

OPEN ENDS, OPEN BEGINNINGS

Interdisciplinary reasoning in J. Wentzel van Huyssteen's *Alone in the World?*

Olavi Seppänen
Philosophy of Religion Master's Thesis
April 2019

HELSINGIN YLIOPISTO – HELSINGFORS UNIVERSITET

Tiedekunta/Osasto – Fakultet/Sektion Teologinen tiedekunta/Systemaattisen teologian osasto		Laitos – Institution -
Tekijä – Författare Olavi Seppänen		
Työn nimi – Arbetets titel Open ends, open beginnings. Interdisciplinary reasoning in J. Wentzel van Huyssteen's <i>Alone in the World?</i>		
Oppiaine – Läroämne Uskonnonfilosofia		
Työn laji – Arbetets art Pro gradu -tutkielma	Aika – Datum Huhtikuu 2019	Sivumäärä – Sidoantal 54
Tiivistelmä – Referat <p>Tutkielmassani analysoin ja arvioin filosofi-teologi J. Wentzel van Huyssteenin poikkitieteellisen järjelyn (engl. <i>interdisciplinary reasoning</i>) menetelmiä, erityisesti sellaisina kuin ne ilmenevät hänen pääteoksessaan <i>Alone in the World? Human Uniqueness in Science and Theology</i> (2006). Se on merkittävä ja monipuolinen puheenvuoro keskustelussa kristinuskon teologisten ihmiskäsitysten ja tieteellisen antropologian suhteista, ja siinä yhdistetään omintakeisella tavalla hyvin monien eri alojen tutkimustietoa. Pääkysymykseni ovat: Millaisille filosofisille periaatteille van Huyssteenin poikkitieteellinen järjely perustuu? Noudattaako hän kuvaamiaan periaatteita johdonmukaisesti tässä teoksessa? Tekeekö hän joitakin episteemisesti epäuskottavia ratkaisuja, ja jos tekee, miten niin? Näiden selvitysten lisäksi kuvaan, kuinka van Huyssteen vertaa uskonnollisuuden historiallista kehkeytymistä teologiseen ideaan ihmisen ja Jumalan suhteesta. Tämäkin palvelee osaltaan hänen metodinsa ymmärtämistä, mutta avaa samalla hänen teologista ajatteluaan.</p> <p>Esittelen ensiksi van Huyssteenin filosofisia käsityksiä tiedon ja järjelyn luonteesta, jotka yhtäältä korostavat kaiken tiedon tulkinallista taustaa sekä järjestyksen (engl. <i>rationality</i>) sosiaalisia sidonnaisuuksia. Samalla hän kuitenkin pyrkii osoittamaan, että eri konteksteissa tapahtuvalla tiedon hankinnalla ja järjelyllä on väistämättä paljon yhteisiä piirteitä, mikä tarjoaa myös vuorovaikutuksen mahdollisuuksia eri tiedonalojen välille. Hänen tietoteoriaansa kuvaamaan käytän hänen omaa termiään "postfoundationalismi" (engl. <i>postfoundationalism</i>).</p> <p>Toiseksi käyn läpi ajatusta, että orgaaninen evoluutio itsessään on analoginen tulkitsemisen ja järjelyn prosessille. Tämän niin sanotun evolutiivisen epistemologian (engl. <i>evolutionary epistemology</i>) kautta van Huyssteen pyrkii ennen kaikkea puoltamaan uskonnollisen ajattelun mahdollisuutta tulla tunnustetuksi luonnollisena ja rationaalisenakin ajattelun alueena. Toisaalta hän haluaa laajemmin osoittaa, että kaikki inhimillinen ajattelu jakaa saman biologisen perustan, joka yhdistää hyvinkin erilaisia ja eri tavalla koettuja kognitiivisia toimintoja.</p> <p>Kolmas pääasiallinen aihe on uskonnollisuuden kehkeytyminen ihmiskunnan esihistoriassa ja tämän suhde kristilliseen oppiin, jonka mukaan ihminen on luotu Jumalan kuvaksi. Tuon erityisesti esiin, millä tavalla van Huyssteen vaikuttaa ymmärtävän uskonnon käsitteen sinänsä sekä miten hän tulkitsee esihistoriallisista kulttuureista saatavaa tietoa pyrkiessään ymmärtämään uskonnollisen ihmisen kehittymistä.</p>		
Avainsanat – Nyckelord antropologia, teologia, biologia, evoluutio, tietoteoria, hermeneutiikka, Jumalan kuva, ihmisluonto, uskonto		
Säilytyspaikka – Förvaringställe Helsingin yliopiston kirjasto, Keskustakampuksen kirjasto, Teologia		
Muuta tietoa		

Table of Contents

1. Introduction.....	1
1.1 Modeling relationships between science and theology.....	1
1.2 Van Huyssteen and his theological project.....	3
1.3 On the goals and conduct of my study.....	5
2. Van Huyssteen on knowledge and rationality.....	9
2.1 Problems with van Huyssteen’s epistemology.....	14
3. Philosophy meets biology.....	16
3.1 A biologically inspired metatheory.....	18
3.1.1 Natural selection as a metaphor in epistemology.....	19
3.1.2 What is fit, is correct – or is it?.....	21
3.2 Biology of knowledge.....	23
3.3 Theological uses of evolutionary epistemology.....	28
4. Image of God in the making.....	32
4.1 Doctrinal history of “imago Dei”.....	35
4.2 Van Huyssteen on human cognitive evolution.....	38
4.2.1 Problems with van Huyssteen’s theory choice.....	40
4.3 Human imagination and religiosity.....	43
4.3.1 Theological relevance of prehistoric religiosity.....	46
5. Conclusions.....	49
Bibliography.....	53
Source.....	53
Reference literature.....	53
Internet sources.....	54

1. Introduction

1.1 Modeling relationships between science and theology

Within Christian theology, there are multiple ways of relating natural sciences to what the Bible and other theologically authoritative sources tell about the world and living creatures. Also vice versa, within natural sciences, different people may have highly varying approaches to religious or theological convictions. Since the primary source of my thesis is a book discussing *human uniqueness in science and theology*, I would first like to briefly illustrate the field of study and debate where my source belongs. One of the more received attempts to describe and classify ways of relating science and theology is Ian Barbour's four models theory that I have decided to apply here.¹

First, Barbour identifies *conflict* models, in which theological and scientific discourses are seen as competing attempts to analyse and explain the same issues: how the world has come into being, for instance, or whence life on earth originates. In the context of conflict models, it is either science or theology – depending on whom one asks – that provides the successful analyses of this world. Barbour takes up scientific materialism and biblical literalism as worldviews entailing a conflict approach. The former he describes as positing scientific method as the only reliable path to knowledge, and matter and energy as the fundamental reality in the universe. Biblical literalism, in turn, allegedly consists of ascribing historical truthfulness and accuracy to the Bible, sometimes combined with attempts to argue for the Genesis creation account in natural scientific terms.²

Independence models, on the contrary, are built on the conviction that science and theology are so completely different that no conflicts between the two should even in principle be possible. For example, methodological differences have been identified, in that theology supposedly draws upon personal experience, whereas science is concerned with public experiments and measurements. In this view, neither may a theologian correct truth claims made by a scientist *qua* scientist, nor the other way around. The independence of theology and science has been asserted also by arguing that theological and scientific uses of language are radically different, as the former is seen as recommending specific attitudes and ways of life, and not making predictions about nature. This argument has its roots in Ludwig

¹ Barbour himself uses mostly the term "religion" instead of "theology", but in his discussion the latter is definitely included under the former, and at some points also considered separately. I speak of "theology" because it is the more central term in the context of my study.

² Barbour 1997, 77–83.

Wittgenstein's thought and his influential idea that human communication consists of different "language games".³

Dialogue models present science and theology as bordering on each other and sometimes also as overlapping in their methods. Bordering can be understood in terms of metaphysical questions that arise when scientific study reaches its explanatory limits – for example, why the universe is both "rational and contingent". It might be said that theology or religion operates on a level of explanations different from science, albeit one that also may appear as relevant in human life. Methodological overlaps, in turn, have become obvious as the once-dominant view of science as objective inquiry has been losing ground. The impact that theoretical presumptions have on selecting and interpreting scientific data, as well as the role of creative imagination in scientific theory formation, suggests that science and theology share important characteristics as fields of epistemic inquiry.⁴

Barbour's fourth category are *integration* models, among which he distinguishes natural theology, theology of nature, and systematic synthesis. In natural theology, observations of the natural world are used to validate theological beliefs. As representative of this approach Barbour points out various arguments from the apparent design in the universe, suggesting that a divine, creative being lies behind all this. These have been presented over a long time by various theologians such as Thomas Aquinas and Richard Swinburne. Theology of nature, in turn, starts from theological doctrines themselves and tries to reformulate them with insights drawn from current science. Systematic syntheses aim to develop a comprehensive metaphysical scheme for interpreting different kinds of experiences, so that a context of common reflection for scientists and theologians could be established.

My purpose now is to consider in detail a certain remarkable work in recent science and theology -debate, one that recommends ongoing reflective interaction between individual theologians and scientists, while also advocating some rethinking of traditional theological doctrines in the light of contemporary scientific knowledge. In Barbour's terms, this work would exemplify a dialogue approach to science and theology, specifically due to its interdisciplinary optimism based on epistemological and methodological similarities between disciplines. On the other hand, it points toward integration in the sense of a theology of nature.⁵ In it, one finds readiness to take well-established results of science, such as

³ Barbour 1997, 84–87.

⁴ Barbour 1997, 90–94.

⁵ N.B. Jerome A. Stone has it that van Huyssteen exemplifies an integrationist approach (Stone 2006, 73). Barbour identifies theology of nature with, for example, the following conviction: "[T]he main sources of theology lie outside science, but scientific theories may affect the reformulation of certain doctrines, particularly the doctrines of creation and human nature." (Barbour 1997, 98) This describes van Huyssteen's project quite

humankind's evolutionary origins, with utmost seriousness, and at the same time a strong conviction that there will be a lot of room left for plausible theological speech concerning our species and its position in the world.

1.2 Van Huyssteen and his theological project

In my master's thesis, I analyze and evaluate the 2006 book *Alone in the World?* by J. Wentzel van Huyssteen (1942–). Van Huyssteen is a South African Reformed theologian who has published a lot on issues of epistemology, theories of rationality, and dialogue between theology and the sciences. He completed his doctorate in Theology already in 1970 at the Free University of Amsterdam, and is also trained in philosophy as B.A. and M.A. from the University of Stellenbosch. Academic posts formerly held by him include head of the Department of Religion at the University of Port Elisabeth, and James I. McCord Professor of Theology and Science in Princeton Theological Seminary.⁶ In *Alone in the World?*, based directly on his 2004 Gifford lectures in the University of Edinburgh, van Huyssteen seeks to outline a scientifically informed theological anthropology through interdisciplinary reflection involving theological, biological and archeological considerations, among others. The need for such a project stems from van Huyssteen's basic theological and, even more importantly, epistemological convictions. For a brief introduction to his thought, I apply Kenneth A. Reynhout's essay (2006) in which van Huyssteen's development as a philosophical theologian is helpfully summarized.

Early in his life, in his native South Africa, van Huyssteen witnessed discriminative ethno-politics known as apartheid, defended by many Christians by appealing to Biblical authority. In this context, his own disapproval of apartheid led him to ask epistemological questions about the possibilities of knowing anything about God or God's will. Consequently, van Huyssteen set out to seek a philosophical framework for a reasonable and epistemically credible theology. Logical positivism, the mainstream approach in philosophy of science at the time, had led to deeming theological statements cognitively meaningless, since they were, allegedly unlike scientific ones, not empirically verifiable. However, positivism was already being challenged within philosophy of science by thinkers such as Karl Popper and Thomas Kuhn, who pointed out the historical and contextual nature of scientific discovery. Van Huyssteen saw the emerging, novel view of scientific rationality as suggesting the possibility of a parallel view in theology. It started to seem to him that science and theology as fields of thought were not as fundamentally different as claimed by positivists. For example, both drew

well.

⁶ <https://www.giffordlectures.org/lecturers/wentzel-van-huyssteen>

on historically situated experiences and utilized the limited resources of language.⁷ Van Huyssteen has been eager to remind his readers of such common elements of theological and scientific inquiry which, even though they might seem trivial today, went largely unrecognized for a long time.

Starting from late 1980's, van Huyssteen has criticized what he calls "fideist" approaches to theological epistemology.⁸ An illuminative example of this was included in his 1997 book *Essays in Postfoundationalist Theology*. There he opposed any attempts to define theology in a way that cut it off from other discourses and supposedly rendered it immune to criticism from without. This had been done, for example, in Wittgensteinian terms by presenting religions and theologies as self-contained "language games". Fideist epistemologies denied the "interdependence of religious ... and other forms of human cognition", which van Huyssteen argued was untenable. He also noted that they could not explain why people chose some views over others, thus presenting all believing as arbitrary. As an alternative to fideism, van Huyssteen had developed a "postfoundationalist" epistemology that encouraged ongoing, intersubjective and intercommunal evaluation of beliefs. This he thought would be necessary for theology, were it to claim any public status in a postmodern and pluralist world. Postfoundationalism builds, on the one hand, on an acceptance of differences between epistemic communities and traditions. Yet at the same time it holds that, first, traditions or communities are never really isolated from one another, and second, that they share common rational resources that enable interaction between them. Treating all knowledge as "interpreted experience", and never as immediately given, is also characteristic of this epistemology.⁹ Its view of knowledge and rationality is therefore not only open-ended, but also entails open beginnings, so to speak.

