Castle*, 428.
- [36] Ibid., 434.
- [37] Ibid., 433.
- [38] Ibid.
- [39] Ibid., 448.
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- [41] Ibid., 446.
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CHAPTER 19.

WISDOM THEOLOGY AS AN AXIAL PHENOMENON: METHODOLOGICAL REFLECTIONS ON THE JESUS TRADITION

NIELS GREGERSEN

This chapter focuses on a particular strand of the Wisdom tradition. More precisely, my aim is to place the biblical wisdom motifs into a wider historical perspective by situating the wisdom teaching of Jesus in the context of Axial Age self-reflexive religion, while acknowledging its particular roots in Jewish-Hellenistic wisdom literature.[1] In contemporary New Testament scholarship, it has become a generally accepted view that the gospels of Matthew and Luke depict Jesus as a *representative* of divine Wisdom, while the Gospel of John even views Jesus as an *embodiment* of the eternal Logos. This raises the question: what happens in the interpretative process as we move from seeing Jesus as a man of wisdom to seeing him as God's own Wisdom/Logos in person? This question has a methodological correlative: what is the relation between historical and theological approaches to the wisdom motifs in the Jesus tradition?

In what follows, I argue that a *phenomenological* approach to the Jesus tradition offers a shared platform for historical studies and contemporary wisdom Christology. By focusing on typical human attitudes to world, self, and other persons, a phenomenological analysis is able to elucidate what is at stake in the New Testament wisdom traditions—without presupposing particular historical hypotheses, and without making any explicit theological interpretations. By bracketing historical background conditions, as well as metaphysical concepts of divinity, phenomenology explicates typical dilemmas of human co-existence to which the New Testament wisdom texts provide their particular answers. In this sense, a phenomenological reading of the New Testament wisdom traditions offers a mediating perspective between past-oriented historical studies and the present-and-future oriented interests of wisdom Christology.

Using historical and phenomenological analyses as discussion partners involves two commitments that are at once secular in orientation and fully consonant with basic theological convictions. First, historically speaking, the Jesus tradition stands in continuity with other wisdom traditions in the post-Axial Age, in particular with the Jewish-Hellenistic traditions. For example, the Gospel of Luke portrays the twelve-year-old boy Jesus in the Temple as “sitting among the teachers and asking them questions” (2:46). Jesus is here definitely not seen as a pure exception to other wisdom traditions. Second, phenomenologically speaking, the sayings and acts of Jesus exemplify particular interventions into well-known dilemmas of human agency, interventions that can be understood and

recognized by any self-reflexive human person, believer or not. As I will show, the wisdom teaching of Jesus moves within shared domains of human understanding, even where Jesus appears to be driving ordinary human understandings to their edge. Phenomenologically speaking, his teaching was remarkable but not exotic. Correspondingly, Christian theology emphasizes that Christ is “fully human” even when embodying divine wisdom.[2]

Proverbial, Prophetic, Skeptical and Metaphysical Strands of Wisdom Theology

More specifically, the wisdom teaching of Jesus, and its subsequently Christological interpretation, build on four interrelated strands of Jewish wisdom theology: (1) the *proverbial* strand from the Book of Proverbs and other general wisdom traditions; (2) the *prophetic* strand of Isaiah and Jeremiah; (3) the *skeptical* strand from Ecclesiastes and the Book of Job; and (4) the *metaphysical* strand that comes to the fore in the Book of Wisdom and other Jewish-Hellenistic writings. Already within the Jewish tradition to which Jesus was an heir, divine Wisdom was seen as penetrating into all things and networks of reality, both natural and cultural. For as the Book of Wisdom says:

Wisdom is more mobile than any motion; because of her pureness she pervades and penetrates all things. 25For she is a breath of the power of God, and a pure emanation of the glory of the Almighty; therefore nothing defiled gains entrance into her. 26For she is a reflection of eternal light, a spotless mirror of the working of God, and an image of his goodness (7:24–26).

The combination of these four strands is characteristic of the New Testament portrayals of Jesus of Nazareth as the representative of divine Wisdom. The proverbial and prophetic strands relate to the problem of confusion and reorientation, either in practical affairs of life or in concrete historical conditions, while the skeptical strand shows Jesus as a contrarian thinker who was aware of the limitations of human knowledge and security, thus setting up a clear wedge between divine and human wisdom (transcendence and immanence). Finally, the metaphysical strand informs what Martin Hengel has called the “generative matrix” of later Christology, by implicitly assuming Jesus to be God’s eternal yet mobile Wisdom in person.[3] In this view, wisdom is not a commodity to be exchanged, but presupposes some form of personal embodiment enacted in the midst of mundane experiences.

Evolutionary Explanation and Historical Development

Even while zooming in on a particular wisdom tradition in the present essay, I remain convinced that a wider evolutionary perspective has something important to say about the emergence and proliferation of religion in general. Religion, just as any other phenomenon of human culture, will have to adapt to reality, and will have to pay the costs of natural selection if it does not. Religions may be delusional in many respects, but if religious conceptions were fully out of tune with the reality that human beings encounter, and without a sense for what makes life flourish in the long run, they would hardly have survived to this day. Likewise, it is unlikely that religion would have captured the commitment of a majority of the human species if religious life were only about esoteric ornamentations of an otherwise stable and well-functioning human mind. As I will argue, in contrast, wisdom traditions combine common sense observations of ethical co-existence with a self-reflexive awareness of dilemmas and problems of human existence.

Despite promising book titles such as *Religion Explained: The Evolutionary Origins of Religion* by Pascal Boyer or *Breaking the Spell: Religion as a Natural Phenomenon* by Daniel C. Dennett, only a

few philosophers of religion believe that we have at hand a satisfying evolutionary understanding of religion.[4] Evolutionary cognitive theory of religion, however, has rightly pointed to the apparently universal assumption of the existence of a divine power having a “mind” of its own, a mind higher than human minds *per se*, and not always accessible to human cognition. Quite a few religious assumptions, such as the existence of a divine mind with a penetrating presence, are widespread among the different religions. As Boyer points out, no religious person has ever argued that God, or the gods, exist always apart from Thursdays, or that God immediately forgets what God intimately knows.[5] Neither can God in this sense be defined in purely geographical terms, as with a God caring for the citizens of London only. Still, there may well be a sensed presence of the divine more pungent somewhere than elsewhere; for example, in the common distinction between more holy and more profane areas of life.

Evidently, wisdom traditions build on basic religious intuitions of a divine Mind and a divine Law while further developing such intuitions and coupling them with a self-reflective thinking. But the almost-universal spread of a religious mind-first view does not imply that the mind and will of God are everywhere evoked as “supernatural” causal agencies for specific salient events.[6] After all, religion is only seldom about retroactively *explaining particular facts* of reality (say, predators, thunder, floods), and more often about *finding meaning and orientation* in a clouded world. Practices of divinization may be explanatory in orientation, but not so the more widespread religious practices of prayer and meditation. Here other questions prevail, such as how to find practical orientation and directionality. Which way to go? These are the typical questions within religious life.

In particular, it seems to me that neither a reductive causal perspective (explaining all religion as a “hyperactive agency detection device,” or the like), nor excessive teleological views of reality (arguing that everything that happens has a preset divine goal) do justice to the reflective and self-reflective level of religious wisdom traditions. In general:

- Wisdom traditions are concerned with living forwardly rather than explaining backwardly (thus they are inherently pragmatic);
- Wisdom traditions are concerned with understanding the proximate context in the context of wider concerns of reality (thus they also embody cognitive concerns);
- Wisdom traditions are about understanding oneself as another, knowing that one cannot understand oneself without understanding other persons (thus facilitating a versatility of moral orientation).

In all of this, wisdom traditions are only rarely decoupled from other religious activities.

- While wisdom traditions may have *emerged as oral traditions*, its experts are more often than not members of literate cultures, knowing rituals and ceremonies from the inside, and knowing holy scriptures well, often by heart. Neither Jesus nor Socrates was a writer, they were both part of literate cultures.
- Wisdom representatives have a *relationship with the ritual aspects of religious life*. The prophet Jeremiah, for example, is known to have been associated with the Temple cult while simultaneously protesting against the purely external observance of religious rituals. Distinguishing between the two and associating them at one and the same time, the Lord says, according to Jeremiah, that “I will put my law within them, and I will write it on their hearts” (31:33).

- Wisdom traditions thus *internalize external religious forms of life*. Without despising the latter, wisdom representatives require and facilitate a way of bringing traditionally formulated religious beliefs and orientations into lived religion and into complex moral questions about living rightly and appropriately in the many streets of life, where confusion more often than not is paired with small windows of potential clarity and opportunity.

Wisdom traditions are thus inherently self-reflexive and move decisively beyond the merely *ad hoc* explanations and automatic reactions of a hypothetical “hyperactive agency detection device” (HAAD). Wisdom traditions are not created by solitary hyper-productive minds, but emerge in the interactions between human beings and their environments. As such, wisdom traditions both prompt and accumulate levels of self-awareness, including the awareness of one’s own ignorance. Often we simply do not know why something happens. In particular, the skeptical strand of wisdom theology maintains distance from widespread common-sense orientations. Likewise, wisdom traditions may be skeptical of automatic and semiautomatic reactions. “Why do you see the speck in your neighbor’s eye, but do not notice the log in your own eye?” Jesus asks (Luke 6:41). Why do we so often think that the evil happening to other people is due to their particular sins, and why do we find supernatural explanations of divine wrath against others when we ourselves are sinners as well—perhaps even greater sinners? A fragment from the Jesus tradition:

At that very time there were some present who told him about the Galileans whose blood Pilate had mingled with their sacrifices. He asked them, ‘Do you think that because these Galileans suffered in this way they were worse sinners than all other Galileans? No, I tell you; but unless you repent, you will all perish as they did. Or those eighteen who were killed when the tower of Siloam fell on them—do you think that they were worse offenders than all the others living in Jerusalem? No, I tell you; but unless you repent, you will all perish just as they did’ (Luke 13:1–5).

Wisdom Traditions as Expressing an Axial Mentality

Wisdom traditions emerged around the middle of first millennium BC, when several civilizations, probably prompted by urbanization, the ascendancy of literacy, and a critical mass of highly educated people, came up with universalist ideas. In 1949, the German philosopher Karl Jaspers dubbed this period the “Axial Age” in his *Vom Ursprung and Ziel der Geschichte*. More recently, the American sociologist Robert N. Bellah gave an extended interpretation of Axial cultures and the role of religion in his major 2011 work *Religion in Human Evolution: From the Paleolithic to the Axial Age*.^[7]

In the context of Axial civilizations, it may be more appropriate to speak about historical development than about evolution, even though the former builds on the latter. Evolutionary selection pressures remain, but now in a human milieu that allows for experimentation and thought experiments, and also allows for failure that does not necessarily result in premature death. Wherever religious lifeforms have gone through the prior underlying filter of natural selection, many historical developments are possible. Such pluralism points to the difficulty of proposing a general “explanation” of religion. In my view, Shmuel N. Eisenstadt has offered one of the best attempts to characterize the general contours of Axial civilizations by referring to the combination of new cultural orientations and institutional formations based in the rupture of social orders. Axial visions include:

- a *broadening of horizons*, opening up for universal perspectives;

- *an ontological distinction* between mundane and transcendental orders; and, not least,
- *a normative subordination* of the mundane under the transcending perspective.[8]

This characterization has the advantage of seeing the Axial Age as emerging from historical constellations that facilitated a new cluster of attitudes towards society and the wider reality during the Axial period—marked by Confucius in China, Buddha and Shankara in India, Isaiah and Jeremiah in Israel, and the Pre-Socratic philosophers and Plato in Greece—as a new level of philosophical and theological reflection came up relatively simultaneously in different human civilizations. Several aspects of Axial mentality also found in the New Testament wisdom traditions should be mentioned. First, we find a universal mentality not confined to ethnic groups and inherited traditions, thus transcending the frequent “us-them” dynamics of human co-existence. Second, we see the emergence of strong views of transcendence based on a mind-first view, common to both monotheistic and Buddhist traditions. Third, we find a critical view of the hitherto unquestioned authority of kings and despots.

Philosophy and Wisdom Theology

In the Axial Age, philosophy came into being alongside prophetic traditions, often coupled to wisdom motifs. If philosophy means “the love of wisdom” or “the aspiration for wisdom,” as the etymology says, wisdom theology correspondingly presupposes that religious life is not confined to the telling and retelling of myths. Rather, wisdom theology is a reasonable manner of “thinking the divine,” as the etymology of *theology* suggests. In this manner, both Greek philosophy and Judeo-Christian theology presuppose that God, or the divine, is in itself mental (*logikos*), full of thinking. The pre-Socratic philosopher Heraclitus argued that it is wise (*sophon*) to agree with the logos of all reality, and that logos is “the one and only thing that is wise” (*hen to sophon mounon*) (Fragment B 50 and 32). Thus, the wisdom of philosophy has one source only, the divine logos itself. Later, in Aristotle we find the emphasis that human *sophia* is a skill or craft that comes with practice, “the perfection of an art” (*aretē technēs*, Eth. Nich 1141 a 12).[9] Here the practical aspects of wisdom come to the fore.

This emphasis on the divine logos is continued in the Gospel of John, and followed up by later Christian wisdom theology. Thomas Aquinas, for example, likewise points out that all human wisdom comes from one source only, that is, the Wisdom of God.[10] But the sense that wisdom is not to be possessed in full, but only acquired piecemeal through living, is a particularly important insight, also well expressed in the skeptical strand of Jewish wisdom theology. In the Jesus-tradition, the Wisdom of God runs against commonsense perceptions of me-versus-you, or us-versus-them. But exactly as contrarian, the divine Wisdom is the ultimate source of human wisdom through offering resources for human reorientation in a world that is neither fully transparent nor fully opaque.[11]

Philosophical and religious traditions of wisdom, of whatever provenance, aim to orient human beings in a complex world. But in contrast to a purely scientific interest, the primary goal of both philosophy and wisdom theology is not to explain the structures of the world by looking backwards in time, but rather to elucidate aspects of the world that are of practical importance for people that have to make decisions about how to proceed in their lives. As put by the Norwegian philosopher of religion Jan-Olav Henriksen, “orientation makes people aware of what is more worthy of attention than something else, and so on. It creates the background against which something appears as more significant than other things. It situates them in a world, makes them familiar with it, and provides direction and suggests what should be given attention.”[12]

Here we are close to the proverbial strand of wisdom theology. It should be added, however, that many traditions of wisdom (the prophetic and the skeptical strand) are critical of too-mundane and complacent conceptions of reality, and are also very attentive to cognitive features as expressed in the transcendent yet all-penetrating influence of the divine wisdom (the metaphysical strand). Wisdom theology should not be confined to dealing with practicalities only, but is part of a broader spectrum of religious commitment, finding the impetus for a critical (and self-critical) view of reality while re-utilizing resources of divine wisdom not always spelled out on the streets of everyday life. Here the prophetic appeal of wisdom goes along with cognitive assumptions about who God really is, and what is the will of God. As the divine says, via the prophet Isaiah:

For my thoughts are not your thoughts,
or are your ways my ways, says the Lord.
For as the heavens are higher than the earth,
so are my ways higher than your ways
and my thoughts than your thoughts (55:98–9).

Wisdom Motifs in the Teachings of Jesus: The Multiple Attestation Principle

It is a historical fact that Jewish wisdom motifs are present in the Jesus tradition both within the synoptic gospels (particularly in the speeches) and in the Gospel of John. What is more controversial is whether these wisdom motifs can be traced back to what scholars call “the historical Jesus.” Was Jesus first and foremost an apocalyptic prophet proclaiming that the end of the world is near, so that the wisdom motifs should be subordinate to the apocalyptic ones? This was the view of New Testament scholarship of the late nineteenth and mid-late twentieth century, epitomized in the German scholarship of Rudolf Bultmann and his students; here the theory of a so-called consequent eschatology prevailed. Or, rather, are Marcus Borg, John Dominic Crossan, and other members of the “Jesus Seminar” correct in observing that the teachings of Jesus express a “sapiential eschatology” rather than a near-future or far-future “apocalyptic eschatology”? In this case, the wisdom traditions would deserve the upper hand in relation to the apocalyptic elements of the Jesus tradition. In this line of Jesus-scholarship only a very few scholars argue that Jesus’s ministry and teaching should be viewed as derived from the expectation of a soon-to-come disaster.[13] Several reasons can be given for this change in perspective on the character of Jesus as a whole. Old Testament studies have shown how the Jewish prophets (especially Jeremiah) were deeply influenced by wisdom traditions, just as the apocalyptic traditions are. The sharp distinction between the prophetic-apocalyptic traditions that are tied to the anticipation of a turn of history, and wisdom traditions thought to be timeless, cannot be maintained in the centuries leading up to the time of Jesus. Wisdom theology and apocalyptic traditions go hand in hand.

Moreover, in recent decades theories of metaphor have led to a re-emphasis on the rhetorical features of the ministry of Jesus—features that go well beyond the parables. Thus, it cannot be assumed that the words of Jesus are to be understood in a simple referential manner; from first to last his teaching had the form of a prophetic address, not leaving time for going into an explanatory mode concerning past and future events.[14] It is in my view highly unlikely that the overall point of Jesus’ parables is to announce the end of this world. The story of the ten bridesmaids (editorially placed in the synoptic apocalypse) is about the bridesmaids waiting for the groom—not about the glorious coming of the Son of Man (Matthew 25:1–13). Bridesmaids have to be prepared for the day and the hour which they do not know; here and now, the groom is already in their midst (Matthew

9:15). The example stories, like the well-known story of the Good Samaritan, also have their own clear meaning, completely independent of an expectation of the end and purpose of all times. The same is obviously true for the proverb-like formulations that are characteristic of much of the dialogue in the synoptic gospels. Through provocative exaggeration Jesus compels his listeners to rediscover their sense of proportion: again, why do you see splinter in your brother's eye, but not the beam in your own? Wisdom requires the ability to change perspective, seeing oneself from the standpoint of the other.

The most important historical argument for interpreting Jesus in light of the wisdom traditions is that they saturate quite different layers of the tradition. Earlier, Jesus scholars often argued for the *criterion of difference*: what is most likely to go back to the historical Jesus is what is distinctively different from Jewish, Greek and Christian traditions. A more commonly used criterion for historians (and archeologists) is the *criterion of multiple independent attestation*. On this latter score, wisdom theology turns out to be present within quite different traditions of the gospel traditions, whereas the unequivocal apocalyptic expressions are confined to a few highly edited passages in the synoptic Gospels.[15] Such chapters might well have been collected due to the interest of the first disciples, shocked by the message of resurrection, in hypothesizing about the near-end of the world—an uncomfortable view only for later generations of Christians.

Neither the minimalist historical criterion of difference, nor the broader criterion of multiple attestation, speak in favor of Jesus's ministry as derived from a futuristic expectation of the end of history. Only this much seems to be (relatively) certain: Jesus was convinced (just as was John the Baptist) that the present world order where Satan ruled was dying, and that this would soon come to light. The pertinent question was: who rules the world, God or Satan? The coming of the kingdom of God, however, could take various forms: "The specific content could be quite open or even vague, for example, with or without an armed revolt, with or without a messiah, with or without a cosmic destruction." [16] Thus Jesus was able to use the apocalyptic world of ideas for the purpose of wisdom teaching. As aptly formulated by Ben Witherington: "What seems to be the case is that Jesus usually sapientialized whatever he said, often expressing prophetic or apocalyptic ideas in some sort of Wisdom form of speech." [17]

Historical Reconstruction and Phenomenological Interpretation

Viewed from a very general perspective, Jesus may be termed a wisdom teacher. If one emphasizes his appeal to basic intuitions (instead of esoteric knowledge) and to personal integrity (instead of learned skills), he might well be classified as a man of wisdom alongside men like Laozi, Buddha, or the Greek philosophical Cynics.[18] Such characterization is helpful insofar as it situates Jesus within the Axial-Age mentality. The price to be paid, however, is that such a characterization is so expansive that it loses precision.