Postfoundationalism became a central theme in van Huyssteen's works during the 1990's, a development I see as culminating in *Essays in Postfoundationalist Theology*. A subsequent major publication, *The Shaping of Rationality* (1999), went on to consider problems of rationality in interdisciplinary contexts, as van Huyssteen now wanted to focus especially on the idea of common rational resources that are shared across boundaries of discipline, context and tradition. As a yet further distinct phase in van Huyssteen's career, starting from his 1998 book *Duet or Duel? Theology and Science in a Postmodern World*, Reynhout takes up his interest in biological evolution as the background for all knowing and

⁷ Reynhout 2006, 2–5. Similar comparisons between science and theology, or science and religion, are found in Barbour 1997, 93.

⁸ Reynhout 2006, 8.

⁹ Van Huyssteen 1997. See Introduction for a brief overview, and Chapter 1 for a more detailed account.

reasoning. The main objective in this phase has been to develop, in terms of *evolutionary epistemology*, a stronger argument for the interconnectedness of various epistemic activities.¹⁰ In short, van Huyssteen's claim has been: If all our knowing is equally rooted in our biological nature, it is bound to be unified in important respects, and cannot consist in isolated domains. Applying evolutionary epistemology, van Huyssteen has complemented with natural scientific insights the theory of rationality he had earlier been defending in philosophical terms. *Alone in the World?* continues this trend and, as suggested also by Reynhout, serves as an interdisciplinary test case for the postfoundationalist model of rationality.¹¹

Van Huyssteen thus promotes a public theology that is ready to take up challenges and possibly to reformulate itself. At the same time, postfoundationalism entails the demand that theologians be taken seriously as participants in interdisciplinary conversations. Applying this philosophical epistemology, and complementing it with scientific insights into the evolution of human cognitive skills, van Huyssteen aims to refute any stringent scientific naturalism that may dismiss religious thought as irrational. In his view, rationality is at work in all the domains of human lives and, just as importantly, between them. This in turn may allow for identifying and discussing shared concerns between domains. "Standing within specific research traditions", he says, "we often realize that a particular tradition may generate questions that cannot be resolved by its own resources alone" – adding that precisely this might encourage one to seek rational support in other disciplines.¹² The theme of human uniqueness is, van Huyssteen thinks, of interest to representatives of most different fields of study; and this is why he wanted to take it up in his Gifford lectures and, subsequently, in *Alone in the World?*¹³

1.3 On the goals and conduct of my study

My thesis, as the title suggests, is mainly focused upon van Huyssteen's epistemology and the method of interdisciplinary reflection thence derived. In *Alone in the World?*, van Huyssteen introduces a postfoundationalist approach to theological anthropology, and I seek to describe his argumentation and presentation, while also pointing out what I regard as strong and weak sides of his method. This is important, for his is a comprehensive attempt to bridge between theology, philosophy, and science, and yet one that builds on a rather uncommon brand of epistemology. Thus it is bound to be of interest for anyone following the broader science and theology -debate. In short, I systematically compare van Huyssteen's proceedings at different

¹⁰ Reynhout 2006, 9–13.

¹¹ Reynhout 2006, 12.

¹² Van Huyssteen 2006, 16, 20.

¹³ Van Huyssteen 2006, 8, 111–112.

points in the book against the principles of epistemology and rationality he subscribes to, and my research questions can be formulated as follows: 1) *What kind of philosophical principles are central to van Huyssteen's method of interdisciplinary study?* 2) *Does van Huyssteen stay consistent with his philosophical principles?* 3) *Are some of his proceedings problematic with regard to epistemic credibility, and if so, why?* The first question can, and in fact must, be answered already at the beginning, mostly relying on van Huyssteen's own description of his philosophy. It is the two other questions, then, that require more critical reflection of my own. Some of the remarks I make are derived from, or consonant with, earlier assessments of van Huyssteen's thinking. Most notable in this respect are two journal articles by philosopher-theologian Wesley J. Wildman to which I refer. My use of case examples to illustrate van Huyssteen's method also allows me to look at the subject matters in his book. The most central of them is theological anthropology in Christianity, and this leads to my final research question: 4) *How does van Huyssteen compare the Christian idea of human-God relationship with prehistoric emergence of human religiosity?*

To begin with, in chapter 2, I clarify what postfoundationalism as a philosophical approach entails. This will be done in light of both *Alone in the World?* and his earlier works, most notably *The Shaping of Rationality*. Basically, van Huyssteen wants to offer postfoundationalism as a preferable alternative to both foundationalist and relativist epistemologies. He denies any immediately justified knowledge while still encouraging interpersonal and interdisciplinary evaluation of beliefs, convictions, and practices against the background of changing, historically conditioned patterns of meaning. The question I think he should pay more attention to is whether, and how, it would be possible to distinguish between more and less credible convictions in epistemology. Building upon Wesley Wildman's remarks on van Huyssteen's earlier work, I argue that the epistemology in *Alone in the World?* lacks a method for identifying reliable connections between human knowledge and the world, even though such connections are strongly implied in the book. Van Huyssteen's scheme would gain credibility if he philosophically argued that at least some human knowledge about the world is reliable.

Having addressed this more abstract dimension of the matter, I move on to the concrete case study presented in the book. Firstly, in chapter 3, I explicate the role of evolutionary epistemology in van Huyssteen's scheme. Results of this multifaceted field of study complement his postfoundationalist philosophy from a natural scientific point of view, which becomes most apparent when semantic parallelisms are identified between biological theories of evolution and postfoundationalist epistemology. I also analyze how van Huyssteen applies

evolutionary epistemology to argue for a "naturalness" of religious thought. His problems with evolutionary epistemology have, firstly, to do with the conceptual ambiguities of evolutionary theories themselves. Secondly, and perhaps more importantly, an opponent or doubter of evolutionary epistemology could raise pressing questions about normative issues, such as distinguishing between the *truth value* of epistemic convictions and the *success*, or *acceptance*, that they enjoy. Besides, from a quite practical point of view, it could be complained against evolutionary theoretical approaches that they too much complicate epistemological inquiry, and stupendously increase its scope when compared with more traditional models of human knowledge.

In chapter 4, my focus will be on how van Huyssteen brings his interpretations of the Christian theological idea of *imago Dei*¹⁴ to resonate with the archeologically revealed emergence of culturally modern humans in the Upper Paleolithic period (45 000–10 000 BCE). Here I have the chance of exploring his theological anthropology while further illuminating his philosophical reasoning strategy. The doctrinal history of *imago Dei* is presented – as suits van Huyssteen's epistemology – as highly varied, involving responses to changing cultural contexts, and innovative renegotiations of meaning. Van Huyssteen argues that, on both theological and paleoanthropological view, a novel mode of awareness and thinking marks the birth of humanity as it is known to us today. In our prehistory, this seems to have implied religiosity from early on. A question van Huyssteen also touches upon is: What relevance could ancient and almost totally unknown religions have to a theologian whose primary concern is the human-God relationship described in the Biblical tradition?¹⁵ Here, I see him ending up in a sort of grey area between theological and scientific anthropology, where convergence between the two would require stretching things too far. Either theology would have to present itself in exceedingly vague and abstract terms, or science would be forced to affirm much more specific claims about prehistoric religions than what current evidence allows for.

Generally, I argue that it is precisely by letting things "resonate" with each other, rather than through formal argumentation, that van Huyssteen seeks to persuade. The reason why I spoke of analyzing both his argumentation *and* presentation is that the two are not often clearly distinguishable. The reader is provided with information from different fields of thought, and left with quite a lot of freedom to interpret the whole. Van Huyssteen's theological anthropology is thus not one of a tight integration of theological and scientific

¹⁴ This Latin term denotes the Christian conviction that humans have been created "in the image of God".

¹⁵ Van Huyssteen 2006, 187.

knowledge. Indeed, he explicitly states that we should not mistake any convergence or resonance between scientific facts and Christian theology's deepest convictions as "proving" God's purpose or design in the universe. "The emergence of this kind of complexity", says he, "may however resonate with theology's deepest convictions about human uniqueness, and may give us an argument for the plausibility and comprehensive nature of a *theological explanation* of a phenomenon – the emergence of the human mind..."¹⁶

From the different pieces and insights, therefore, the curious reader might construct her own arguments, unless she is content with resonance as such. Van Huyssteen offers mostly suggestions instead of definite truth claims, which could be regarded as both strength and weakness in the book. In this sense, van Huyssteen stays true to his postfoundationalist ideals, not arguing from putatively true premises to equally true conclusions, but instead gathering different theories about the world that might be seen as convergent or even mutually enhancing, depending on the viewer. Van Huyssteen frequently describes his method of interdisciplinary reasoning as *transversal*, following Calvin O. Schrag's terminology, and it is very much the strengths and weaknesses of transversality that I will address, as they are manifest at different points of van Huyssteen's study. On the one hand, it leads to innovative associations and bridging between most different fields of thought, while at the same time it allows that some problems do not get due attention, and that some arguments are left incomplete or unclear. Much of what probably could have been stated in more explicit terms has to be read "between the lines".

What van Huyssteen clearly *does* affirm is that human beings have come about as a result of biological evolution, and that their mental capacities emerge from their organic bodies.¹⁷ He is therefore not a dualist with regard to body and mind, or body and soul. Another strongly formulated claim is that religiosity, broadly conceived, is natural for human beings, even to the point of being intrinsic to human life.¹⁸ Those two propositions then become integrated in the rather strong theological statement that humanity as the *imago Dei*, i.e. the image of God, has emerged from nature through natural evolutionary processes. In the context of this claim, the human capacity for religious belief is basically equated with imaging God or being in a relationship with God.¹⁹ This move will be subject to critical reflection in my subchapter 4.3.1.

¹⁶ Van Huyssteen 2006, 43.

¹⁷ Van Huyssteen 2006, 59.

¹⁸ Van Huyssteen 2006, 204–205.

¹⁹ Van Huyssteen 2006, 322.

My method in answering the posed questions would best be characterised as *systematic analysis*. Answers to questions 1 and 4 are descriptive in nature. For them, analysis entails that I explicate what van Huyssteen means by certain concepts that are central to his work. In addition, I identify ways in which he relates these concepts to one another. This seems important not least in the light of van Huyssteen's own statement that "an interdisciplinary approach is likely to be fruitful only as long as one is scrupulously attentive to the meaning of words and the proper use of concepts"²⁰. Questions 2 and 3 are different, as they require assessing van Huyssteen's text evaluatively, that is, comparing it with some criteria that more or less *should* be met. I compare the claims made by van Huyssteen with the philosophical framework he seeks to adhere to, in order to see how well the claims fit within it. Alongside that, I keep track of the associations between different concepts that he creates when reasoning about human uniqueness, pointing out factors that make the associations seem either reasonable or untenable.

2. Van Huyssteen on knowledge and rationality

Alone in the World? centers around a postfoundationalist view of knowledge and rationality, laid out in the first chapter of the book. Postfoundationalism is, admittedly, a rarely used term: for instance, it does not figure in the index of *The Oxford Handbook of Epistemology*. Similarly, a search with this keyword in *Stanford Encyclopedia of Philosophy* yields no results at all. Reynhout has it that the term was in fact introduced by van Huyssteen himself in a 1990 lecture where it was defined in relation to foundationalism and non-foundationalist relativism.²¹ These two are well-known epistemological terms, and they are contrasted with postfoundationalism also in *Alone in the World?* For the sake of objectivity, I will start briefly introducing these concepts, without as yet referring to van Huyssteen's own works and his epistemology.

Foundationalism is a theory of epistemic justification that comes in different versions. In general, theories of epistemic justification seek to answer either of these two questions: What is one entitled to believe? Which beliefs are entitled to being believed in? Whereas the first question focuses on the human subject and her justification in believing something, the second is concerned with beliefs and their epistemic status independently, as it were, of subjects and particular situations where believing might occur. Foundationalist theories aim, in short, at establishing secure foundations for a system of justifiably held beliefs. That would consist in some beliefs the justification of which is noninferential, that is, beliefs justifiable

²⁰ Van Huyssteen 2006, 9.

²¹ Reynhout 2006, 8–9.

without inference from other beliefs.²² Differing theories of justification include, for instance, coherentist ones, in which beliefs are justified according to their coherence with some other beliefs. Coherentism thus views all beliefs as requiring other beliefs for their epistemic justification. Usually, beliefs held by a single individual are required to form a coherent system among themselves, but the individual's beliefs may also be compared against the ones held by other people in a specific community. The latter alternative could be called a social coherence theory of justification.²³ As I will point out, its basic idea is also involved in van Huyssteen's postfoundationalism.

Relativism in epistemology concerns not directly the proper ways of justification, but is primarily a stance on the nature of knowledge. According to Baghramian and Carter, relativism is most often contrasted with absolutism, where at least some truths are regarded universal and not bound by historical conditions. Another, closely related concept usually opposed to relativism is objectivism, the position that cognitive norms and truth are independent of judgments and beliefs at particular times and places. For the relativist, beliefs can be justified only in relation to specific epistemic systems, of which there are many; and these systems may even be genuinely incompatible.²⁴ It is worth noting that, by this definition, relativism does not contradict all foundationalist theories of justification, but it is opposed to claims that some epistemic standards could be treated as universally valid. Objective or universal knowledge is not supposed to be possible, but some local epistemic systems might have foundationalist standards for justified beliefs.

In order to explain postfoundationalism on its own terms, it is necessary to rely quite heavily on van Huyssteen's own definitions. With this theoretical framework, van Huyssteen wants to reject foundationalism and relativistic nonfoundationalism, two approaches to knowledge and rationality he considers inviable. He dismisses foundationalism which he says is typically constituent of modernist notions of rationality that presuppose autonomous individuality, universal standards of reasoning, and the possibility of gaining certain knowledge. According to van Huyssteen, the challenge of "postmodern culture" has revealed such presumptions as untenable. Taking into account how tradition and interpreted experience shape human reasoning is important to him.²⁵ However, in *Alone in the World?*, he does not assess foundationalism in much detail. This is noteworthy, because some foundationalist

²² Fumerton 2002, 204–207, 210.