The second option is to understand the life and work of Jesus in light of the specific Jewish *Chokmâh* traditions and their partial fusion with Hellenistic *Sophia*-thought in the centuries leading up to the birth of Jesus. This is the perspective traditionally preferred in historical-critical scholarship. Hereby a higher level of precision is achieved. Moreover, this approach makes it possible to overlap the historian's characterization of Jesus, interpreted in the context of his time, and some of the later theological interpretations of Jesus, such as the distinctive presence of the divine Wisdom in him.

Where does this leave a contemporary explication of a potential Wisdom Christology? Not very far, I fear, for the establishment of historical links between Jewish wisdom traditions and the distinctive

wisdom activity of Jesus does not, by itself, add weight to the contemporary significance of any such traditions. Yet here, I will argue, the phenomenological approach may prove helpful. While historians (as is their duty) primarily use texts as stepping-stones for the historical reconstruction of a past world (in our case, the Jesus figure *behind* the text), the interest of a phenomenological interpretation of the Jesus tradition lies in explicating the typical ways Jesus approached other people and coped with the wider concerns of reality. In phenomenology, the interest centers on the Jesus-figure *in* and *of* the texts themselves, insofar as the biblical texts are read as texts for elucidating the human condition.

It is important for theological reflections on the significance of Jesus that the Jesus traditions in fact do deal with real-life situations that are not bound to the very specific historical conditions around the year 30 CE. Rather, they relate to issues with which all human beings have to cope: to eat or be hungry, to live together or alone, to be in the social center or on the periphery, to hope or to fear, to have faith or not to have faith. Thus, while the historian swings back and forth between the world *of* the text and the world *behind* the text, the phenomenological interpretation swings back and forth between the semantic world of the texts and the practical world *in front* of the text, in everyday life.[19]

Wisdom Christology using the Resources of Thought Experiments

In this move between historical texts of the past and the elementary concerns of human beings, the theologian shares an interest with the phenomenologist. What historians and phenomenologists bracket (and for methodological reasons *must* bracket) are the kind of questions any believer or potential believer today throws into the spotlight: what *if* Jesus was sent by God's own Wisdom? What *if* his life and destiny were the Wisdom of God in person? What significance does it have *if* God's personified Wisdom died on the cross and was resurrected from the dead?

Raising such thought experiments, and subsequently elaborating on the coherence and logic of Christian beliefs, is part of the field of systematic theology. Yet only religious decisions or long-term commitments can answer such questions, positively or negatively. Only indirectly can contemporary academic theology follow the movement of faith from Jesus to Christ, that is, in the form of a *thought experiment*. This takes place by unfolding a Christology along certain lines of thought (here the idea of Jesus as the Wisdom of God embodied and personified) and by drawing out the consequences of these lines of thought for an interpretation of the human existence in general.

The historical base of such a Wisdom Christology will be better warranted if it is in continuity with the historian's portrayal of the historical Jesus—and it will be weakened if it is stark opposition to historical reconstructions of the Jesus figure. Likewise, the universal perspective of such wisdom Christology will be strengthened if the interpretation of Jesus's life and work is phenomenologically understandable, and it will be weakened if Jesus's ministry turns out to be esoteric, without discernable links to everyday experience.

Therefore, discussing the relationship between historical-Jesus scholarship and contemporary christological interpretations cannot do without a more comprehensive understanding of the interpersonal field in which Jesus acted and spoke, and in which he was both passively and actively involved. Just as creation theology is not simply a theological extrapolation of scientific models about cosmological beginnings, so Christology is not simply an extrapolation of historical-Jesus scholarship. Yet just as no creation theology can be credible without taking scientific descriptions of the world into account, so a contemporary Wisdom Christology needs to take historical as well as evolutionary scholarship seriously.[20]

In this manner, the phenomenological interpretation of the Jesus tradition comes in between the historical-Jesus scholarship and more “metaphysical” interpretations of Christology. For, as I have said, a phenomenological approach interprets Jesus’s ministry and actions as exemplifying specific attitudes towards the plethora of shortcomings and opportunities of human existence, in the past as well as today. Such inter-human attitudes show up in the *semantic* universe of the gospels (including the conceptions that Jesus may have used in his ministry). At the same time, such religious semantics involves what we might call a *pragmatics* of faith. Terms such as “the kingdom of God,” “the neighbor,” and so on, are not purely descriptive, but also embody prescriptive views of preferred human attitudes towards others. Here a new set of thought experiments come up: *if* I (or anyone) were to live in accordance with the wisdom teaching of the Jesus tradition, what would this mean in practical life today, in relation to the economy, ecology, the treatment of friends and foes, and other aspects of our world?

Christology thus builds on the trajectory of a hermeneutical interpretation of Jesus’s ministry and work offered by a phenomenological interpretation. Unlike the phenomenological interpretation, however, theology addresses the metaphysical and theological presuppositions that—*if* the confession of Jesus as Christ is true—is part of the ministry of Jesus, and is to be explicated accordingly. Theological interpretation thus investigates what it entails to interpret the story of Jesus in the light of God, as a *revelation* of God’s nature and will. Observe here, however, that even the theological concept of revelation is phenomenological in orientation: *something particular* (Jesus) may be a *manifestation of something universal* (God’s all-penetrating yet invisible Wisdom) *to somebody*, the hearers and listeners, who can use this revelation for elucidating the conditions of life and orientating their own actions within this phenomenologically describable life. Thus, the theological interpretation of Jesus differs from the historical approach in that it does not primarily aim at an understanding of Jesus’s social or ideological-historic background (Jesus *behind* the text), though the latter remains important for theology. More importantly for theology, however, is the shared interest with the phenomenological approach in the distinctive attitudes to the social and natural realm, attitudes exemplified in the gospel (the Jesus *in* the text).

In so doing, however, theology remains indebted to a metaphysical orientation that is universal in scope because of the simple fact that Christian theology is not only interested in the past, but in the world *in front of* the text as well as in the transhistorical presence of the divine Wisdom, embodied in Jesus of Nazareth but not confined to him. In this sense, theology assumes a wide-screen view even on very practical life affairs, a “metaphysical” orientation on practical questions widely shared within the human species.[21]

Another fundamental difference between historical-Jesus scholarship and theology is that the interest of Christology not only lies in the “historical Jesus” (that is, the picture of Jesus reconstructed by historians), but in the figure of Jesus *including his effect on his companion travelers and later sharers of commitment and lifestyle*. Since Jesus initiated an atmosphere of faith, hope, and activity among his hearers, the interpretation of Jesus as God’s own Wisdom in person cannot separate Jesus’s historical personhood from this later reception. Therefore, the later layers of the Jesus tradition—those that unequivocally reveal the influence of the Easter confession of the early Christian communities—also have the utmost relevance for Christology. Insofar as Jesus was the Christ, the “person” of Jesus is permeating all history and cannot be separated from his followers. Christology cannot be separated from soteriology. In this sense, Christology has to address a wider spectrum than the pre-Easter traditions about the content of Jesus’s ministry, work, and fate. There can be no Wisdom Christology

without a corresponding interest in the wisdom traditions outside the Christian canon. For, as phrased in the later Pauline tradition, “the wisdom of God is multi-colored” (*polypoikilos*, Ephesians 3:11).

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References

- [1] The “Axial Age” extends from approximately the 8th to the 3rd century BCE.
- [2] Expressed in terms of the proposal of “deep incarnation,” Jesus embodied the wide material world of creation as well as the full spectrum of human existence, from growth and flourishing to decay and despair. See Niels Henrik Gregersen, ed., *Incarnation: On the Scope and Depths of Christology* (Minneapolis, MN: Fortress Press, 2015); in this volume, systematic theologians (including Celia Deane-Drummond, Denis Edwards, Dirk Evers, Elizabeth A. Johnson, Jürgen Moltmann, Christopher Southgate, and myself) explore facets of deep incarnation in more detail.
- [3] Martin Hengel, “Jesus als messianischer Lehrer der Weisheit und die Anfänge der Christologie,” in *Sagesse et Religion: Colloque de Strasbourg*, edited by Edmond Jacob (Paris: Presses Universitaires de France, 1979), 147–88. This was fundamental for the rediscovery of the New Testament wisdom traditions. Hengel’s article informed subsequent historical scholarship as well as systematic theology. See, for example, Gottfried Schimanowski, *Weisheit und Messias: Die jüdischen Voraussetzungen der urchristlichen Präexistenzchristologie* (Tübingen, Germany: Mohr-Siebeck, 1985) and Elisabeth Schüssler Fiorenza, *Jesus: Miriam’s Child, Sophia’s Prophet: Critical Issues in Feminist Christology* (New York: Continuum Press 1994), 139–62.
- [4] Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religion* (New York: Basic Books, 2001); Daniel C. Dennett, *Breaking the Spell: Religion as a Natural Phenomenon* (London: Penguin, 2006). For a critical review of the discussion, see Aku Visala, *Naturalism, Theism and the Cognitive Study of Religion: Religion Explained?* (London: Routledge, 2016).
- [5] Boyer, *Religion Explained*, 51, 56.
- [6] On my own view, see Niels Henrik Gregersen, “The Naturalness of Religious Imagination and the Idea of Revelation,” *Ars Disputandi* 3.1 (2003): 261–87. See also the discussion in J. Wentzel van Huyssteen, *Alone in the World? Human Uniqueness in Science and Theology* (Grand Rapids, MI: Eerdmans, 2006), 261–70.
- [7] Robert N. Bellah, *Religion in Human Evolution: From the Paleolithic to the Axial Age* (Cambridge, MA: Belknap Press of Harvard University Press, 2011). See also Niels Henrik Gregersen, “Religion and Axiality: Theological Reflections on Robert N. Bellah’s Axial Age Hypothesis,” *Scottish Journal of Theology* 70.1 (2017): 61–73.
- [8] Shmuel N. Eisenstadt, “The Axial Conundrum between Transcendental Visions and Vicissitudes of their Institutionalizations: Constructive and Destructive Possibilities,” in *The Axial Age and its Consequences*, edited by Robert N. Bellah and Hans Joas (Cambridge, MA: Belknap Press of Harvard

University Press, 2012), 277–93.