²³ Fumerton 2002, 226–227.

²⁴ Baghramian & Carter 2017. See subchapters 1.2 "Relativism by contrast" and 4.4 "Epistemic relativism".

²⁵ Van Huyssteen 2006, 5–6, 10.

epistemologies do allow for the contextual embeddedness of reasoning, and so van Huyssteen's grounds for rejecting "all forms of foundationalism" are not perfectly clear.²⁶

In his previous major publication, *The Shaping of Rationality* (1999), van Huyssteen already linked modernism with foundationalism, defining the latter as "the view that *mediately* justified beliefs require epistemic support for their validity in *immediately* justified beliefs". Ultimately, then, he is rejecting that presumption: he claims that the content of a belief is never immediately given, emerging instead as the result of an interpreted experience.²⁷ But he does not attack the foundationalist maxim in a systematic manner, instead contenting himself with citing other thinkers who apparently have done so convincingly.²⁸

To shed light on the problem of immediately justified beliefs, even called basic beliefs, I will briefly analyze the example given in *Reason and religious belief* (Peterson et al., 2003): "...you walk into a friend's house and, because of what you are hearing, form the belief that someone is playing the saxophone in the next room. This is a basic belief, not inferred from other beliefs of yours ... you just hear the sounds and find yourself with the belief that there is a saxophone in the next room."²⁹ Here, the foundationalist apparently refuses to think further while it would be possible to do so. The belief in question does, in fact, logically entail several prior convictions: You have to believe that a musical instrument known as the saxophone exists, and that a player is required for the instrument to produce sounds, and even that the next room actually is there!

This might be trivial, and indeed none of those prior convictions has to be part of a *conscious* process of reasoning that produces your eventual belief. Logically, however, they have to be there. You do not form the belief exclusively because of what you are hearing. If you did, probably any living thing capable of hearing and seeing could form the same belief as you do, given similar sensory input. But obviously, animals could not. Neither could all of your fellow human beings, especially not those who had never got to learn anything about the saxophone. The sensory input in question could not possibly cause such people to believe that someone is playing the saxophone. At best, they could believe that someone is playing a musical instrument.³⁰

²⁶ Van Huyssteen 2006, 10. More precisely, foundationalism does not by definition entail epistemic universalism as opposed to epistemic relativism or contextualism. An example of non-universalist foundationalism, Reformed epistemology, is introduced in Peterson et al. 2003, 112–116.

²⁷ Van Huyssteen 1999, 61–62, 189–190.

²⁸ Cf. van Huyssteen 1999, 63–66, 122–125.

²⁹ Peterson et al. 2003, 113.

³⁰ A roughly similar remark is made even in van Huyssteen 2006, 26.

A more detailed description of belief formation could be as follows. What you are hearing interacts with your prior convictions, conscious or subconscious, and from this interaction emerges the belief – it is an *interpreted experience* referring, of necessity, to some form of prior knowledge. In this case, reference is made to some things you have learned about the saxophone and the structure of your friend’s house. It would be misleading to describe the situation as if the external stimuli had immediately caused the belief to appear in your mind as a grammatically correct sentence. It really does not happen. Even as the details of belief formation could be discussed further,³¹ I am so far willing to sympathize with van Huyssteen: when we speak of beliefs, we speak of interpreted experiences. This is clearly why van Huyssteen takes postfoundationalist rationality to entail a ”fusion of a refigured epistemology and hermeneutics”.³²

Having discarded the notion of immediately justified knowledge, van Huyssteen proceeds to refigure the proper goals of epistemic inquiry. Within a postfoundationalist notion of rationality, ”critical and responsible judgment pursues neither the modernist desire for true foundations nor its hope for certainty (cf. Schrag 1989: 89)”. Instead, ”interpersonal and interdisciplinary judgment is content to discern and evaluate our beliefs, our convictions, and our practices against the background of ever-changing and historically conditioned patterns of meaning, and to discover significant connections between them.”³³ With the modernist ideals abandoned, knowledge-gaining is refigured as the pursuit for comprehensibility. Possibly, says van Huyssteen, this even becomes ”the most important epistemic goal”³⁴.

A central source of influence here is the American Continental philosopher Calvin O. Schrag. From him, van Huyssteen has adopted the concept of *transversality* as a characteristic of human reasoning. Specifically he refers to Schrag’s 1992 book *The Resources of Rationality*. It features analysis of modernist conceptions of reason and of their subsequent deconstruction in Continental philosophy, but also works towards a plausible new model of reason as a response to the various philosophical positions considered. Schrag describes this transversal rationality as establishing, between different forms of thought and other social practices, ”convergence without coincidence” and ”interplay without synthesis”.³⁵ Van Huyssteen links the notion of transversality with that of interpreted experience. Experiences

³¹ See, for example, Fumerton 2002, 215. Reference is made to Bertrand Russell who distinguished between believing as ”propositional knowledge” on the one hand, and ”acquaintance with facts” on the other. This could be compared with conscious and subconscious convictions I have distinguished above.

³² Van Huyssteen 2006, 23. Hermeneutics pertains specifically to theories of *interpretation* as distinct from epistemology, i.e. theories of *knowledge*.

³³ Van Huyssteen 2006, 32.

³⁴ Van Huyssteen 2006, 11, 18–22.

³⁵ See Schrag 2003, chapter 6 ”Transversal rationality”, specifically 158–159.

are processed by rationality, which is the ability to "gather and bind together the patterns of interpreted experience". The process is transversal as it gathers elements from various domains of thought and perception, assembling them into meaningful combinations. Referring to Schrag, van Huyssteen maintains that both discursive and nondiscursive practices are involved here. Whereas the former entail articulation in language, the latter comprise e.g. actions, desires and moods, which also are ways of "understanding and articulating ourselves and our worlds". This view enables van Huyssteen to say that rationality is "alive and well in *all* the domains of our human lives".³⁶

Even though he is advocating a broad and generous notion of rationality, van Huyssteen wants to distance himself from extreme relativism. The latter rises, in his view, from a rejection of universalist foundationalism while effectively clinging on to the notions of immediately justified beliefs and definite rules of correct reasoning. This retaining of modernist ideals just happens locally and contextually, so that "different groups use different sets of rules, and that each set of rules specifies a different form of rationality". As he rejects immediately justified beliefs, van Huyssteen sees justification as a communal, discursive process: "A belief, action, or choice is ... rational if we can convince others that it was a sensible thing to arrive at in the specific circumstances of a specific social context."³⁷ With regard to the basic models of epistemic justification presented earlier, van Huyssteen thus seems to promote a social coherence theory of justification.

It is evident that van Huyssteen takes more issue with foundationalism than with relativism, and he does lean towards the latter in his own epistemology, as he disapproves of absolutist and objectivist views of knowledge and rationality. As in the relativist's view, beliefs can be justified only in relation to specific epistemic systems, but van Huyssteen sees neither reason nor possibility to discuss beliefs in relation to only a limited number of systems. Thus, he clearly rejects such relativism that denies the possibility of meaningful communication across epistemic communities. For instance, some Wittgenstein-influenced language game theories, pluralist yet fideist, have been resolutely criticized by van Huyssteen.³⁸

Van Huyssteen holds that rationality cannot be assessed entirely within some *a priori* fixed limits, such as one community or tradition. He insists that (research) traditions are never isolated from one another and from their milieus, and that diverse reasoning strategies have

³⁶ Van Huyssteen 2006, 10–11, 18–22. The nondiscursive practices are important in how they challenge the idea that linguistically formulated beliefs should be seen as primary, or privileged, instances of "knowledge".

³⁷ Van Huyssteen 1999, 127, 133. Specifically on justification, see even 270.

³⁸ See subchapter 1.2.

remarkable similarities like "a shared quest for intelligibility, the shaping role of personal judgment, an ongoing process of problem solving, and experiential accountability".³⁹ In effect, he is saying that attempts at intercommunal reasoning and understanding cannot be declared futile once and for all: It is an empirical matter whether they can be fruitful.⁴⁰ In the context of postfoundationalism, different discourses and actions are at times linked up with one another, and at times in conflict with one another, and the processes of assessing the rationality of different views are open-ended because interactions between individuals and communities may turn out unpredictable.⁴¹ However, no clear reasons are provided as to why attempts at intercommunal reasoning *should* be made. Also, as noted by Peterson (2008), van Huyssteen does not significantly develop his idea that one should stand in a critical relationship to one's own community or tradition, which he nonetheless expresses in *Alone in the World?*⁴²

2.1 Problems with van Huyssteen's epistemology

I have noted that in van Huyssteen's view, rationality is found equally in all the domains of human life, and that the rationality of a belief, for example, is demonstrated by convincing others of its sensibility in a given context. But what is it in the context that makes convincing others possible? Surely it is not always enough to just follow the rules of the prevalent language game or the like, but some additional criteria have to be met as well. Wesley Wildman has criticised van Huyssteen's philosophy, as presented in *The Shaping of Rationality*, for lacking metaphysical explanations as to why reason (i.e. rationality) works. More specifically, Wildman notes that in some instances, hypotheses are more readily correctable⁴³ than in others – but he does not see van Huyssteen taking this into account. Of correctability, he gives a case example both hilarious and telling: If he were convinced that he could plunge his head through a metal girder using brute force only, a serious test of the hypothesis would result in probably universal consensus that it "needs modification". On a pragmatist view, the strong correctability in such cases issues from a public, shared reality.

³⁹ Van Huyssteen 2006, 11–12, 16, 28. That these similarities should be viewed as remarkable is hardly obvious in today's context, but one should see them against the background of positivism in philosophy of science. For example, personal judgment was not always recognized as playing any "shaping role" in scientific inquiry, for science was supposed to provide objective methods of acquiring knowledge. See van Huyssteen 1999, 24–27.

⁴⁰ Van Huyssteen 2006, 13, 16, 28. My formulation here was inspired by Wildman 2006, 42.

⁴¹ Van Huyssteen 1999, 250, 268–269.

⁴² Van Huyssteen 2006, 26; Peterson 2008, 469.

⁴³ It should be noted here that Wildman speaks of "correctable" hypotheses rather than "verifiable" or "falsifiable" ones. Thus, what he is criticizing van Huyssteen for is not that the latter has excluded from his epistemology the notions of truth and falsity, but that the epistemology does not take into account different degrees of correctability among theories.

Wildman suggests that van Huyssteen take up pragmatist arguments for metaphysical realism in a more resolute move beyond "postmodernity".⁴⁴

The above criticism applies to *Alone in the World?* as well. "[W]e have no standing ground, no place for evaluating, judging, and inquiring", says van Huyssteen, "apart from that which is provided by some specific tradition or traditions. In this sense interpretation is at work as much in the process of scientific discovery as in different forms of knowledge ..."⁴⁵ But correctability as a principle adjacent to knowledge, rather than a foundation of it, should allow one to postulate reality precisely as a standing ground independent of human traditions. Wary of the pitfalls of modernism, van Huyssteen does not want to make abstract, universal truth claims – even though he has ended up making some in his description of human rationality, as also noted by Wildman.⁴⁶

I stress, however, that van Huyssteen has quite explicitly refused to base realism on evidence such as universally convincing experiments. In *Essays in Postfoundationalist Theology*, he sympathizes with Nicholas Rescher's view that realism, as a pragmatic presupposition for inquiry, is basically the default ontological position. In a way I would like to call elegant, the commitment to a mind-independent reality is described as arising not *from* experience, but *for* experience. As such, it needs no evidential justification, for example "on the basis of the success of science".⁴⁷ But even if this success need not be used as evidence for the existence of reality, I think it should help one to construct an evidential argument for the most obvious features of reality. On this point, Wildman's criticism is effective.

As van Huyssteen has written a lot on theology and science, he has also taken up the question whether rationality and knowledge in science and theology differ significantly from each other. He thinks they do: "Rationality ... requires serious assessment of evidence, and we should find our best examples of rationality in an area or field where the most reliable evidence is systematically gathered and deployed." To van Huyssteen, *science* constitutes that very field,⁴⁸ but he does not really explain why; and so his epistemology is left leaning towards a relativism without any hierarchy of more and less reliable knowledge. The pragmatist arguments from correctability to (features of) reality, as suggested by Wildman, would provide an explanation to why science has been successful: It studies readily

⁴⁴ Wildman 2006, 44–46. It is interesting how van Huyssteen, as I quoted him in the previous subchapter, speaks of "our worlds" in plural, not "our world" in singular. In fact, he fluctuates between "world" and "worlds", cf. van Huyssteen 2006, 46.

⁴⁵ Van Huyssteen 2006, 46.

⁴⁶ Wildman 2006, 42.

⁴⁷ Van Huyssteen 1997, 258–259, van Huyssteen 1999, 215–216.

⁴⁸ Van Huyssteen 1997, 255.

observable phenomena that constitute a strong feedback mechanism for hypotheses. Therefore I think it is not so much the problem of ontological realism that van Huyssteen leaves untouched, but the problem of accounting for a hierarchy of reliability between different instances of knowledge. This will be subject to discussion also in the next chapter, with focus on the possibilities of analogy, and even integration, between biological evolutionary theory and philosophical epistemology.

3. Philosophy meets biology

Integral to van Huyssteen's interdisciplinary project and his scientifically informed theological anthropology is evolutionary epistemology. Following biologist Franz Wuketits, he defines it as an interdisciplinary field of study, inside of which two general programs can be distinguished. On the one hand, evolutionary epistemology seeks to explain the development of knowledge with models drawn from evolutionary biology, "knowledge" here referring to beliefs, theories and other elements of human culture. Wuketits and van Huyssteen speak of a "metatheory" of knowledge, since at issue here is actually a *theory about theories*. This evolutionary epistemological program I call EE1. Another goal of evolutionary epistemology is to find out in which ways knowing is affected by the biological makeup of the knower. Van Huyssteen speaks of this as *biology of knowledge*,⁴⁹ which I refer to as EE2. The focus is markedly different from EE1. Basically, EE2 is not concerned of knowledge in the form of theories or beliefs. It is rather a branch of evolutionary biology studying the organic bases of epistemic and cognitive abilities.

Common to EE1 and EE2 is the conviction that epistemological concepts can to some extent be applied to objects of biology, and biological concepts in turn to objects of epistemology. One could roughly summarize this approach by stating that organisms are like knowledge, and units of knowledge are like organisms. Organic bodies are, or at least represent, qualified knowledge about the world, insofar as they have been shaped by natural selection: Of many different individuals, the ones matching best with their surroundings have survived. On the other hand, as notably suggested by Karl Popper, a process analogous to natural selection even accounts for changes in culturally transmitted knowledge, so that the views and theories that are fits to their environment will thrive.

It is necessary first to give a brief overview of the Darwinian theory of natural selection, so that the reader might more readily understand its applications as they are introduced further in the text. According to biologist Franz Wuketits (1990), the theory has three empirical

⁴⁹ Van Huyssteen 2006, 91; Wuketits 1990, 4–5.

premises. 1) Organisms in nature reproduce geometrically, producing more offspring than actually survive. 2) Organisms compete over limited resources. 3) Among the individuals of any given population, there is considerable variation. Only some of them survive and reproduce, and according to the Darwinist it is the ones that, in virtue of their individual characteristics, are better able to exploit the resources at hand. Reproductive success, whatever its causes in specific cases, is called fitness.⁵⁰

Robert Brandon (2014), even him a biologist, gives another tripartite definition. The necessary conditions for evolution by natural selection are variation in phenotypic traits, heritability of these, and differential reproductive success within the relevant population. Natural selection can explain why some heritable traits win out over others: They increase an individual's (potential) fitness. Such traits are called *adaptations*. Brandon helpfully points out that selection is not the only factor to direct evolutionary change. Chance, or *random drift* to use a biological term, also plays its role, and not all heritable traits are adaptations.⁵¹ In principle, a theory of evolution does not even have to consider natural selection, but it is the idea that seems to inspire evolutionary epistemologists most in their theories about human knowledge.

Evolutionary epistemology has notably been developed by such thinkers as Popper and Donald T. Campbell, in addition to whom van Huyssteen mostly refers to Henry Plotkin and Franz Wuketits. Popper focused on EE1, whereas Plotkin and Wuketits have been working on EE2. The resonance of EE1 with van Huyssteen's postfoundationalism I perceive as exemplifying *mild* interdisciplinarity, since the convergent theories both belong in the field of philosophy, and one of them is analogous in its form to a biological theory. A case of *strong* interdisciplinarity will follow, as I consider the role given to EE2 vis-à-vis postfoundationalist epistemology in van Huyssteen's scheme.

Throughout my analysis, I will take notice of two main purposes evolutionary epistemology serves in *Alone in the World?*. These are even explicitly spelled out by van Huyssteen. Firstly, it provides a theory of the origins of human rationality, thereby complementing the postfoundationalist epistemological approach;⁵² and secondly, it

⁵⁰ Cf. Wuketits 1990, 13–14.

⁵¹ The distinction between potential (expected) and actual fitness is crucial. Actual fitness is fitness already realized, and it may be the result of chance and not adaptation. Consider two dogs on an island. The other of them is much better adapted to living in that habitat, but gets randomly killed by a lightning. Even though the surviving dog has a higher actual fitness, this does not tell anything of its being adapted to the habitat. It has simply had better luck. "Phenotypic" refers to an organism's morphology, physiology and behavior alike. See Brandon 2014, 6–12. Wildman, in a discussion of the possible adaptive role of religion, has stated that "evolution has produced many more side-effects than adaptations" (see Wildman 2008, 485). This is likely to be relevant in the context of evolutionary epistemology, too.

⁵² Van Huyssteen 2006, 91–92.

strengthens the case for religion's natural place in human cognition, thus establishing religious people and theologians as legitimate participants in interdisciplinary conversations.⁵³ Important conceptual links between postfoundationalism and EE2 are also to be identified, as the notion of knowledge as interpreted experience is widened to include evolutionary change as ongoing interpretation of natural conditions by different life-forms. I will, of course, even address various problems involved in evolutionary epistemology.

3.1 A biologically inspired metatheory

As an initial example of evolutionary epistemologists, van Huyssteen mentions Karl Popper. Popper was interested in extending the Darwinian theory of evolution and natural selection to knowledge in general (EE1). He suggested that knowledge-gaining was not an inductive process, in the sense that general theories were constructed on the basis of specific case examples, but instead consisted in proposing various theories, most of which eventually became falsified as they failed in adequately describing reality. In Popper's view, the Darwinian idea of natural selection was not a testable scientific theory. He observed tautology in one important maxim of Darwinism, namely that the best fitted to survive will survive. Still, he saw it as a plausible metaphysical research program, a framework for modeling reality beyond biology.⁵⁴

There is an unmistakable affinity between Popper's evolutionary epistemology and van Huyssteen's postfoundationalist views on epistemic justification. Remember that the latter described justification as an ongoing process in a historically changing context where our views and practices are subjected to continuous testing. To state this in Popperian terms could be to say that the theories that are justified – for now, that is – are the ones that succeed in meeting the challenges of their respective habitats, analogously to Darwin's "survival of the fittest", as it were.⁵⁵ On this view, rational discourse, in which the plausibility of different theories is constantly called into question, is semantically quite close to an evolution of culturally transmitted knowledge. The Popperian scheme can be seen as complementing the epistemological approach of van Huyssteen from a slightly different point of view.

Next, I take up two problems an evolutionary approach to human knowledge generates. First is the difficulty in studying the mechanisms of natural selection. If the epistemologist borrows concepts and theories from evolutionary biology, she also will have to deal with perplexing questions as to what evolutionary processes consist of. Secondly, I point to the

⁵³ Van Huyssteen 2006, 105.

⁵⁴ Van Huyssteen 2006, 78.

⁵⁵ Cf. Wuketits 1990, 46 (quoting Popper, 1972): "[O]ur knowledge consists, at every moment, of those hypotheses which have shown their (comparative) fitness by surviving so far in their struggle for existence."

uneasy relation between *fitness* as a relative concept, derived from biology, and *correctness* as an absolute concept that also conveys a traditional philosophical value. The latter problem compares with the slant towards relativism in van Huyssteen's postfoundationalism.

3.1.1 Natural selection as a metaphor in epistemology

Let us recall the basic building blocks of the Darwinian selection theory. There are beings that tend to reproduce. They are all different from each other, with some of the differences heritable, and they compete over scarce resources – food, water, room, sunlight, love and care, company, or something else – that should enable them to produce more of their kind. In organic nature, this is a very concrete and readily understandable process. But things are different in the realm of human knowledge. There are some very serious issues to be addressed when constructing analogies of natural selection theory within epistemology.

Popper saw views or theories as roughly equivalent to organisms that struggle for continued existence. Describing his approach, van Huyssteen even uses the term "piece of knowledge".⁵⁶ A very concrete problem for evolutionary analogies in epistemology is the problem of units. In biology, organisms and genes are being studied, alongside populations, but what would count as units in epistemology? How does one locate and observe a "piece" of knowledge? Although van Huyssteen is keen to stress that knowledge does not consist of mere propositions, the unit definition problem is not considered in any detail in *Alone in the World?*

Some solutions have been sought in meme studies or memetics, of which van Huyssteen has not much to say, curiously. According to Daniel Dennett (2006), the term *meme* was coined by Richard Dawkins in 1976 and has since been adopted widely to describe an element of culture that is passed on non-genetically. Various instances of human knowledge, such as instructions, practices, gestures, and beliefs could be considered in terms of meme studies. Some elementary convergence with van Huyssteen's conception of knowledge may well be sensed here. Dennett calls memes "replicators", denoting an analogy to genes as self-replicating units of biological information – and he even suggests that a Darwinian evolutionary model might be helpful in understanding the change, spread, success, and decline of different memes.⁵⁷

Dennett notes that many doubt the usefulness of this concept, of varied reasons. The boundaries of a single meme are admittedly hard to draw, and memes, unlike genes, would seem to lack a fixed material substrate. Yet another objection has stemmed from the unclear

⁵⁶ Van Huyssteen 2006, 78.

⁵⁷ Dennett 2006, 78–82.

relationship between parental and filial memes: how to tell which earlier instance of meme X was the one that spawned a particular new instance of it?⁵⁸ Dennett argues that these obstacles are not sufficient reasons to abandon memetics altogether. Also in evolutionary biology, there is controversy over proper definitions of core concepts, such as "gene". However, Dennett thinks that blurred boundaries can be tolerated in both meme theories and biology. He also cites the idea of evolutionary theorist George Williams that not even genes are the same as their material substrate in DNA molecules, but should instead be seen as information that can be coded in different media, DNA being but one of these. In effect, Dennett claims that the common arguments he addresses constitute no more substantial challenges to meme studies than they do to genetics and evolutionary biology.⁵⁹ I am in no position to evaluate his defense; suffice it to say that memetics remains a highly contested approach to cultural knowledge.

Should one manage to define adequately the units of evolutionary epistemology, significant problems would still remain. The causes of evolutionary change, if often hardly detectible in biological case studies, are maybe more so in cultural evolution of knowledge. Let us consider it, assuming strong natural selection: If every unit that is not a fit to the environment will be eliminated, then what is it in the environment of a given unit that determines its fate? There might well be conflicting selective pressures in nature, and in human culture the situation is more complicated, if anything. Obviously, we live in a world of many different environments that could favor competing views. What is more, no one would deny that our surroundings are constantly being molded according to our theories – and this affects the impact our surroundings have *back* upon our theories. Indeed, humans themselves are a considerable source of selective pressures imposed on their own views.

It should also be kept in mind, as noted earlier, that biological analyses cannot build blindly on the assumption that natural selection is effective everywhere all the time, weeding out the unfit. In his 2014 book *Adaptation and Environment*, Robert Brandon has laid out in detail the difficulty of scientifically explaining why some phenotypic traits have been successful.⁶⁰ The answers usually have to be tentative, and competing explanations must be ruled out strictly before one can claim to know the evolutionary story of a particular trait. Of

⁵⁸ Dennett 2006, 348–353.

⁵⁹ Ibid.

⁶⁰ Cf. Brandon 2014, 167: "A large measure of the force of [Stephen Jay] Gould and [Richard] Lewontin's (1979) critique of the 'adaptationist programme' comes from the problems associated with giving ecological explanations of selection. Oftentimes 'just so' -stories are substituted for difficult ecological analyses." It is worth asking how, if indeed at all, could something like ecological analyses be conducted in epistemology. The whole subchapter 5.2 in Brandon's book illustrates the many phases necessary in constructing complete adaptation explanations.

course, there can be more and less credible stories, but that does not alter the essential. Similarly, in evolutionary epistemology, it is an immense task to tell *how come* we happen to possess the knowledge we do. Foundationalistic towers of beliefs will not suffice: Instead, it is the historical terrain beneath such conceptual buildings, and our cognitive capacities in general, that is to be explored. But can one hope to describe the history of beliefs or knowledge adequately enough – and what indeed would be "enough"? Evolutionary epistemologists embrace the idea that there is more to knowledge than what usually has been considered in foundationalist theories; but it might also be more than enough to dishearten many a would-be epistemologist!

Having addressed some problems of evolutionary epistemology, I think they do not call for a refutation of the project, but clearly illuminate the stupendous ambitions inherent in it. In fact, the problem of units – what does knowledge consist of – is relevant to any epistemology. As suggested in chapter 2, a linguistically formulated belief is not self-evidently the only or even primary kind of unit in knowledge. The problem of habitat – where does knowledge reside – is equally common to all epistemologies, and it exposes their adjacent ontologies. Is knowledge perhaps material and located in physical bodies? Or is it immaterial, to be found in non-corporeal spheres called minds? No epistemology has, as far as I am concerned, yet provided uncontroversial answers to these questions.

3.1.2 What is fit, is correct – or is it?

Another interesting question arising from this kind of evolutionary epistemology is whether human knowledge becomes in any sense better or more refined over time. Any answer to this entails that there be some factor to indicate the quality of knowledge, and Franz Wuketits describes knowledge as a life-preserving function.⁶¹ It is likely to increase the biological fitness of the knowing subject, i.e. the organism, and on this view it is fitness that indicates whether knowledge is of better or worse quality. Fitness means the capability of the organism to produce viable offspring, and in fact, there is nothing more to it. The concept does not include a notion of correctness or being closer to some absolute ideal. It points to survival and reproductive success, either actualized or anticipated. What significance, then, could it have in epistemology?

One important difference between epistemology, as traditionally understood, and biology is this: Whereas epistemologists take interest in defining criteria by which they could deny the right to existence of some truth claims, there are hardly any biologists committed to

⁶¹ Wuketits 1990, 49, 56.

the extermination of life-forms that fail to meet their standards of proper life (whatever that could mean). What has survived thus far, has survived thus far – this is evident even in human knowledge, but it does not seem to tell much about the correctness or verisimilitude of the surviving theories. Rather, it forces one to ask whether evolutionary epistemology opens the door for a rampant relativism, suggesting that any theory whatsoever is justified or acceptable as long as it happens to survive.