[9] Günter Figal, Martin Hailer, and Heribert Wahl, “Wisdom,” *Religion Past and Present* (Leiden: Brill, 2013): 505.

[10] Thomas Aquinas, *Summa Theologica*, I-1, 1.6.

[11] As rightly pointed out by Ingolf A. Dalferth: “Ziel des Philosophierens ist nicht, Gewissheiten zu zerstören, sondern angesichts fragwürdig gewordener Gewissheiten durch Einsicht in the Wahrheit der eigenen Situation zur Weisheit in der Gestaltung des eigenen Lebens zu befähigen. Weder ist alles gewiss noch nichts sicher. Weder stehen wir völlig im Dunkeln, noch ist alles klar und hell” (*Die Wirklichkeit des Möglichen: Hermeneutische Religionsphilosophie* [Tübingen, Germany: Mohr Siebeck, 2003], 54.)

[12] Jan-Olav Henriksen, “Everyday Religion as Orientation and Transformation: A Challenge to Theology,” *Nordic Journal of Religion and Society* 29.1 (2016): 38.

[13] Marcus Borg, “Reflections on a Discipline: A North American Perspective,” in *Studying the Historical Jesus: Evaluations of the State of Current Research*, edited by Bruce Chilton and Craig A. Evans (Leiden: Brill, 1998), 20–21. Borg argues for an understanding of the eschatology of Jesus as sapiential rather than apocalyptic. Similarly, see John Dominic Crossan, *The Historical Jesus: The Life of a Mediterranean Jewish Peasant* (Edinburgh: T&T Clark, 1992). Crossan writes: “The sapiential Kingdom ... is a style of life for now rather than a hope for life in the future” (292).

[14] See Mark 13:22.

[15] See Mark 13; Matthew 24–25; Luke 21.

[16] Crossan, *The Historical Jesus*, 287.

[17] Ben Witherington III, *Jesus the Sage: The Pilgrimage of Wisdom* (Edinburgh: T&T Clark, 1994), 201.

[18] See Marcus Borg, *Conflict, Holiness & Politics in the Teachings of Jesus* (New York: E. Mellen Press, 1984), 237ff.

[19] I here use distinctions borrowed from Paul Ricœur, “Phénoménologie de la religion,” in *Lectures 3: Aux frontières de la philosophie*, edited by Olivier Mongin (Paris: Seuil, 1994): 263–71.

[20] A good example of the latter is Celia Deane-Drummond, *Christ and Evolution: Wonder and Wisdom* (Minneapolis, MN: Fortress Press, 2009).

[21] One the role of “metaphysicality” in specific human capacities, see Agustín Fuentes, “Evolutionary Perspectives and Transdisciplinary Intersections: A Roadmap to Generative Areas of Overlap in Discussing Human Nature,” *Theology and Science* 11.2 (2013): 106–29. See also Daniël P. Veldsman, “The Place of Metaphysics in the Science-Religion Debate,” *HTS Teologiese Studies/Theological Studies* 73.3 (2017).

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CHAPTER 20.

THE EVOLUTION OF MORAL WISDOM: WHAT SOME ETHICISTS MIGHT LEARN FROM SOME EVOLUTIONARY ANTHROPOLOGISTS

JOHN BERKMAN

Introduction

Can ethicists learn from evolutionary anthropologists? Yes, but unfortunately we should not expect it to happen frequently. Why? First, because it appears that many ethicists are temperamentally unwilling to look to evolutionary theorists for insight. Second, and more significant for my argument, only some ethicists can learn from evolutionary anthropologists because only some ethicists hold views about their own discipline that allow them to learn from evolutionary anthropologists. This paper will lay out this thesis. It will first discuss which approaches to ethics will not be open to evolutionary anthropology. Then, it will discuss approaches to ethics that can and should be open to learning from evolutionary anthropology. And finally, it will provide examples of what might be learned.

In a recent article, the evolutionary anthropologist Agustín Fuentes noted that a major problem in trying to speak about evolution and ethics is that there are so many different conceptions of “ethics.”[1] Typically interlocutors are speaking past each other; they are not even managing to have a significant disagreement. As one of my Wittgensteinian philosopher friends will exclaim when discussing some claim that is particularly confused: “That’s not even wrong!” But there is an even bigger problem than that which Fuentes rightly notes; many evolutionary anthropologists assume that the meaning of “morality” or “ethics” is unitary and self-evident, and are not even aware that some ethicists do not fit their preconceptions. Similarly, many ethicists assume that evolutionary theory is fundamentally unitary, and so if they have objections to a particular evolutionary theorist, they assume that these objections will apply to evolutionary anthropology more generally. This paper critiques the presumption that all reasonable and reasonably educated persons agree on the fundamental tenets of ethics or evolutionary theory. It is a huge and decisive error if it is assumed that we are talking about the same thing when we use the terms “ethics” or “evolution.” I will begin my analysis of this in the next section.

My title can be understood in at least three ways. It could be referring to the origin of wisdom, how such a thing came to exist. Or, it could be referring to the development of wisdom, how it grew and changed. Finally, perhaps less obviously, it could be speaking of changes in the understanding of

wisdom within the disciplines of moral theology and evolutionary anthropology themselves. In fact, this paper will address all three of these topics at different points.

When I speak of “wisdom” at various points in this paper, it also will have different connotations, and that is part of its richness and allure. In common usage, wisdom is not limited to human beings, but is attributed to various species which possess a particular skill or characteristic in an exemplary fashion, one that allows such species to survive and flourish in unique or unexpected ways. For example, when the book of Proverbs hails ants, hyraxes, locusts, and spiders as exemplary and wise, we readily see a unique or exemplary characteristic that aids them, one which we, human beings, can learn from in our own way. A second common definition holds that wisdom is that fundamental capacity or skill of human beings—sometimes called “practical rationality” and sometimes “practical wisdom”—that allows us to act well. In some contexts, this skill is akin to what have recently been called “moral emotions.” It allows human communities and their members to successfully make complex decisions and navigate various social networks. Third, wisdom can also connote more than a skill possessed more or less by all people. It is something possessed by the Socrateses and Solomons of the world. It is rare and powerful, an aspirational goal for the many, but endowed on the few. This wisdom is insight applied to action. In this context, wisdom is analogous to the ability to answer riddles. One without insight on riddles only recognizes the answer after it is given by another. Similarly, one without insight on action only sees the wise course after it is revealed.[2]

There is Not One “Morality”

There have been many critiques of the Enlightenment view that there is a single rationally-compelling perspective on morality. Alasdair MacIntyre is the most comprehensive critic of this view, which he calls “‘Morality’ with a capital ‘M.’”[3] From *After Virtue* through to *Ethics in the Conflicts of Modernity*, MacIntyre has compellingly argued that it is impossible to definitively establish the truth of one ethical theory or perspective over all others. MacIntyre shows that one’s fundamental ethical outlook is taken up on the basis of, or in conjunction with, a cluster of other fundamental beliefs. One’s ethical viewpoint is inseparable from one’s fundamental convictions about the world, human nature, and God, and with one’s theological, political, economic, scientific, and/or aesthetic beliefs. One’s ethical perspective may even be shaped by the extent to which it is able to accommodate the insights of evolutionary anthropology.

If MacIntyre and other critics of “Morality” are correct, then evolutionary anthropologists who want their work engaged by ethicists will do well to recognize that only some ethical outlooks can be expected to show interest in and learn from their work. For example, if an ethicist has an exclusively revelation-based view of ethics—as in a divine command theory—then the ethicist cannot be expected to be influenced by evolutionary theory and what it may teach us about human characteristics, simply because human nature is not a criterion for that approach to ethics. Similarly, an ethicist with a highly rationalistic ethical viewpoint, following the philosopher Immanuel Kant, will likely be immune to most of what may be learned from evolutionary anthropologists.

In sum, if the outlook of an ethicist is that ethics has nothing to do with human inclinations or any aspect of human nature except advanced rationality, then such a moralist could reasonably be expected to argue that evolutionary anthropology is irrelevant to moral thinking. In other words, some views about the nature of morality make evolutionary anthropology irrelevant, even if insights from evolutionary anthropology are otherwise interesting.

There is Not One Theory of Evolution

Although the intellectual divides in evolutionary anthropology are perhaps not as stark as in ethical theorizing, it has recently become clear that there are deep divisions among evolutionary theorists. Until recently, the *modern evolutionary synthesis* (MES)—that is, the classic gene-based model of mutation and selection—was seen as the primary or even the exclusive mechanism of evolution.[4] However, over the last two decades a competitor to the MES has emerged, namely the *extended evolutionary synthesis* (EES).[5] What is at stake in this debate between MES and EES theorists? They disagree about the most fundamental question of evolution, specifically, the mechanisms by which species change and how new species come to be. In other words, the key interest of evolutionary theory is in heredity and changes in heredity over time. The EES differs from the MES because it acknowledges additional mechanisms of evolutionary change or attributes great significance to mechanisms of evolutionary change that the MES downplays, ignores, or rejects. In addition to the gene-based mechanism of evolutionary change, the EES argues that epigenetics, social learning, and cultural/symbolic changes are also important mechanisms of evolution.[6] Furthermore, advocates of the EES attribute much greater significance to niche construction theory in relation to all of these mechanisms of evolution. Niche construction theory focuses on the fact that environments do not merely shape, but are also shaped by, the organisms that inhabit those environments. In shaping their environments, organisms impact their own evolution.