This threat of uncritical relativism compares to my observations around van Huyssteen's postfoundationalism, which seemed to offer no philosophical tools for telling apart more and less reliable instances of knowledge. Wildman's solution in that case was a pragmatistic argument in which the possibility of public falsification was a correlate of plausibility, allowing for a rough hierarchy of credibility among different theories (see footnote 43). The same can be expressed meaningfully in evolutionary terms as well. One could say, for example, that "fittest theories are the ones that manage to survive in most environments". Some convictions are presumably shared by people in most different contexts – say, that it is futile to try to push your head through a metal girder using brute force only – because they are so *obviously* truthful. Even while sharing those views, the people considered might disagree upon numerous other things. Still, being fit is not the same as being true; and admittedly, the concept of truth figures not very often in van Huyssteen's idiom.

Van Huyssteen takes up the notion of progress in an evolutionary epistemological context and claims that, while this kind of theories do allow us to speak of growth in knowledge, this means an increase neither in accuracy nor in certainty.⁶² He addressed a similar issue, albeit with no reference to EE, also in *The Shaping of Rationality*:

"As far as scientific theorizing goes, our present world picture thus represents a better estimate than our past attempts only in the sense that it is, comparatively speaking, more warranted than they are because a wider range of data has been accommodated."⁶³

At the same instance van Huyssteen also maintained, with reference to Nicholas Rescher, that it was more appropriate to speak of *estimating* truth than of getting *closer* to it, because in order to know whether one is moving towards truth one would have to know already where the truth of the matter lies.⁶⁴

I would like to conclude that, within a resolutely postfoundationalist theory of knowledge, with open ends and beginnings, there probably is no place for strict notions of

⁶² Van Huyssteen 2006, 77.

⁶³ Van Huyssteen 1999, 158.

⁶⁴ Van Huyssteen 1999, 158–159.

truth and falsity. This was revealed all the more clearly when evolutionary concepts, such as fitness, were applied to it. One may of course note that some hypotheses seem true or false more *obviously* than others, and this is due to variations in the strength of feedback mechanisms when hypotheses are subjected to testing. Yet even this has not been argued by van Huyssteen himself, but by Wesley Wildman in an attempt at constructive criticism of the former's epistemology.

3.2 Biology of knowledge

In his pioneering *Critique of Pure Reason* (1781), Immanuel Kant (1724–1804) famously identified "pure" intuitions and concepts as *a priori* knowledge that is used in the human mind to arrange information mediated by the sense organs. They included, for example, the impression that the things we perceive in the world have an extension in space and time, and that they are causally linked with one another.⁶⁵ Wuketits explains that one important goal of evolutionary epistemology, in the EE2 sense, is to do what Kant yet could not: to explain how our seemingly *a priori* knowledge has arisen, how our specific kind of cognition has become possible. It is supposed that as human thought is a function of biological entities shaped by evolutionary history, its elementary structures must be products of that history as well.⁶⁶

The impression I get when reading my references is that relatively little knowledge of our evolutionary past is firmly established. That we have one is clear, as is for example the fact that we share an ancestor with chimpanzees about 6 million years ago, and that some of our close ancestors have cohabited with Neanderthal humans. But that is information of a rudimentary level. Regarding the evolutionary details, and the causes of our specific features and behaviors, there are a number competing theories. It should be stressed, therefore, that EE2 is a research program committed to explicating the evolutionary basis of human cognition, but as yet lacking a solid, widely recognized theory of this. Van Huyssteen introduces two attempts to take the project a little further, both resonating, as I shall shortly explain, with his own postfoundationalist epistemology.

Henry Plotkin's EE2 is centered around the evolutionary biological concept of adaptation. As referred to by van Huyssteen, Plotkin seems to mean adaptation in a broad sense, as any trait of an organism that matches its habitat and somehow helps it to survive.⁶⁷ In Plotkin's view, the human capacity for knowledge is itself an adaptation, or a set of adaptations, and adaptations in general are themselves knowledge – "forms of

⁶⁵ Rohlf 2016, see subchapters 2.1–3.1.

⁶⁶ Cf. Wuketits 1990, 43–44, 82.

⁶⁷ It should be recalled here that adaptation in the narrow sense only means a heritable trait which spreads in a population due to natural selection *and not* through random drift.

'incorporations' of the world into the structure and organization of living things".⁶⁸ This clearly exemplifies the close conceptual integration of biology and epistemology, discernible in both programs of EE.

In Plotkin's scheme, instinctive behavior manifests the kind of *a priori* knowledge that is the basis of learning and rational thought. Humans, like other animals, are born with implicit knowledge of what they must learn. This applies for linguistic communication, recognizing significant people in their lives, and so on. No human cognitive phenomena are just open-ended activities but constrained and directed by instinctive behavior that is genetically determined. Indeed, instinct is here called "the mother of intelligence". Importantly, though, as intelligence is embedded in instinct, it is always *species-typical*.⁶⁹ I understand this so that each species features adaptations to its own typical conditions of living, and that this shows also in different, species-typical intelligences.

At this point, let us recall how, in his postfoundationalist epistemology, van Huyssteen saw all instances of knowledge and belief as interpreted experiences. There was no knowledge to be considered given, basic or immediately justified. Now it should be asked whether even the Kantian pure intuitions, or the instinctive knowledge of any organism, are just interpreted experience. From the point of view of EE2, the answer is yes. To understand why this is so, one needs to adopt an evolutionary perspective: The seemingly *a priori* knowledge of any organism results not from its own interpreted experiences, but from the ones had by its ancestors in the course of evolutionary history. Franz Wuketits, to whose work van Huyssteen turns when further elaborating this theme, has indeed stated that "from this [biological] point of view, any a priori is an a posteriori of evolution".⁷⁰

The phenomenon that allegedly explains this is phylogenetical memorizing. The members of a population or a species tend to have some similar experiences recurring from generation to generation, and the individuals that survive are probably the ones dealing most adequately with these. It is thus to be expected that the ability to meet such typically occurring situations in the relevant habitat is more common among the future members of the population. As examples of this, van Huyssteen cites the tendency of kittens to snarl at dogs, and of humans to fear snakes. He stresses, however, that while organisms "learn" from the environment, they do so not as individuals but as species, because only those adapted to expecting the right things may survive and reproduce. Little by little, the genomes of species come to "know" about the world certain things that are essential to survival. Individual

⁶⁸ Van Huyssteen 2006, 80.

⁶⁹ Van Huyssteen 2006, 82–83.

⁷⁰ Wuketits 1990, 43.

organisms are, usually at least, born with relevant expectations in place, as already suggested by Kant in the case of humans. In EE2, these expectations can be labeled "phylogenetic memories".⁷¹

To Wuketits, evolution can be described as a universal process of learning or cognition – without assuming that evolution itself were a "knowing subject" of some kind. As forms of life evolve, an overall increase in cognitive abilities happens. Myriad experiences become accumulated through the ages, and any individual animal's cognitive behavior is based on this long-term information gaining. Metaphorically speaking, "an animal, when confronted with particular situations, recalls the experiences made by its ancestors".⁷²

This allows van Huyssteen to speak of "evolution as a holistic, embodied, belief-gaining process". He clearly means that believing or knowing is first embodied, lacking conceptual aspects, and that the conceptual or cultural kind of knowledge grows forth at least in human life. Still, accultured human beings retain significant nonconceptual knowledge and rely upon it in their everyday lives. In the work of both Plotkin and Wuketits, van Huyssteen says, one sees "a hierarchy of information processing and also a hierarchy of cognition processing in the living world, with human rational knowledge emerging as the most sophisticated type of information processing to which we have access (cf. 55)".⁷³

Van Huyssteen now proceeds to establish a conceptual link between postfoundationalism and natural sciences. Earlier, he has presented a postfoundationalist theory of what human knowledge and rationality is like, focusing strongly on interpreted experiences and promoting a deliberate fusion of epistemology and hermeneutics. Now he wants to show, or at least strongly suggest, that postfoundationalism is more than speculative philosophy: that it makes sense precisely in the light of our biological existence and evolution. He points to the central role of interpreted experiences and expectations in the process of the evolution of knowledge: We humans relate to our worlds through interpreted experiences only, and our expectations are therefore always based on such. Changing experiences will lead to changed expectations, and the cycle of experience and expectation in the individual is "clearly the result of evolution".⁷⁴ Interpreted experience is, on this view, something crucial in both epistemology and evolutionary biology.

⁷¹ Van Huyssteen 2006, 88–89, 91. See also Wuketits 1990, 67–69.

⁷² Wuketits 1990, 68.

⁷³ Van Huyssteen 2006, 88–89. N.B. "Conceptual" versus "nonconceptual" are not van Huyssteen's own words of choice here, but I found them adequate to describe the distinction between different modes of knowledge. Recall here the nondiscursive practices mentioned in chapter 2.

⁷⁴ Van Huyssteen 2006, 88.

The variants of EE2 encountered here rely quite heavily on the study of adaptations, even though especially Wuketits has wanted to present a "systems-theoretical" alternative to sheer adaptationism.⁷⁵ But an adaptation-centered approach has certain disadvantages. In short, it requires one to assume that regularities in the habitats of our ancestors really were what we think they have been, deducible from the supposed adaptations we observe in ourselves today. Furthermore, it is supposed that they really were *regularities*, met by the vast majority of our forebears. These are assumptions to start with, but it is never clear from the outset that we have been adapted to something we seem to be adapted to: the seeming adaptation might just be a side-effect of evolution, unless side-effect explanations can be ruled out. Wuketits also notes that, from a strictly Darwinian point of view, there is no answer to the question how the evolutionary experience has been transported to the genome.⁷⁶

A notable question – and a problem for many evolutionary epistemologists – is: To which extent should organisms and their knowledge be seen as passive adaptations to given natural or social conditions? Or, in other words, do not organisms actively do anything to cope better with their habitats, or even affect the latter so that it better suits them? According to biologists Richard Levins and Richard Lewontin, this is exactly what organisms do. They alter the world they interact with and construct their environments to considerable extent.⁷⁷ Lewontin has even criticized evolutionary epistemologies for being too adaptationist in their approach. Wuketits acknowledged this criticism in his 1990 book *Evolutionary Epistemology and Its Implications for Humankind*, admitting that it is too narrow a view that conditions and habitats unilaterally influence organisms residing in them.⁷⁸

Of no less importance is the question whether evolutionary epistemology is epistemology in the first place. Some critics have pointed out that it cannot really be prescriptive. For them, the proper function of both EE1 and EE2 is to map the history of knowing, instead of seeking the terms on which knowledge is possible. Wuketits touches upon this criticism as well, claiming that "philosophical problems cannot be solved by mere speculation, and philosophical reflections upon the nature of humans particularly require scientific ... studies." He insists that the scientific study of humans in fact concerns the nature of the "knowing subject".⁷⁹ One source of conflict here might be that not all of the critics share this view.

⁷⁵ Wuketits 1990, 93–96.

⁷⁶ Wuketits 1990, 95.

⁷⁷ See Levins & Lewontin 1985, 99–100.

⁷⁸ Wuketits 1990, 74–75.

⁷⁹ Wuketits 1990, 4–5.

If it is so that knowledge is a function of the organism – say, a *Homo sapiens* individual – and nothing besides, then there can hardly be any strict difference between natural sciences and epistemology. If, on the other hand, knowledge is a function of the human mind as something different from the organism as such, then it is equally clear that knowing has to be considered separately from the functions of the organism. In EE2, the age-old problem of mind and body presents itself, and the proponents of EE2 will probably see the mind and experiences of knowing as totally dependent on the body.⁸⁰

Moreover, consider that, according to EE2, humans have reached their epistemic skills through biological evolution. The process is driven by natural selection, which by definition favours such conceptions of reality that increase biological fitness. What might be problematic is that strict truthfulness does not always yield fitness advantages and thus is not selected for. If our skills have developed as means of survival, it is probable that whatever we happen to do with them, biological success is going to trump reliable knowledge as our main objective, in cases where the two conflict. Given this, should not we be skeptical about basically everything we "know" about the world – including the scientific theories so important to evolutionary epistemology?⁸¹

Pertaining to this, Wuketits makes the point that any epistemology needs to begin from the assumption that the epistemologist herself is capable of rational thought.⁸² Implied here is, quite understandably, the question whence this rationality issues. As the evolutionary thinker looks for its origins in the postulated prehistory of humanity, someone else could say, for example, that rationality is a skill implanted in humans by God. Along with Wuketits and others, van Huyssteen openly rejects any kind of divine interventionism as a solution to this problem.⁸³ His view on human cognitive activities can be said to represent a weak materialist position: There is probably more to our cognition and cultural knowledge than neural networks – van Huyssteen speaks of "emergent qualities" – but all of it stems from a biological basis that is fully accessible to scientific study.⁸⁴ For van Huyssteen as a materialist, in this specific respect at least, it seems natural to apply evolutionary theory in an attempt to shed light on the background of human cognitive and rational activities. Non-dualist ontology,

⁸⁰ See for example Wuketits 1990, 186: "[I]t is a myth (and nothing else) that mind is not something in space and that mental operations are something independent of biological processes ... Evolutionary epistemologists try to understand the origins of mental phenomena with respect to organic evolution; and when doing so, they discard any mythology of the mind."

⁸¹ Griffiths & Wilkins 2013, 135. The article in its entirety provides analysis and criticism of this line of argumentation.

⁸² Wuketits 1990, 105.

⁸³ Van Huyssteen 2006, 59. See also 92 and 194.

⁸⁴ See van Huyssteen 2006, 38–39.

where no fundamental distinction between matter and mind is assumed or argued for, clearly calls for an epistemology that sees itself as studying the same reality as the sciences, and even as ready to work closely together with them. On this view, applying some kind of EE2 would be natural for a non-dualist epistemologist in our time, even if she wants to utilize the tools of traditional epistemology for making evaluations and prescriptions with regard to propositional knowledge.

3.3 Theological uses of evolutionary epistemology

As a theologian, van Huyssteen uses evolutionary epistemology to challenge stringent scientific naturalists who see religious thought as irrational. First, he points to what he sees as flawed or biased conceptions in Wuketits's 1990 book. "Metaphysics" is used there as a label for "irrational" beliefs about the world, including religion in general. Irrational belief systems have allegedly been invented whenever people have lacked "rational" explanations for things. This treatment of religion van Huyssteen calls, quite understandably, superficial, and notes that it even entails an inadequate view of human rationality.⁸⁵

Van Huyssteen's challenge assumes the form of a question: If religious beliefs do not tell people anything about the real world, why did they evolve on such a massive scale in human history? In other words, why should we distrust our phylogenetic memories only when religiosity is concerned? The crucial question implied in (the hypothetical realism of) evolutionary epistemology is "what kind of world the world must have been to produce the sort of mind we have".⁸⁶ Since religious thought of some kind is nearly ubiquitous in human cultures and has clearly been that for ages, should one not entertain the possibility that there were something in reality roughly corresponding to religious conceptions?

The evolutionary question to be answered here is whether religion is an adaptation or not. As mentioned, problems of adaptationism are important in EE2 especially. An adaptive interpretation of religion, broadly understood, would imply that it is a way to deal with some aspects of reality that have been of importance to human ancestors. Still, even if that *is* true, the primary function of religion remains unclear. Common suggestions include preventing intracommunal cheating and violence, helping people to cope with personal feelings of weakness or anxiety, explaining the otherwise unfathomable occurrences in nature, and establishing contacts with otherworldly beings.⁸⁷ Perhaps there is not only one kind of world

⁸⁵ Wuketits 1990, 200; van Huyssteen 2006, 94. Wuketits: "...for me metaphysics in its widest sense is identical with irrational belief and, thus, particularly identical with religious belief." Recall here van Huyssteen's conception of rationality as the ability to "gather and bind together the patterns of interpreted experience" that is perfectly functional in religious life as well.

⁸⁶ Van Huyssteen 2006, 101, 218.

⁸⁷ Dennett 2006, 102–103. Cf. even 135 on the practice of divination.

that could have produced the sort of mind humans have! One should also bear in mind the huge variability of religious beliefs and metaphysical conceptions in human cultures, which encourages one to question the relevance of studying "religion" as an adaptation to something specific. This is an objection van Huyssteen unfortunately does not pay attention to (needs to be checked, however!). Overall, the concepts of "religion", "religious belief" and the like are quite vaguely applied in *Alone in the World?* This problem will be paid further attention in chapter 4, where van Huyssteen's theological anthropology is at issue.

An equally legitimate alternative is to explain religion as a byproduct of diverse, possibly adaptive phenomena. Among these, probably the most famous ones are hyperactive agency detection, which has been suggested to trigger belief in gods and spirits, and theory of mind, which allows people to reason about the intentions of others.⁸⁸ For example, divine figures may have started to emerge as imagined composites of things people were adapted to cope with – natural elements and forces on the one hand, and intentional living beings on the other.⁸⁹ This would be a non-adaptationist explanation for some aspects of religion.

In fact, even a third option presents itself. It is based on the theory of memes, units of cultural knowledge that spread, flourish and decline in a way analogous to forms of life. According to Dennett, memes need not serve the biological interests of their hosts, i.e. of human beings:

"When we look at religion from this perspective, the *cui bono?* [to whose benefit] question changes dramatically. Now it is not *our* fitness (as reproducing members of the species *Homo sapiens*) that is presumed to be enhanced by religion, but *its* fitness (as a reproducing – self-replicating – member of the symbiont genus *Cultus religiosus*)."

If religion is made up of memes, it will not be merely our adaptation for any purpose, and perhaps no adaptation at all. It will rather be a thing, or a bunch of things, that lives in and through us, like a symbiote – or a parasite.⁹⁰

Van Huyssteen does suggest, much later in his book, that a theologian *qua* theologian is entitled to think that "God used natural history for religion and for religious belief to emerge as a natural phenomenon".⁹¹ Yet, in the interdisciplinary context, he does not want to argue

⁸⁸ Dennett 2006, 108–112. See also references to Pascal Boyer, van Huyssteen 2006, 262–263.

⁸⁹ Dennett 2006, 116–118. In a 2008 article, Wesley Wildman questions van Huyssteen's implication that religious belief is an adaptation. He states: "We only now, as never before, are developing a compelling understanding of the cognitive mechanisms whose side-effects probably produced many of the features of religion, so we must revisit our assumptions about the content of religious belief and the reason we take it to be reliable." See Wildman 2008, 486.

⁹⁰ Dennett 2006, 84–85. In context, the apparently taxonomical term *Cultus religiosus* is clearly intended as a humorous overgeneralization.

⁹¹ Van Huyssteen 2006, 322. He also seems to think that a naturalistic (by implication non-theistic) worldview leaves no room for ascribing any positive role to religiosity. See Van Huyssteen 2006, 102: "If we limit our

from the evolution of religiosity to the existence of some "higher" or divine stage of reality. He actually takes time to criticize the Czech scholar Tomáš Hančil, whom he sees as having gone too far in this respect. Hančil has argued that if there is a God who influences events in this world, his influence would be part of the data used in the (biological) adaptive process as variants get selected. The ability to reason about the reality of God can then be seen as a cognitive adaptation to his workings, if only one begins by assuming that God exists.⁹² Clearly, Hančil does not want to give the upper hand to atheists with God's nonexistence as the default assumption.

Van Huyssteen does not approve of Hančil's approach: "It is a huge overstatement ... to try to make the argument theological by including God as an explanatory factor." Epistemologically, he says, it is problematical because it overstretches the capacities of hypothetical realism. By this he seems to mean that it is not clear whether religious beliefs regard what people think they regard, let alone whether some particular ones – monotheistic and preferably Christian – are those that most accurately describe reality. Van Huyssteen notes even theological problems, in that Hančil's argument does not take into account the power of imagination, and the human ability of self-delusion. That is, these factors might play a role in the formation of religious beliefs, and Hančil was apparently not claiming that all such beliefs contain equal knowledge of reality. In fact, Hančil's view seems to be that the Christian God is real, that *all* religion represents human adaptation to his influence in the world, but that *Christian* religious views are the most advanced adaptations.⁹³

Van Huyssteen says that positing God as a reality factor in this generic way would weaken theology and make it vulnerable to interdisciplinary attack.⁹⁴ With "generic", I suppose, he points to the idea that religious belief in general should be treated as human reaction to God's workings. He is content with the conclusion that our evolution and its current results leave open the possibility that God is real, while opposing the stronger claim that they would warrant conclusions about the reality of God. This is a move that likely helps one to avoid problems in interdisciplinary conversations, but reminiscent difficulties remain in the intradisciplinary sphere of theology. Later on, as I will observe, van Huyssteen himself

understanding of reality to the more naturalist/reductionist views of an evolutionary epistemologist like Wuketits, then religious faith should be interpreted as an adaptation that has become obsolete and irrational, even if it might have been beneficial for our remote ancestors."

⁹² Van Huyssteen 2006, 102–104.

⁹³ This brings to mind Karl Rahner and his notion of "anonymous Christians", as well as Alvin Plantinga with beliefs about God as "properly basic beliefs". See Imhof & Biallowons 1986 and Peterson et al. 2003, respectively. Note, however, that I am here presenting Hančil's argument only as summarized in van Huyssteen 2006.

⁹⁴ Van Huyssteen 2006, 106.

faces a delicate challenge precisely when, within a Christian theological context, it should be explained how human religious life in all its complexity and ambiguity relates to God's purposes.

Van Huyssteen concludes his treatment of Hančič's argument speaking of an "epistemological lesson learned", namely that "success in the evolutionary struggle, considered on its own, does not guarantee the truth or adequacy of beliefs or perceptual representations (cf. O'Hear 2002:60f.)."⁹⁵ Here, one is reminded again of the problematic relationship between fitness and correctness, laid out in my subchapter 3.1.2. If evolutionary success does not suffice to guarantee the truth or adequacy of beliefs, on which grounds should any beliefs at all – such as the ones underlying the theory of evolution – be considered true or adequate? Even here, van Huyssteen could benefit of applying such pragmatist arguments as suggested by Wildman⁹⁶, but he does not do that. Nevertheless, he sees evolutionary epistemology as supporting the view that religious thought is something natural and within the scope of human rationality.⁹⁷ Recalling Popper's terms, it could be said that any religious belief is a theory "proposed" to the environment, and over time it will either become "falsified" or continue living and evolving. Van Huyssteen sees this as the advantage an interdisciplinary theologian can legitimately gain from evolutionary approaches to humanity.

Curiously, though, his approach implies a readiness to accept that perhaps no belief will persist forever. He holds that there are no supra-historical grounds for accepting any beliefs, so he has to content himself with historical and contextual grounds, whatever they allow (or do not allow) for. Thus, he does not present even religious truth claims as justifiable once and for all.⁹⁸ They need constantly renewed justification according to changing conditions. Indeed, when interviewed by Agustín Fuentes for the 2016 book *Conversations on Human Nature*, van Huyssteen identified himself as a "minimalist" when it comes to confessing faith in explicit terms:

"I see a kind of tension in myself: Intellectually I'm very minimalist and I like to streamline things down and avoid complex, exotic baroque doctrines. When I'm in the ritualistic setting, I identify easily with the more mystical moments like the baptism or the Lord's Supper, these kinds of ancient rituals, without thinking about them in any literal sense. They just appeal to you. Words are not always sufficient there."

Even though I have not read van Huyssteen stating it openly, it is evident in the context of his epistemology that the day might come when some of the core Christian beliefs do not manage

⁹⁵ Van Huyssteen 2006, 105–106.

⁹⁶ See subchapter 2.1.

⁹⁷ Van Huyssteen 2006, 107–108.

⁹⁸ Fuentes & Visala 2016, 272.

to live on, becoming "extinct" and possibly replaced by something else. For him as a believer and theologian, evolutionary epistemology is something of a daring position to take.

4. Image of God in the making

I am next going to consider intersections of the traditional Christian doctrine of *imago Dei* and paleoanthropological studies, as such are identified by van Huyssteen in the latter chapters of *Alone in the World?*. For "intersection", the term "transversal link" might well be substituted, given van Huyssteen's preferred theory of rationality.⁹⁹ *Imago Dei* denotes the idea that humans have been created in "the image of God" as stated in the Book of Genesis.¹⁰⁰ Paleoanthropology means the study of human origins and ancient human behavior in various sciences.¹⁰¹

In the third chapter of *Alone in the World?*, van Huyssteen presents an analysis of how human uniqueness has been interpreted in Christian theology. The doctrine of *imago Dei* is crucially important here. In addition to going through different major interpretations of *imago Dei*, van Huyssteen seeks answers to the question he posed earlier, in his second chapter: how much of a canon or an unchanging identity does this doctrine actually have? He notes that historically, it has been explicated in highly varying and, importantly, context-sensitive ways. Van Huyssteen recounts interpretations from Philo of Alexandria to John Calvin to Wolfhart Pannenberg, even noting how comparative Semitic studies have contributed to the understanding of Biblical concepts in their early contexts. Finally, referring to Gen. 3:22, he identifies as the deepest meaning of *imago Dei* "the emergence of an embodied moral awareness, and a holistic, new way of knowing". I will argue that these aspects are probably emphasized because they lend themselves readily to interdisciplinary use.

Starting from chapter 4, van Huyssteen discusses paleoanthropological contributions to understanding the emergence of modern human beings. He sees humanness in this sense as defined by symbolic behavior¹⁰² which is essential to religion, art, and language. Drawing information from a number of scholars, he suggests answers to basically two broad scientific questions: Through what kind of processes did the modern human mind emerge, and when, where and how did it first become manifest? Especially important regarding the first problem are the works of Steven Mithen and Ian Tattersall. Van Huyssteen places much trust in Mithen's theory of cognitive evolution which builds on a modular theory of mind. He does not really consider how it fares in comparison with competing theories, and this apparent

⁹⁹ See chapter 2 and van Huyssteen 2006, 111–112.

¹⁰⁰ Van Huyssteen 2006, 117.

¹⁰¹ Van Huyssteen 2006, 165–166.

¹⁰² Van Huyssteen 2006, 176.

hastiness or lack of critical touch needs to be noted. Arguably, however, Mithen's model does resonate well with van Huyssteen's notion of "transversal rationality" (see subchapter 1.3. and chapter 2), and so it need not surprise the reader that he so willingly adopts it. As regards the second problem mentioned, van Huyssteen focuses upon the "cultural explosion" of Upper Paleolithic period in Southwest Europe. This was the first time the use of symbols became so abundant in human cultures that the modern human mind must have been "clearly, intensely, and impressively at work".¹⁰³ Moreover, some famous cave paintings of those cultures have been argued to feature religious imagery, notably by such scholars as Jean Clottes and David Lewis-Williams. This is of course highly interesting from van Huyssteen's point of view, as he persistently argues for the naturalness of religion as an element of human life.

Within his Christian theological context, van Huyssteen wants to argue that *imago Dei*, the embodied humanity, can be revisioned as emerging from nature itself. Its uniqueness is manifest in symbolic thought and especially "religious awareness". Van Huyssteen considers the emergence of humanity on a phylogenetic level, that is, focusing on how the species with its distinct traits came about. There has also been willingness in modern Christian theology to read the Biblical account on the dawn of humanity as describing the personal, existential experience, rather than the prehistory, of being human.¹⁰⁴ By this remark I do not wish to suggest that van Huyssteen shows no interest in human experience, but only that he focuses on how the *capacity* for new kinds of experience and interpretation became dominant in populations ancestral to modern-day humans. This is why he brings theological anthropology to resonate with evolutionary biology and paleoanthropology instead of, for example, developmental psychology or existential philosophy.