In the same way that some approaches to ethics will be more open to incorporating insights from (some approaches to) evolutionary anthropology than others, so too some approaches to evolutionary theory will be more open to incorporating the insights of (some approaches to) ethics. For example, some evolutionary theorists contend that evolutionary theorizing simply replaces ethics as the guide to human conduct. If that is true, then evolutionary theory requires no engagement with ethicists. Some evolutionary theorists have argued that evolution “teaches” us that everyone acts according to their self-interest.[7] Even apparently virtuous people act the way they do because they want to. As the biologist E.O. Wilson put it, even Mother Teresa does what she does because that makes her happy, or some such.[8] If an evolutionary theorist thinks that selfishness is the basic story—intellectually and morally—of our lives, then there will be no perceived need to learn from ethicists.[9] Even more problematic are the naïve sociobiologists who presume one simply “reads” morality from “nature,” by which they seem to mean any common tendency that humans may have once unshackled from societal norms. Jablonka and Lamb summarize this view:

The widespread belief that common behaviors (often rather objectionable ones) are ‘genetic,’ ‘natural,’ and like simple monogenic diseases, ‘inevitable’...is ‘the public persona of [sociobiology]’...Some of them promote a vulgar public image of genetically determined evolved ‘tendencies’...[interpreting] every pattern of behavior, from joking to raping, as the manifestation of an evolved adaptation that was selected in the distant past.’ Thornhill and Palmer’s *A Natural History of Rape* is a prime example of the genre.[10]

These sociobiologists make the elementary error of conflating the “natural” with any and all expressions of natural inclinations in humans. This makes no sense, not least because on this understanding there is no “unnatural” inclination. To speak of particular human inclinations (and those of other social animals) as natural, “natural” must refer to those that tend towards both the individual’s good and the social (or common) good of the individual’s community.[11] When sociobiologists appeal to evolution to make this and other elementary errors of logic, it discredits

evolutionary theory as a source for ethical reflection among many ethicists, who assume sociobiologists represent *the* contribution of evolutionary theory to ethics.

In contrast to those evolutionary theorists who will not be open to learning from the insights of ethicists, which approaches to evolution *will* be more likely to be open to the insights of ethicists? Due to the fact that EES theorists put a greater emphasis on a larger number of mechanisms of evolution, they can be expected to be significantly more open to engagement with ethicists. For example, since EES theorists acknowledge the significance of niche construction theory as it pertains to human beings, and the importance of cultural evolution for the evolution of modern *Homo sapiens*, they are thus necessarily open to how religious, philosophical, and other wisdom traditions actually shape the evolution of human beings. The typical (if at times caricatured) MES view that the ethical imperative is simply to pass on one's genes is rejected by EES theorists. For EES theorists, evolution is shaped by "passing on" many other things, including characteristics passed on epigenetically, modes of action passed on from parents to offspring, and cultural developments passed on linguistically. Advocates of the EES can in general be expected to be more open to the insights of religious and wisdom traditions discussed by theological and philosophical ethicists, if for no other reason than because they represent key elements of historic human cultures that have clearly influenced the evolution of *Homo sapiens sapiens*.

So far, I have argued that only some types of ethicists can reasonably be expected to be open to the insights of evolutionary theory, at least if they are consistent with their approach to ethics. I have given examples of ethicists—like Immanuel Kant—who, if they are faithful to the fundamental tenets of their ethical theory, will have nothing to learn from evolutionary anthropology. Thus, the first question is, what kinds of ethicists do have something to learn from evolutionary anthropology and what can they be expected to learn? As might be expected from what I have argued in this section, ethicists can be expected to learn from the new insights of the EES. After discussing the kinds of ethicists that I will argue can and should be open to the new insights of the EES, the remainder of this chapter will present examples of insights from anthropology that can and should be incorporated into contemporary ethical reflection.

Which Ethicists Can be Expected to Learn from Evolutionary Anthropology and What Can They Learn?

In the previous section, I gave examples of the kinds of ethicists who are not in a position to learn from evolutionary theory, because their approaches to ethics are uninterested in the *origins or development* of wisdom. The disinclination of some divine-command and Kantian ethicists to learn from human nature, history, or tradition—including our deep history as investigated by paleontologists and evolutionary anthropologists—is a particular characteristic of eighteenth-century ethical thought which means that all insights regarding ethics must be learned *de novo*. For divine-command theorists, one needs to discern what God requires from one now, in this situation. For Kantian ethicists, one's principles must be derived from purely rational reflection.

Are these "principled" opponents of learning from anthropology the only ethicists who do not look for insights from evolutionary theory? Of course not. No doubt, many ethicists simply never get around to taking evolutionary theory into account. In the opening chapter of *Human Evolution and Christian Ethics*, Stephen Pope discusses a variety of highly influential approaches that ignore evolutionary theory. Furthermore, many ethicists wrongly equate the insights of evolutionary theory with the reductive views characteristic of the sociobiologists referred to earlier, and thus prematurely dismiss the field of evolutionary anthropology as incorrigible in its approach to ethics.

Having said that, there are approaches to ethics that should be receptive to the wisdom of evolutionary anthropology, namely those which see the non-rational and pre-rational aspects of human nature as relevant and important for understanding human morality. In other words, ethicists that recognize that an understanding of the goodness of sense capacities, desires, appetites, and affections of human beings are relevant for understanding human goodness should turn to evolutionary anthropology for insight on the most reasonable account of the origin and development of such capacities in our deep ancestors. As theologian Jean Porter puts it, “by investigating the basic intelligibilities and form of ordering found in the natural world, [evolutionary theory] provides data for theological reflection on the structure of creation.”[12]

Which ethical approaches take most seriously “the basic intelligibilities and forms of ordering found in the natural world,” in particular the integral nature of human beings in their relational, biological, sensory, and rational elements? The mainstream moral theories most interested in this integral nature are Aristotelian and natural-law ethics.[13] Of moral theorists who integrate these traditions, Thomas Aquinas is the most influential. What can Aristotelian and Thomistic ethicists learn from evolutionary biology? Evolutionary anthropologists investigate a variety of intelligibilities from the natural world. They learn about humans and other animals from archeological investigations. From human remains, archeologists learn about the size of humans and our deep ancestors, the size of their communities, what kind of injuries they would likely have suffered and how they died, even their diet. From discoveries of various types of habitation, burial practices, cookware and tools, the clothes and dyes and ornaments they fashioned, archeologists can learn about the beliefs of our deep ancestors as well as the social skills they acquired.

In the rest of this paper, I will examine five insights of the EES, and one challenge to evolutionary anthropologists, all of which can be appropriated by ethicists in their reflections. They regard shared capacities, social learning, niche construction theory, domestication, wisdom traditions, and the meaning of species.

Shared Capacities

The psychologist Paul Ekman has demonstrated that facial expressions associated with a variety of basic human emotions such as anger, fear, sadness, and joy are evident in all human cultures.[14] These emotions are also universally evident in a variety of other social animals.[15] Ekman’s list of basic emotions is remarkably similar to that of Aquinas on the one hand, and Charles Darwin on the other. Furthermore, contemporary cognitive psychologists such as Simon Baron-Cohen have compatible lists.[16] In a manner akin to Darwin, Ekman is very interested in facial expressions that universally show certain emotions.[17]

Ekman’s views are in continuity with classical and medieval philosophy and theology (e.g., Aristotle, Avicenna, Albert, and Aquinas), and some modern philosophers (e.g., Hume) in that he agrees that a prerequisite for any actions, in human and non-human animals, is a desire, in the form of an emotion, passion, or appetite. The medieval accounts in particular detail the underlying psychology, going into great detail not only on the external senses (sight, hearing, taste, touch, and smell) that humans share with other animals, but also the internal senses (“common sense,” imagination, memory, and the estimative sense) that are also shared. These accounts discuss the shared *apprehensive* powers—how animals know things—and also the shared *appetitive* powers—how their appetites or desires lead them to act. All of these theorists, from Aristotle to Hume to Ekman, agree on a desire-based account of activity.

This recognition of the animality that *Homo sapiens sapiens* share with other animals is less obvious to moderns and post-moderns than it was to ancient and medieval people. In contemporary discourse, it is typical to speak of human beings in contrast to “animals,” but for a medieval theologian like Thomas Aquinas it was quite the opposite. Not only did Aquinas consider human beings to be animals, he thought that this was completely self-evident to anyone who was reflective. In fact, in his *Summa Theologiae*, “a human being is an animal” is Aquinas’s stock example of a self-evident proposition. As a result, it can be argued that moral theologians can and should seek to learn from evolutionary anthropologists about the wisdom of our deep ancestors, the forms of practical wisdom they likely exercised, and the desires and emotions presupposed by those forms of practical wisdom. As noted earlier, at its most basic practical level wisdom directs the desires and emotions to the organism’s good in a way that benefits it for the long term. Classically speaking, virtues are those skills that allow the creature to direct its desires in ways that lead to an individual animal’s and its community’s flourishing.[18]

Lesson #1 *According to the dominant account, virtues are ordered passions or emotions. If this account of virtue is correct, then we need to draw on contemporary analyses of the emotions that are a part of human nature if we are to have the optimal account of the virtues.*

Social Learning

While emotions (or passions) show an incipient wisdom, these desires are not static. This wisdom gets realized generationally through learning, at least initially, before it in many cases becomes an inbred capacity. Evolutionary anthropologists are increasingly arguing for the huge significance of a variety of forms of social learning, another key mechanism recognized by the EES for the evolution of wisdom in *Homo sapiens* and other organisms. [19]

This learning begins with what evolutionary anthropologists call associative learning. For example, associative learning is found in mongooses. Baby mongooses are educated into particular culinary practices by an older mongoose (usually not a parent) who functions as the baby mongoose’s mentor. Among mongooses, bird eggs are a key food source, and there are two distinct methods mongooses employ to crack them open. Almost all mongooses use only one of these methods. The mentor mongoose introduces its mentee to one of these methods of opening. The baby mongoose will learn that method, and will forever crack them open in that way, regardless of whether it later witnesses the other method. Here we see a particular skill important for its flourishing being learned by a younger mongoose. It is not an inbred culinary skill, such as suckling at the breast, but must be learned by each new generation.