One can sense a willingness to treat the appearance of symbol-using humans in prehistory as having something of a theological meaning as well. On the Biblical Adam, van Huyssteen writes: "In the Genesis texts, the primal human being is seen as the significant forerunner of humanity, and as such defines the relationship between humanity and deity ... a mediating or intermediary figure standing between the human and divine realms."¹⁰⁵ This aspect of Adam seems to find its analog in the first symbol-making humans who almost definitely practiced some kind of religion as well. Their behavior and culture yielded the earliest surviving manifestations of the religious drive that continues even today. However, van Huyssteen does not argue that those ancient people in any sense believed in a Biblical or

¹⁰³ This "explosion" is dated roughly 40 000 years ago. See van Huyssteen 2006, 167–168.

¹⁰⁴ This has been in the interests of existentialist theologians, notably Paul Tillich (1886–1965). See Livingston et al. 2006, 143–145.

¹⁰⁵ Van Huyssteen 2006, 120–121.

Christian God, but instead follows scholars who have explained Paleolithic cave paintings in terms of shamanistic religion.

I will point out that it is an important theological question whether the mere emergence of religion initiated any "relationship between humanity and deity". Is it possible to liken some early humans in prehistory to the Biblical first humans – even vaguely, without claiming that the Bible speaks of some distinct prehistoric people? Van Huyssteen strongly implies that, seen from a theologian's perspective, even the earliest forms of religiosity in human cultures may be seen as "embodiment before God", as phrased by Robert Jenson. Here, a very broad notion of religion is considered, as we do not really know what kind of deities our remote ancestors revered, if they indeed had the concept of "deity" in any sense familiar to us. Van Huyssteen apparently strives to reconcile the universal scope of Christian anthropology with the available knowledge about human evolutionary past. This could be seen as dogmatically problematic, in that he implies a very blurred boundary between overall religiosity and relationships with the Biblical God. All religion seems to serve God's purpose, so there is no possibility of clear distinctions between "orthodoxy", "heresy" and "paganism" in van Huyssteen's evolutionary theology.¹⁰⁶ For him, given his doctrinal minimalism that is clearly present throughout *Alone in the World?*, this is probably not a great problem. Another problem, or maybe rather an intriguing point to reflect upon, concerns human future. What significance does it have for future humanity that *imago Dei* is a product of evolution? If it has evolved, it will probably continue evolving. How radically might it change?¹⁰⁷ As evolutionary epistemology is daring for a believer in supra-historical truths, so is evolutionary (theological) anthropology daring for anyone who believes in a historically constant human nature. But it is unclear whether van Huyssteen believes in either.

In more interdisciplinary terms, van Huyssteen argues to strengthen the case for religiosity as something natural and intrinsically human, a phenomenon that cannot go unnoticed when discussing human nature or typically human life. Here, he takes support from archaeologists such as Ian Tattersall, and anthropologist Pascal Boyer. While he urges theologians to consider their doctrines in relation to what sciences reveal about human nature, he also wants to make sure that religiosity and theological reflection will be taken into account when human nature is studied scientifically. More specifically, he argues against what

¹⁰⁶ "Evolutionary theology" is not a term used by van Huyssteen, but I found it suitable here.

¹⁰⁷ I do not deal with the question about future human evolution in any detail in my thesis, because van Huyssteen does not consider it in his book. I point to it only as a starting point for possible future discussions in theological anthropology.

he sees as overly generalizing, universalist, or reductionist interpretations of religiosity, based on neuroscience or cognitive science, for instance.

4.1 Doctrinal history of "imago Dei"

Van Huyssteen begins his treatment of *imago Dei* unsurprisingly, citing the Bible where it is told that "God created humanity in his image". This proposition is definitely the root of the whole doctrine. It is thus noteworthy, as van Huyssteen points out, that the idea of humans being created in the image of God is most rarely reiterated in the Bible. In addition to the Genesis creation story, van Huyssteen identifies only one explicit instance, Gen. 9:1–7 and an implicit, "poetic echo" in Psalm 8. In addition, in the New Testament there are passages where image of God -terminology is applied to Jesus Christ, who is seen as opening up for other humans a possibility of participating in the divine.¹⁰⁸

To clarify the meaning of "image" in Genesis, van Huyssteen applies results of comparative Semitic studies, in which Biblical literature is studied alongside ancient Egyptian, Babylonian and Assyrian texts. In particular he takes up Dexter Callender's historical-critical analysis. The latter's conclusion has been that the terms *tselem* (image) and *demut* (likeness) in the Hebrew text pertain to a physical and, more specifically, functional similarity to God. They derive from ancient Near Eastern royal ideologies, where kings frequently were called "images" of God as they represented him as viceroys. In Genesis, however, this royal terminology was applied to humanity in general, over against other forms of life.¹⁰⁹

Being like God is, van Huyssteen remarks, nonetheless described as a highly ambivalent condition. In Genesis, after the famous account of how the first humans disobeyed God by eating from the tree of knowledge, God is heard thinking aloud: "See, the man has become like one of us, knowing good and evil..." So, the emergence of this new kind of awareness is becoming like God – but this time, it is something God does not approve of. Along the lines of James Luther Mays, van Huyssteen identifies in the Bible two different likenesses of God which stand in tension with one another. The first, created one is the position of representing God in the world, whereas the second, claimed by humans themselves, is the attempt to assume all the divine attributes.¹¹⁰

¹⁰⁸ Van Huyssteen 2006, 120, 122–124. In Gen. 9, the shedding of human blood is prohibited on the grounds that every human is created in the image of God. In Psalm 8, it is stated that God has made human beings "a little lower than God, and crowned them with glory and honor".

¹⁰⁹ Van Huyssteen 2006, 118–120.

¹¹⁰ Van Huyssteen 2006, 122–123.

Given that the notion of "image of God" figures scarcely in the Bible, van Huyssteen asks why it did give rise to such a central doctrine in Christianity. Following LeRon Shults, he presents two reasons for this. As mentioned earlier, Jesus was called image of God by some of the New Testament authors; and secondly, the idea of image (*eikōn*) in Greek thought was applied by early apologists as they articulated Christian truth claims in their specific cultural context. Van Huyssteen omits any closer look at the history of *eikōn* or the way that idea was applied, but more relevant for his case is this: From its very beginnings as a Christian doctrine, *imago Dei* has been articulated in dialogue with the philosophical self-understanding of its historical context.¹¹¹ Van Huyssteen points to this context-sensitivity time and again as he goes through the different types of interpretations, here leaning on Shults and Noreen Herzfeld. According to them, at least substantive, functional, and relational interpretations of *imago Dei* can be distinguished, and plausibly also existential and eschatological ones.

Throughout the history of (Western) Christianity, substantive interpretations have clearly been dominant. They present *imago Dei* as an individually held human property, most often reason or intellect. This was the consensus of the patristic period, having emerged "out of an engagement with the anthropological, philosophical, and theological views that shaped the cultural context of the time". Van Huyssteen points to the work of Philo of Alexandria (between 0–50 CE), who argued that "image of God" in Genesis meant the human mind. Substantive views persisted basically unchallenged through Medieval philosophical theology up to the reformers.¹¹² Eventually, though, functional interpretations started gaining ground. They emphasize the tasks humans are created for, not the properties they have. Quite understandably, it is here that the already mentioned Old Testament studies have been highly relevant. Indeed, one of the specific functional *imago Dei* -interpretations taken up by van Huyssteen is that of a renowned Old Testament scholar Gerhard von Rad (1901–1971). The task has been appointed to humanity to act as God's representatives on earth, and this is what being his image refers to. Interestingly, as van Huyssteen notes, this approach does not in the least imply the view that the divine image had somehow been distorted or lost: thus, it allows for a different reading of "the fall" and "original sin".¹¹³

Akin to functional interpretations are relational ones, in which human sociality has been taken as imaging God most significantly. Karl Barth (1886–1968) was a pioneer of this approach. Barth based his model on the intra-Trinitarian relations between Father, Son and the Holy Spirit, and on the Genesis text where imaging God seemingly entails being created

¹¹¹ Van Huyssteen 2006, 125.

¹¹² Van Huyssteen 2006, 126–129.

¹¹³ Van Huyssteen 2006, 134–135.

”male and female”, implying the significance of partnership. This interpretation was seriously criticized, notably by James Barr (1924–2006), for building more on Barth’s own presuppositions than on Biblical exegesis. However, van Huyssteen notes that the basic insight – to look for *imago Dei* in our sociality – yielded many subsequent interpretations. Of these, he considers the one by Gerrit Berkouwer (1903–1996), for whom humans image God concretely in their love for others.¹¹⁴

Yet one important branch in the interpretation history of *imago Dei* is the eschatological one, where the image is a symbol pointing towards the future. As representative of this, van Huyssteen refers to the work of German theologian Wolfhart Pannenberg. The ”exocentric” human nature (ger. *Weltoffenheit*, ”openness to the world”) – manifest in intention, longing, and speculations – is our uniqueness, and that is directed towards a fulfillment in *imago Dei*.¹¹⁵ What is interesting here is that, as it views *imago Dei* as something that gradually unfolds and is not yet quite ready, Pannenberg’s theological anthropology features an element reminiscent of evolution. However, Van Huyssteen does not really compare it with his own theological anthropology which definitely is centered around the evolutionary and temporary – even ambiguous – character of the human being.

In Robert Jenson’s and Philip Hefner’s theological anthropologies, van Huyssteen finds ideas resembling his own. Jenson has argued for a theological understanding of human uniqueness as being ”embodied before God” in ritual activity and prayer. Van Huyssteen writes that for Jenson, Adam and Eve as the mythical first humans point to the ”first human group that in whatever form of religion or language used some form of expression that we might translate as ’God’”. Its conceptual vagueness¹¹⁶ notwithstanding, Jenson’s view is important. It directly associates imaging God with religiosity in a very broad sense, thus bearing a strong similarity to van Huyssteen’s own theological anthropology gradually taking shape in *Alone in the World?* The same can be said of Hefner, whose theological anthropology has centered on the idea of *Homo sapiens* as God’s ”created cocreators”. It is a functional interpretation of a kind, where humans assume creative tasks alongside God. In interdisciplinary terms, Hefner has seen the ”quest for meaning” in human cultures as defining our uniqueness. Tracking the beginnings of that quest, he has considered the origins of myth and ritual in the light of paleoanthropology, even touching upon Paleolithic cave art of Southwest Europe. The latter is seen even by van Huyssteen as an early sign of

¹¹⁴ Van Huyssteen 2006, 136–138.

¹¹⁵ Van Huyssteen 2006, 139–140.

¹¹⁶ How to define an expression that we might translate as ”God”? This depends much on who are included in the ”we”, and so Jenson’s definition of the first humans is exceedingly vague.

recognizably human culture and human uniqueness. In fact, he states that Hefner's work "very meaningfully anticipates" the focus of his own project.¹¹⁷

In the conclusive section of chapter 3, after a long discussion weighing different interpretations of *imago Dei*, van Huyssteen writes that the concept has always "in some broad sense" expressed the relationship between God and humans. Somewhat abruptly, he also declares that its deepest meaning lie in "the emergence of an embodied moral awareness and a holistic, new way of knowing".¹¹⁸ Although within a postfoundationalist context this is likely intended as a highly personal and historically situated conviction, it still comes across as exceedingly strong a claim, all the more since he does not really explain why that meaning should be "the deepest" of all. My interpretation is that he has wanted to discern from the history of theological anthropology such notions that make best sense when considered side by side with insights from scientific anthropology. While it is true that van Huyssteen rejects some interpretations, such as Karl Barth's relational one, because of the philosophical and theological problems he sees in them, I do think his positive choice here is first of all due to interdisciplinary reasons. *Intradisciplinary*, theological considerations seem to play a minor role.

For van Huyssteen's overall scheme, most relevant in the doctrinal history of *imago Dei* is clearly the fact that interdisciplinary considerations in shifting historical contexts have shaped this important Christian idea from the very beginning. This I am inclined to see as an implicit argument to persuade other theologians of the plausibility and, in a sense, naturalness of what van Huyssteen calls postfoundationalist reasoning. What he shows the reader here is thus image of God "in the making", in the sense that neither have the conceptual articulations of this idea ever been self-evident, nor can they become perfected and fixed once and for all. But, van Huyssteen suggests, it is not only in this sense that image of God can be witnessed in the making. Another one is the concrete emergence of recognizably human beings in the course of natural history.

4.2 Van Huyssteen on human cognitive evolution

It should go without saying that a topic like the human mind's prehistory, like human prehistory in general, is a hotly debated one. The concept of "human" mind or cognition can be defined with emphases on different aspects, and numerous competing theories have been formulated to explain how the phenomenon has come about. Quite understandably, in the

¹¹⁷ Van Huyssteen 2006, 145–148.

¹¹⁸ Van Huyssteen 2006, 160. This is, according to van Huyssteen, expressed specifically in Genesis 3:22a with God stating that, having come to know good and evil, the human being has become "like one of us [divine beings]".

context of his book, van Huyssteen does not venture deeply into the arguments, criticisms and counter-criticisms among scholars working on human cognitive prehistory. He concentrates on symbolic representation, which he calls "the principal cognitive signature of humans"¹¹⁹ – not arbitrarily, but following perhaps even "most paleoanthropologists".¹²⁰ What is regarded here is the ability to produce and observe things as signs that refer to something outside themselves and thus *mean* something. It is the origins of this phenomenon in particular that he wants to illuminate, and he does so by referring to quite specific theories, some of them probably chosen for their resonance with his philosophical and theological preferences. I will shortly elaborate on this interpretation of mine.