In contrast to mongooses, macaques can learn new culinary skills throughout their lifetime, although this learning is more prevalent among younger macaques. There is a famous and long-running experiment by Japanese ethologists with macaques on an island uninhabited by humans. At one stage in the experiment, the ethologists left sweet potato on a beach. The macaques would find it, and after trying to brush off the sand, eat it. At a certain point one bright young macaque headed to the water’s edge instead and rinsed the sand from her sweet potato. Her innovation soon spread, and other macaques learned to do the same. The increased time spent at the water’s edge also led to a non-culinary innovation as these macaques came to enjoy playing in the water. Evolutionary anthropologists call this type of development a cultural innovation, because a new practice was relatively quickly adopted by the troop, who then passed it on to future generations.

Both of these are examples of social learning, but they demonstrate different degrees of practical

wisdom in terms of the level of sophistication of such learning. There is no reason to doubt that among our deep ancestors social learning developed analogously. Early *Homo sapiens*, like mongooses, may have only changed significantly when environmental or other changes required change for survival. And so we should expect that evolutionary change in early *Homo sapiens* and their ancestors was exceedingly slow. However, at the point when *Homo sapiens* acquired the practical wisdom to engage in cultural learning, we should expect that they adopted new practices much more rapidly.

Lesson #2 *What are often referred to as inexplicable or mysterious “instincts” have been learned at some point in a species’ evolutionary history or continue to be learned. So understanding the various goals of human beings in the past is important—and a better understanding of this should make it clear that a better understanding of moral development is essential for understanding ethics.*

Niche Construction Theory

We are now at a point where we can adequately appreciate what at least some advocates of the EES see as its most important alternative perspective on evolutionary theory. Its significance is not merely that it is an important mechanism of evolutionary change, but that it serves as a context that impinges upon all mechanisms of evolutionary change. Odling-Smee, Laland, and Feldman grant “niche construction” a prominent place in evolutionary theory, claiming that it is one of two things (the other being carrying genes) that organisms do in the evolutionary process:

Organisms play two roles in evolution. The first consists of carrying genes; organisms survive and reproduce according to chance and natural selection pressures in their environments. This role is the basis for most evolutionary theory, it has been subject to intense qualitative and quantitative investigation, and it is reasonably well understood. However, organisms also interact with environments, take energy and resources from environments, make micro- and macrohabitat choices with respect to environments, construct artifacts, emit detritus and die in environments, and by doing all these things, modify at least some of the natural selection pressures present in their own, and in each other’s, local environments. This second role for phenotypes in evolution is not well described or well understood by evolutionary biologists and has not been subject to a great deal of investigation. We call it “niche construction.”[20]

Niche construction theory begins with the insight that every organism throughout evolutionary history has been both influenced by its surroundings and influences its surroundings. Organisms begin to change their environments to better fit their specific phenotypes. As organisms individually and collectively shape their environment, they also in turn shape their very evolutionary development. To put it in overly simplistic terms, when *Homo sapiens* started spreading out across the planet, they did not wait for a fur-growing mutation before moving into cold climates. Instead, they not only adapted to their environment by making warm clothes, they also modified their environment by building fires and warm dwellings.

On a trip to Gorongosa National Park in Central Mozambique in August 2017, I saw numerous termite mounds, some more than ten feet high and twenty feet in diameter. Termites flourish in these colonies in part because they live in environments that they themselves have created. (I see an analogous situation with beavers, whose dams regularly flood the road to my family’s lake cabin in rural Ontario.) These enormous termite colonies do not only modify the effects of their environments on the adults in such communities, they also change the environment in which the young develop. In modifying their environment, termites engineer the evolutionary development of future generations

of termites. Furthermore, it was pointed out to me that in that part of Mozambique, flourishing termite mounds are a sign of a flourishing ecosystem more generally.

The view that changes in an organism could be passed on to its descendants is associated with Jean-Baptiste Lamarck, a rival to Darwin whose views were heretical in any Darwinian consensus. However, developments in the science of epigenetics as a mechanism of evolutionary change has shown that at least in some contexts, Lamarck was correct. The evolutionary significance of this with regards to ethics is that at a certain point humans begin to shape their environment much more than their environment shapes them. As a result, the kind of evolution that becomes dominant is cultural evolution, as a variety of cultural factors will lead to rapid changes in the behavior of *Homo sapiens*, in turn shaping their evolution. In particular, when *Homo sapiens* became linguistic animals, this is thought to have allowed “high fidelity” transmission of culture. With the rise of language and the symbolic, cultural developments quickly became cumulative, and cultural adaptations are able to be passed on more efficiently and effectively. Many anthropologists, philosophers, and theologians mark the advent of language as facilitating a profoundly and decisively new form of wisdom, which allows *Homo sapiens* to reflect upon our choices, giving us “free will.” For my purposes, what is of particular significance is the “high fidelity” transmission of culture made possible by linguistic development. Language is the passing on of oral traditions, including wisdom born from a new awakening to the divine and to the ability to receive revelation. As I shall develop below, one key aspect of cultural evolution for the development of wisdom is the growth in understanding of natural law.

A final important insight of niche construction theory is the fragility pertaining to passing on cultural learning. Certain skills learned culturally, especially by early *Homo sapiens*, may come to be lost over time. The evolutionary theorist Kim Sterelny argues not only that at one point *Homo sapiens* may have lost the ability to pass on some culturally learned skills, but that there may well have been cultural developments in some groups that for a variety of reasons were *again* lost over time.[21] Considering that at a much, much later time in human history late Roman techniques for building with *opus caementicium* (building concrete) died out for close to a millennium, there is no reason to doubt that earlier *Homo sapiens* would not have had similar cultural losses, especially with far less established and developed cultures.

Lesson #3 *It is necessary to take into account much more seriously how both natural and cultural environments have shaped and continue to impact social species, particularly human beings. We also see this in the next section, on the significance for human evolution of inter-species relationships of mutuality.*

Domestication

A fourth key area where moral theologians can gain insight from evolutionary anthropologists about the development of *Homo sapiens* has to do with its co-evolution with other species. For thousands of years, the survival and flourishing of humans have depended on other species. Here I have in mind not the tiny organisms that regulate the ecosystem of human bodies, nor the animals that humans have hunted for food, domesticated as livestock, or used to plow fields or operate mills. Rather, it has been argued that the very survival of *Homo sapiens* as a species some 40,000 or so years ago depended on a mutualistic relationship with another species, namely *Canis lupus* (i.e., the wolf). As I shall argue, this relationship led to a “mutual domestication” of both *Homo sapiens* and *Canis*, and likely resulted in very significant and very rapid evolutionary changes in both humans and wolves.

Making sense of this rapid evolutionary change has been greatly assisted by the recognition of the significance of epigenetics for evolutionary change, namely genetic change that goes on without

a change in gene sequencing, but is driven by transformation in mitochondrial DNA. For example, studies have shown that particular (e.g., traumatic) events in the life of a woman can lead to changes in her mitochondrial DNA which can be passed on to her offspring, who in turn can pass it to their offspring. This is an epigenetic effect, and is another example of the belated discovery of an evolutionary mechanism that supports Lamarckian-type observations on how changes that occur during the lifetime of a particular individual can be passed on to future generations.

Our understanding of the process of domestication and its significance has been revolutionized by a famous set of experiments on silver foxes, ongoing now for over sixty years. The experiment was started in the late 1950s after a disgraced Russian geneticist, who had been demoted during the time of Stalin for defending Mendelian genetics, was invited to run an animal physiology lab far away from Moscow. Dmitri Belyaev had effectively been exiled from Moscow to Novosibirsk, which was over two thousand miles west of Moscow along the Trans-Siberian Railway. Belyaev was interested in process of domestication and wanted to produce “friendlier foxes” for the fur farming industry. Industry wanted foxes that would be easier to manipulate so that they more easily and efficiently bred, raised, and slaughtered for their luxurious and prized fur.

For his experiment, Belyaev sent his graduate assistant to find the tamest foxes she could, and she came back with thirty male foxes and one hundred vixens. After breeding them, Belyaev selected among the kids exclusively on the basis of one behavioral characteristic, friendliness. He approached foxes that were in individual cages, put his hand near the cage, and evaluated each fox’s reaction to him. Belyaev discovered that the vast majority of the foxes responded to him either aggressively or fearfully. However, a very small percentage of the foxes he approached responded with curiosity or gentleness. Belyaev gathered up these foxes and bred them. Amazingly, within three generations—which for silver foxes meant three years—there were significant signs of domestication among these foxes.

What were these changes? Selected for friendliness, they were indeed becoming gentler and friendlier. But amazingly, many other changes were also taking place in these foxes in the process of domestication. While bred solely for a behavioral characteristic, the foxes were also undergoing significant morphological changes. For example, body shapes changed: their legs becoming shorter, and their noses becoming flatter. In addition, their color changed in a variety of ways, becoming spotted or mottled. They began to take on characteristics typical of dogs: their ears became floppy, their tails curled and would wag, and they began to vocalize in a way analogous to barking. Finally, and highly significantly, the foxes’ reproductive patterns changed, and they now not only bred seasonally, but also became capable of breeding at other times of the year. Within seven years, a percentage of these foxes (labeled “elite”) appeared to be fully domesticated. They acted very much like domesticated dogs: they would come when called, lick a human affectionately, and lie contentedly in the lap of a human.

One of the important consequences of Belyaev’s experiment is that it demonstrated rapid morphological and phenotypical change through an epigenetic mechanism. It is not clear to what extent Belyaev recognized this mechanism with regard to the changes in his foxes, but it is recognized by those who continue to carry on his experiment today. Apparently, an epigenetic mechanism—functioning here in the process of domestication—can, at least in controlled situations, lead to evolutionary changes that transpire with extraordinary speed. This experiment also helps us to understand how selective breeding has led to the extraordinary diversity of canine breeds. It also makes it much easier for us to imagine how the human-dog relationship came to be: how what might

have begun as hungry wolves on the outskirts of human campfires looking to scavenge some scraps could have evolved—albeit over a much longer period of time—into a deeply mutualistic relationship where *Homo sapiens* and *Canidae* hunted together.

Recent studies by Pat Shipman and Brian Hare also help fill in fascinating aspects of the process of domestication. Hare and Shipman have argued that the domestication of wolves by *Homo sapiens* was the key to its survival as a species, and may be the key to understanding why our ancestors survived and Neanderthals died out. They point out that extensive studies of both ancient and modern hunters have shown that hunting with dogs is 50% more efficient than hunting without them. Thus, they argue that the advent of the mutualistic relationship between humans and dogs, which allowed *Homo sapiens* to hunt far more efficiently, was in fact key to the ongoing survival of the species as early as 30,000 years ago.[22]

Beyond this point, Hare and Shipman have also argued that the mutualistic relationship between humans and canines led to the advent of agricultural societies about 10,000 years ago. They postulate that over time, *Homo sapiens* came to recognize that domesticated canines aided them in three profound ways. First, they could hunt far more efficiently with the help of canines. Second, canines served as protection for them. Third, if worst came to worst, they could function as a reserve food source. Hare and Shipman postulate that this idea of the benefits of a reserve food source was key to early humans' conversion from nomadic to agricultural societies, along with having canines to serve as protection for them. If indeed it was the human-canine relationship that led to human agricultural societies, and to the origin of human domiciles, then it would not be far from the truth to suggest that not only did *Homo sapiens* domesticate *Canidae*, but also that dogs domesticated us. This of course leads to all kinds of interesting questions about human domestication. What kind of evolutionary changes went on with *Homo sapiens* when they turned to agriculture? Are there changes in them analogous to those during the domestication of *canidae*?

Lesson #4 From deep in human history, human flourishing has rarely if ever been independent of mutualistic relationships with other species. While the significance of these mutualistic relationships among species change over time, it would be wrong to question their ongoing deep significance for human beings. While contemporary defenses of human relationships with companion animals are typically voluntaristic, we have good evidence from our past that gives us reason to think that mutualistic relationships with companion animals may now fulfill deep human needs and longings, needs and longings that should not be trivialized.

Wisdom Traditions

My fifth example is that of wisdom traditions, and I will take one particular example. I will look at the Decalogue, the Ten Commandments, as an example of cultural evolution. I believe it provides evidence of a practical wisdom that is both shaped by and shapes the evolution of a people. I will look at this aspect of the Jewish and Christian tradition in relation to what is known as a natural law theory of morality. Although there are many varieties of natural law ethics—Christian, Jewish, Islamic, and secular—and natural law theory is part of a variety of disciplines (e.g., political theory, theology, law, and philosophy), what they all share in common is the fundamental claim that the kind of being we are as *Homo sapiens* and the possibilities of our nature are relevant to thinking about how we are to live and how we live well.

The Decalogue is typically seen as the paradigm of Mosaic law, in that it is thought to constitute a summary of the essential moral demands for Israel. Yet the Decalogue in particular, and Jewish law more generally, seem to pass over in silence many critical moral obligations. For example, while

they command children to honor their parents, there is no corollary command for parents to love their children. Similarly, while Mosaic law commands us to love others, there is no command to love ourselves. Furthermore, while there are commands to refrain from certain foods, there is no command to eat. So the question arises: Why are some key aspects of human flourishing, and the laws which would point to them, omitted from Mosaic law? For sometimes parents do not love their children, sometimes we do not love ourselves appropriately, and sometimes we do not eat adequately.

Again, why are these moral obligations, so obvious and yet often flouted, not commanded in the Mosaic law? According to Nicholas Lombardo, what all these unspoken moral obligations have in common is that they all involve behaviors that flow directly from powerful inclinations of our human nature.[23] For example, where children must learn to love their parents over time and in response to their parents' love, a parent must go against powerful natural instincts not to love their children. Similarly, while all of us at times may be inclined to eat things are not good for us, it goes against strong inclinations in our nature for us not to eat at all. Part of what natural law theory attempts to do is to reflect in a systematic way on these powerful inclinations that are part of our nature and lead us to act in certain ways. What are the fundamental convictions about human nature that the Mosaic law and the laws of other wisdom traditions presume when they deliberate about what laws they should enact to promote the common good and human flourishing?

Natural law theory begins with reflections on what it sees as fundamental natural inclinations of our biological, our sensory, and our rational nature as human beings. And this brings us back to the first example of what moral theologians should seek to learn from evolutionary anthropologists: more about the nature of various sense apprehensions and sense appetites that arise from reflection upon the capacities we share with a variety of other social animals and that have been picked up by various ancient, medieval, and modern wisdom traditions. This starting point can be found in a diverse range of philosophers, from Aristotle to Thomas Aquinas to David Hume, all of whom understand that any account of human action and thus of morality must begin with and presuppose sets of desires that are part of our nature, and which we share with other social animals.

This is also, I believe, what ethologists like Frans de Waal are getting at when they speak of “building blocks” of morality. De Waal’s argument is that ethics evolves from pre-moral and pre-rational affections (his “building blocks”) which humans share with other primates to varying degrees, which he calls an ethic of continuity. Thus, in books like *Good Natured* and *Primates and Philosophers*, de Waal argues that the origins of ethics should be seen as “bottom up” (i.e., evolving primarily among social animals), rather than “top down” (i.e., arising from a source independent of our animal nature, whether revelation, intuition, or abstract reasoning). However, what de Waal presumes is that ethics must emerge from only one of these directions. While it seems correct that the earliest forms of wisdom are indeed “bottom-up,” de Waal gives no reason for presuming that other forms of wisdom cannot at least in part be “top-down,” nor why this would contradict rather than complement bottom-up ethics. For the lesson from evolutionary anthropologists concerning niche construction is that once a firmly established human niche exists and high fidelity transmission of cultural traditions is occurring, it is fairly clear how “top-down” wisdom traditions cannot but have a significant impact on the evolution of wisdom in *Homo sapiens*.

Lesson #5 *In the ethics of one particular wisdom tradition, we can see how ethical and religious prescriptions and proscriptions in fact presume a certain “natural” morality. This in turn presumes that certain features of human nature mean that certain kinds of actions are so obviously good (eating) or wrong (not caring for one’s offspring) that it seems unnecessary to comment on it. Examining a variety of such wisdom traditions may*

also help us understand other aspects of the presuppositions of and development of the common good in various societies.

A Challenge to Evolutionary Theorists

Earlier in this chapter, I noted that evolutionary theory is concerned with how species change, and with how new species come to be. What is assumed is that there actually *are* species, that there are *kinds* of creatures. Our language is loaded with terms which presuppose that the categorization of different “kinds” make sense. How are we to understand what kind of kind is a species? John Locke put it this way:

All things that exist being particular, it may perhaps be thought reasonable that words, which ought to be conformed to things, should be so too, I mean in their signification: but we find quite the contrary. The far greatest part of words that make all languages are general terms: which has not been the effect of neglect or chance, but of reason and necessity.[24]

Mill goes on to distinguish “natural kinds” from other sorts of kinds. A kind such as “raccoon” is typically considered a natural kind because there are sufficient similarities with all members of that kind. But “blue” is not a natural kind, because of the incredible diversity of kinds of things that are blue.

Historically, all species were considered natural kinds. Before evolutionary theory developed, it made sense to think that there is something *essential* that makes a coconut tree what it is, a butterfly what it is, a *Homo sapiens* what it is, an ant what it is, and so on. As far as I know, Darwin did not question the reality of species—otherwise, how could a species have an origin? Since species evolve into different species, when does the change occur? By what scientific criteria can we differentiate species?

It was assumed that evolutionary biologists could answer this question, but in fact scientifically defining and differentiating species remains a great puzzle to contemporary evolutionary theorists. In a recent article, Jonathan Jong outlines two efforts to provide scientific criteria for differentiating species—what are termed the *anagenesis* and *cladistic* perspectives. According to the former, we note phenotypic and/or genotypic change in a group of individuals of the same species. The ongoing change reaches a tipping point, and we decide that some (or perhaps all) members of the species have become a new species. If there is social isolation between two groups of individuals, one group of individuals may continue to be seen as the old species, whereas the other group constitutes the new species. In contrast, for the cladistic view, the amount of observed change in a species is irrelevant. What determines a new species (a speciation event) is a splitting of the lineage. For example, groups of finches on two islands have become isolated and undergone significant change independent of each other. Whereas at some point in the past they were one species, now there are two. Retrospectively, one looks back and decides where the lineage is to be split. Such a break in the lineage is known as a phylogenetic branch point (PBP). But is there a non-arbitrary way to determine a PBP? Jong puts the problem this way: “say my brother and I get separated, and our descendants diverge. Our children would each represent a new species. It would be very strange to claim these cousins would not be members of the same species.”[25]

Furthermore, leading cladistic theorists have not agreed on the scientific criteria justifying a PBP. Thus, some are considered “laxist” and others “rigorist” in accepting a PBP. Many biologists are concerned about “taxonomic inflation,” the tendency to claim that what were once considered sub-species are in fact distinct species. Is determining the existence of a new species an appeal to authority,

to the “wise” in the field? Do we have a variation of Justice Potter Stewart’s dictum: “I can’t define what constitutes a new species, but I know it when I see one”?[26]

To defend their views on PBPs, cladists appeal to the notion of a *homeostatis property cluster* (HPC). At a point in the evolution of a group of individuals, a set of shared characteristics evolve which tend to reinforce and support each other. So after having undergone significant change, the group reaches a kind of equilibrium, building up a “genetic redundancy” which makes the group somewhat resistant to further variation. This resistance to further variation is called *phylogenetic inertia*. On this viewpoint, what constitutes a new species is likely a cluster of interrelated properties that through phylogenetic inertia constitute a species that will generally stay at an equilibrium.

So some yellow finches wind up on a new isolated island. Some offspring are born with different colorings—a rare blue one, another few orange, and one green. Over time all the finches on the island become green, and also take on other advantageous phenotypical changes that were first noticed in either the blue or orange finches. The island’s finches now all possess a variety of new characteristics: their differently shaped beak originated with the offspring of the blue finch; they eat a plentiful insect that originally only the orange finches could catch; and all are colored green. These new characteristics are advantageous for their ecosystem, and all these finches share a variety of characteristics different from the yellow finches of twenty generations previously. On this view, the original orange or blue or green finches were simply variations of the yellow finches, but as the population as a whole displayed a HPC, it could be considered a new species. Which finches would be the first members of the new species? The first to display the HPC as a whole, or most of the property cluster? Either way, at some point you have offspring considered a different species from their parents, and/or finches of the old and new species mating.

All this can only be known retrospectively. It is only after a new series of characteristics has stabilized that one would discern that a PBP had occurred. If, for example, the original blue, orange, and green variations had led to a few finches having all the new properties, but they were eventually bred out of the population and it remained similar to the population that had originally populated the isolated island, those finches would simply be variants of the species that were bred out of the population. Why should such changes constitute a new species? Why not a variety of the older species, or a sub-species? Furthermore, why in the development of chickens or cows or dogs do we get “breeds,” and not new sub-species or species? Is it because if left to their “own devices,” these different breeds would disappear? That dog and cow breeds are not “natural kinds”? Can new species only arise independently of human control?

However, once new species arise, they do not always stay separate; their evolution is not always *monophyletic*. [27] For example, in hominid evolution, it is clear that some *Homo sapiens* have *neanderthal* and/or *denasovan* DNA. What is fascinating, and highly controversial, is how this applies (or fails to apply to) contemporary human beings. While we speak of the “human race,” for a much longer we have spoken of “races,” and government records and popular classification alike continue to divide people into “races.” Certainly, if we speak of new species arising because of an isolated population undergoing changes, it would seem that the same would be equally true of *Homo sapiens* in ages past. Does the fact that we never divide human beings into different “species” have a scientific basis? Or our practice of not dividing ourselves into sub-species? Or even races? Or do we have fundamentally different considerations when deciding how to “classify” different groups of human beings? All of these problematics lead Jong to acknowledge that evolutionary theorists (and biologists more generally) do not have adequate criteria to provide a non-arbitrary way to define a PBP.[28] What

Jong concludes from this is that theologians and philosophers have erred in equating a biological category (*Homo sapiens*) with “human beings.” In fact, what it means to be a human being is an irreducibly theological and/or philosophical concept, and theorizing about it must ultimately involve those disciplines.

Conclusion

In this chapter, I have argued that those ethical theorists who take most seriously the various aspects of human nature are in the best position to take advantage of insights from evolutionary anthropology and incorporate them into their work. Unfortunately, sociobiologists, with their typically reductionistic views, came to dominate the mainstream understanding of how our evolutionary history should be appropriated for ethics. If ethicists recognize that the field of evolutionary anthropology has moved beyond the MES towards the EES, they should be far more open to learning from that discipline. For example, those who wish to write on theological anthropology could benefit from the insights of evolutionary anthropology. I have only been able to briefly give a few examples of where and how ethicists might begin to appropriate some lessons from evolutionary anthropology. If this chapter encourages others to engage evolutionary anthropology and related disciplines for their work, it will have achieved its objective.

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- [1] Agustín Fuentes et al., “The Evolution of Morality: A Three-Dimensional Map,” *Philosophy, Theology and the Sciences* 3.2 (2016): 124.
- [2] However, the wise course of action will not necessarily be obvious to those seriously lacking wisdom, even after it has been explained.
- [3] Alasdair MacIntyre, *Ethics in the Conflicts of Modernity: An Essay on Desire, Practical Reasoning, and Narrative* (Cambridge: Cambridge University Press, 2016).
- [4] Defenders of the MES, Wray et al. indicate the following as “the basic processes that produce evolutionary change: natural selection, drift, mutation, recombination and gene flow.” Advocates of the EES, Kevin Laland et al., describe the MES “story” as “new variation arises through random genetic mutation: inheritance occurs through DNA; and natural selection is the sole cause of adaptation, the process by which organism become well-suited to their environments. In this view, the complexity of biological development—the changes that occur as an organism grows and ages—are of secondary, even minor, importance” (Kevin Laland et al., “Does Evolutionary Theory need a Rethink?” *Nature* 514.9 [2014]: 162, 164).
- [5] For an excellent example and summary of some of the current disagreements, see Laland et al., “Does Evolutionary Theory need a Rethink?,” 162, 164. The EES theorists argue ‘Yes, Urgently,’ and feature theorists from universities in Scotland (St Andrews), Australia (ANU), England (Oxford), Israel (Tel Aviv), Austria (Vienna), Sweden (Lund) and the United States (Stanford). The MES theorists argue

'No, all is well,' and are represented by theorists from Canada (UBC) and the United States (Duke, Harvard, Stony Brook, Michigan State, Washington U., and NC State); see Eva Jablonka and Marion Lamb, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life* (Cambridge, MA: MIT Press, 2005).

[6] See *ibid.*

[7] As Mary Midgley has repeatedly argued, the view that natural selection teaches selfishness is first an economic and then a political view, and not a scientific one. The "survival of the fittest" concept began with the libertarian economic and political outlook of Herbert Spencer and other social Darwinists, which was later taken up by eugenicists and eventually by sociobiologists, all of whom failed to recognize that their scientific views were in fact economic and political ideologies. In *The Descent of Man*, Darwin is clearly preoccupied with the centrality of moral questions. An excellent discussion of Darwin as moral theorist can be found in Thomas Dixon, "The Darwinian Conscience," in *The Invention of Altruism: Making Moral Meanings in Victorian Britain* (London: British Academy, 2008). Darwin's concerns looked very different when picked up by socialist or anarchist thinkers, including Peter Kropotkin, *Mutual Aid* (London: Heinemann, 1902) and *Ethics: Origins and Development* (London: George G. Harrap, 1922).

[8] See Mary Midgley, *The Essential Mary Midgley*, edited by David Midgley (London: Routledge, 2005), 267.

[9] Jablonka and Lamb, *Evolution in Four Dimensions*, 373–74.

[10] *Ibid.*

[11] What 'community' means depends on the context: possibly referring to one's kin-group, one's troop, one's social circle, one's village, or one's civil society. I elaborate on this general point when I discuss natural law ethics in the section on wisdom traditions later in this essay.

[12] Jean Porter, *Nature as Reason* (Grand Rapids, MI: Eerdmans, 2006), 57.

[13] However, some philosophers have tried to do Aristotelian ethics without the "metaphysical biology" (e.g., the early MacIntyre), and others have put forward a view of natural law where nature is more or less limited to "right reason" (e.g., the new natural law theory of Grisez, Finnis, and Boyle).

[14] I am using the language of "emotions" here, although there are good reasons to prefer "desires," "appetites," "passions," or "affections." See Thomas Dixon, *From Passions to Emotions* (Cambridge: Cambridge University Press, 2009); Nicholas Lombardo, *The Logic of Desire* (Washington, DC: Catholic University of America Press, 2012).

[15] Paul Ekman, "An Argument for Basic Emotions," *Cognition and Emotion* 6.3/4 (1992): 169–90; Paul Ekman, "Basic Emotions," in *Handbook of Cognition and Emotion*, edited by Tim Dalgleish and Michael Power (London: Wiley, 1999), 45–60.

[16] See Simon Baron-Cohen, Ofer Golan, and Emma Ashwin, "Can Emotion Recognition be Taught to Children with Autism Spectrum Conditions?," *Philosophical Transactions of the Royal Society B* 364.1535 (2009): 3567–74.

[17] Ekman's insights further show how clearly social human beings necessarily are. Interestingly, Ekman shows that facial expressions of emotion precede our recognition that we have emotions, and so the very attentive observer can often read a person's emotions better than the one who has them.

[18] One other brief note: so often in discussions of evolution there is such a presumption of individualism, which I take to be an anachronistic reading back into history. This anachronism regarding individualism is problematic for two reasons. First, the idea that an early *Homo sapiens* could flourish on its own is about as likely as a modern dolphin being able to flourish on its own. Second,

there is not even good reason to believe that our evolutionary forebears clearly distinguished their individual good from that of their kin group or community.

[19] Jablonka and Lamb, *Evolution in Four Dimensions*, 373–74.

[20] F. John Odling-Smee, Kevin Laland, and Marcus Feldman, *Niche Construction: The Neglected Process in Evolution* (Princeton: Princeton University Press, 2003), 1.

[21] See Kim Sterelny, “From Hominins to Humans: How *sapiens* Became Behaviourally Modern,” *Philosophical Transactions of the Royal Society B* 366 (2011): 809–22.

[22] Hare and Shipman put forward variations of this thesis.

[23] Lombardo, *The Logic of Desire*.

[24] John Locke, *An Essay Concerning Human Understanding*, Book 3, Chapter 3 (1690).

[25] Jonathan Jong, “What are Human Beings (That You Are Mindful of Them)? Notes from Neo-Darwinism and Neo-Aristotelianism,” in *Issues in Science and Theology: Are We Special?*, edited by Michael Fuller, et al. (New York: Springer International Publishing, 2017), 79–98.

[26] Stewart’s original, famously, concerned pornography, in his concurrence in *Jacobellis vs. Ohio* (1964).

[27] That is, after a PBP, the branches do not always stay ‘separate,’ with instances of interbreeding.

[28] Jong, “What are Human Beings,” 19.

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