Van Huyssteen adequately points out chronological and even epistemological problems in studying the prehistory of symbolizing minds. With reference to Olga Soffer and Margaret Conkey, he reminds that it is one thing to actually produce symbols, and another to have the ability to do that – just because the ability could remain latent for some period of time. Direct evidence for symbol-using humans is found, as mentioned, in the Upper Paleolithic cultures of Southwest Europe, known for their elaborate cave paintings. But some, although few, human-made symbols dated much earlier have also been identified. What is more, *anatomically* modern humans with some species-typical behaviors appeared in Africa long before the outburst of image-making in Europe. That is why scholars such as David Lewis-Williams have preferred to speak of modern human behaviors in plural, thus stressing that there never was a modern human behavior appearing suddenly as a "complete package".¹²¹ Van Huyssteen agrees that the appearance of habitual image-making in prehistorical record need not mark the very birth of the human mind. While the Upper Paleolithic European "revolution" certainly is relevant to his overall scheme, its requisite cognitive foundations have a history of their own. To shed light on it, van Huyssteen then employs theories by two paleoanthropologists, Ian Tattersall and Steven Mithen, whose main interest has been precisely cognitive evolution.

Tattersall explicitly links human uniqueness to the way we use symbols. In his view, language is the most evident of our unique abilities. It both permits and requires producing symbols in the mind, and it makes possible both human self-awareness and qualitatively unique manipulation of the environment. Thus, humans are not simply more intelligent than other species, but "differently intelligent", a new thing altogether. Tattersall maintains that

¹¹⁹ Van Huyssteen 2006, xvii.

¹²⁰ In the text, it is regrettably unclear whether it is the *manifest use of symbols* or the *capacity for symbolic thought* that "most paleoanthropologists" see as the hallmark of humanity.

¹²¹ Van Huyssteen 2006, 176–180.

chimpanzees, genetically the closest species to us, do not have linguistic abilities, and that our use of symbols is truly unique in the animal kingdom. Pertaining to this, it might be worth noting that van Huyssteen saw human uniqueness in theological terms first and foremost in the emergence of a new kind of awareness.

How exactly the different, human kind of intelligence is structured is not explicated in the section dedicated to Tattersall's studies. Of the two scientists mentioned, van Huyssteen makes more use of Mithen's views, relying heavily on the latter's 1996 book *The Prehistory of the Mind*. In it, Mithen presented a theory of human cognitive evolution built on a modular theory of mind, in which the human mind consists of specialised "cognitive domains", each for a specific type or area of behavior. Van Huyssteen introduces the idea of modularity by mentioning separate linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic and personal intelligences, as distinguished by psychologist Howard Gardner.¹²²

Interestingly, although he is no theologian, Mithen envisions the human mind's evolution metaphorically as a "cathedral" being built. First, there was the "central nave" of generalized intelligence; then, multiple "chapels" of specialized intelligence were built; and finally, connections between the chapels were established, resulting in the ability to link previously separated mental representations with each other. This was the origin of metaphor, analogy and association – in short, of distinctively human thought. Mithen refers to this new phenomenon with the important term *cognitive fluidity*. Mithen also claims that while some metaphors and analogies can be based on knowledge within a single domain, the most "powerful ones" cross domain boundaries.¹²³ Somewhat unfortunately, van Huyssteen does not cite him elaborating on this thesis – if there ever was anything to cite, that is. Most important here is, however, that Steven Mithen's theory of cognition entails an intriguing analog to the postfoundationalist view of rationality advocated by van Huyssteen, who really seems to place much trust in this theory. Observing this offers a great opportunity to reflect critically on van Huyssteen's method of interdisciplinary study.

4.2.1 Problems with van Huyssteen's theory choice

In the conclusive section of his chapter 4, van Huyssteen cites Mithen's main thesis about the structure and development of human cognition as if it was an established fact – but no reasons for this preference are provided. Even as van Huyssteen has introduced differing approaches to the prehistory of human mind, he has not considered any direct criticism of Mithen's views. Modular theories of the mind have been influential but not absolutely dominating, as far as I

¹²² Van Huyssteen 2006, 193–195.

¹²³ Van Huyssteen 2006, 195–200.

know.¹²⁴ Mithen's variant does, however, resonate well with van Huyssteen's conception of rationality as a "transversal" process, which I referred to in subchapter 1.3 and chapter 2. In fact, already in the first chapter of *Alone in the World?*, van Huyssteen writes:

The notion of transversality is hugely helpful for highlighting the human dynamics of consciousness that enables us to move between domains of intelligence with a high degree of cognitive fluidity, and as such it is at the heart of my notion of interdisciplinary reflection (cf. also Mithen 1996: 70ff., 136ff.).

Thus, he is quite explicit on the parallelism he identifies between Mithen's theory of a cognitively fluid, modular mind and the transversal view of rationality preferred by himself. Transversal rationality is, according to van Huyssteen, "a lying across, extending over, and intersecting of various forms of discourse, modes of thought, and action".¹²⁵ This is a case where philosophical and scientific theories, perhaps independently of each other,¹²⁶ have ended up describing human thought in remarkably similar ways. This helps to explain why Mithen's theory is granted such a privileged position in the totality of van Huyssteen's interdisciplinary project. But the latter's proceeding here makes one suspicious: Is he just so keen to build an internally coherent interdisciplinary construct that he employs whatever theories, if only they fit together with his philosophy and with each other? His theory choice with respect to human cognitive evolution calls for critical reflection on his method of doing interdisciplinary study. Again, reference can be made to Wesley Wildman, whose article in the *Zygon* journal (2/2008) addressed some methodological shortcomings of *Alone in the World?*

As Wildman aptly summarizes, "[van Huyssteen's] method is built around flashes of transversal insight rather than systematic evaluation of all relevant theoretical perspectives", and it "stresses flashes of insight that create understanding while deemphasizing the obligation to weigh plausibility systematically". This is certainly manifest in my case example here. Also, Wildman has paid attention to how this method of interdisciplinarity allows for any party's withdrawal from dialogue when the "moment of transversal connection has passed". One suspects that this option weakens the chances that each party's own convictions really get challenged in interdisciplinary conversation. While I have appreciated van Huyssteen's capacity for innovative association across disciplines, Wildman's criticism is

¹²⁴ Van Huyssteen 2006, 214. It is also notable that, even as Mithen's *Prehistory of the Mind* did receive appraisal, its highly speculative character was pointed out by critics. See for example Jerry Fodor on *London Review of Books*: <https://www.lrb.co.uk/v18/n23/jerry-fodor/its-the-thought-that-counts>

¹²⁵ Van Huyssteen 2006, 21.

¹²⁶ Van Huyssteen does not tell whether Mithen's model has been inspired by some philosophical theories or the other way round. Had he known of some influence, I believe he would have mentioned it as an example of fruitful interdisciplinary contact. Judging by this, the developments on the different fields have likely been independent.

certainly relevant, and the discontent he expresses has not been fully alien to myself when reading *Alone in the World?*

Whether the seemingly uncritical adoption of Mithen's theory is acceptable depends, I believe, on one's position on van Huyssteen's epistemology. Postfoundationalist epistemology is inherently coherentist as regards epistemic justification.¹²⁷ Since both theories and proofs are ultimately interpreted experiences, the distinction between theory and proof is, arguably, not dichotomous. Knowledge consists of interpreted experiences that gain or lose plausibility in the light of one another. Thus, if a philosophical theory and a scientific theory can both be defended on their own terms, and exhibit analogous structures and concepts, someone may welcome them as mutually supportive elements in her own worldview. Secondly, the most important epistemic goal is comprehending, rather than knowing, if knowing is understood as "being sure" of something. For example, in this case, *if* the human mind can be argued to consist of interacting modules, it might become more comprehensible why rationality should be seen as transversal. Conversely, if rationality can plausibly be described as transversal, modular theories of the mind may start appearing as more credible.

Thirdly, epistemic justification in postfoundationalism is admittedly contextual and temporary. Therefore, van Huyssteen could not even in principle construct a theological anthropology for all times, but only for his own time and a limited context. If it is taken as a suggestion immediately open to corrections and modifications, van Huyssteen's theory choices are not supposed to be justified in some total or absolute sense at all. Rather, the process of their epistemic justification stretches far beyond the pages of *Alone in the World?*, insofar as others are willing to question van Huyssteen and the scholars cited by him.

It might be claimed, especially from the point of view of a different epistemology, that van Huyssteen's method implies evading due epistemic responsibility. Pertaining directly to the coherentist nature of postfoundationalism, one could ask: Is it credible to accept any number of theories that seem to be coherent among themselves, without carefully showing that each of the theories is plausible on its own terms? This is a relevant question, although to van Huyssteen's defense it has to be noted that *Alone in the World?* originally was written as a lecture series, within which there could be no chance to consider all problems in equal detail. A more sophisticated judgment on the interdisciplinary construct in this book certainly would require the reader to immerse herself in the intradisciplinary debates on the various fields involved. As I already pointed out in subchapter 1.3, this is a book that gives a lot of responsibility to the reader.

¹²⁷ On coherentism, see again Fumerton 2002, 226–227.

4.3 Human imagination and religiosity

Among the different aspects of human prehistory, of perhaps the greatest relevance to van Huyssteen's theological anthropology is the emergence of religiosity. "[R]eligious belief", he maintains, "is one of the earliest special propensities or dispositions that we are able to detect in the archeological record of modern humans."¹²⁸ What religion or religiosity means is notoriously difficult to pin down, but some kind of a working hypothesis is necessary in a study such as van Huyssteen's. One has to identify some aspects of religion with which the archeological material may then be compared. On the one hand, I observe that van Huyssteen is vague when talking about religion in general, without clearly spelling out what his working definition of this concept is and whence it derives. He performs better, though, when applying specific theories about shamanism to the cave paintings of Paleolithic Europe. He adopts a sufficient definition for shamanism, and explains what specifically it is about the ancient paintings that suggests origins in shamanistic religion.

Van Huyssteen's definition for religion is hard to detect, above all, due to his way of indicating citations and references to the works of others. For example, on p. 192 he writes:

... religious belief is one of the earliest special propensities or dispositions that we are able to detect in the archeological record of modern humans ... Even if we are not certain what exactly the artistic productions of the Cro-Magnons [modern *Homo sapiens* in Paleolithic Europe] represented to the people who made them, it is nonetheless clear that this early "art" reflected a view held by these people of their place in the world and a body of mythology that explained that place. One of the major functions of religious belief has always been to provide explanations for the deep desire to deny the finality of death, and the curious reluctance of our species to accept the inevitable limitations of human experience.

In its context, this passage could be read as expressing Ian Tattersall's thoughts, as notes to a book written by him are found at some intervals in the text. But another interpretation is possible, too, namely that van Huyssteen is expressing his *own* thoughts that build upon Tattersall's work and complement it. Be this as it may, he suggests a definition for religious belief that emphasizes its meaning-making and explanative role. Another instance of this is found on p. 204–205 where van Huyssteen briefly refers to J. S. Krüger (1940–): In the "broadest sense of the word", religion is the drive to "experience the world as a meaningful gestalt". Van Huyssteen helpfully stresses that it is precisely in this sense that he argues for the naturalness of religion. On the other hand, on p. 186–187 he has it that the works of cave art "strongly suggest a spiritual mind-set" and "could have functioned as links between the

¹²⁸ Van Huyssteen 2006, 204.

natural and the supernatural worlds". He further argues that if symbolic, or even tentative religious, meaning can be ascribed to some of the paintings, they may reveal something "about the emergence of the earliest form of religion".

Considering the above citations, multiple questions arise concerning what van Huyssteen means by religion or religious belief. Does it have to include a notion of spirituality, and if so, what is "spiritual"? Does there have to be an idea of separate "natural" and "supernatural" realms?¹²⁹ Or is religion first and foremost about experiencing "meaningful gestalts"? More specifically, if the cultural background of Paleolithic paintings is identified as shamanistic, it is unclear how the above notions, certainly often seen as intrinsic to religion, should be applied to that ancient culture. Was the Paleolithic shamanism concerned with such things? Van Huyssteen reminds the reader that "we will never know, and should be careful not to project our own categories onto these ethereal expressions [i.e. the cave paintings]"¹³⁰. Still, *Alone in the World?* gives the impression that he both does and does not want to project today's categories onto distant prehistoric cultures.

Whatever his definition for religion, van Huyssteen sees the phenomenon as deeply natural, and nearly intrinsic to human life. His arguments from the study of human cognition in particular draw upon the views of Steven Mithen and cognitive anthropologist Pascal Boyer, while he also criticizes the latter for approaching religion in too a "reductionistic" manner.¹³¹ The important thing is that religious thought seems not separable from other categories of cognitive action. Religion appears as a creative synthesis of ideas from many different cognitive domains, much the same way as artistic expression or scientific thought. In Mithen's view, no specific module for religious thought can be identified. Boyer's studies point to the same direction: Various cognitive modules that have, in themselves, distinct functions are applied together in human brains to produce religious content. Hyperactive agency detection, for example, would be an important factor behind god-related beliefs.¹³² Van Huyssteen disapproves of Boyer's suggestion that the way religious beliefs are generated would render them unreliable or erroneous, but takes his work nevertheless as an important contribution to the idea that "religious imagination uses the same inference systems as the human brain and the mind in general". This he sees as supporting a broader argument for the integrity of religious imagination.¹³³

¹²⁹ Van Huyssteen does remark, at one point in *Alone in the World?*, that the distinction is not relevant to all religions. See p. 263.

¹³⁰ Van Huyssteen 2006, 213.

¹³¹ The provocative title of Boyer's 2001 book *Religion Explained* is rather notorious.

¹³² See subchapter 3.3.

As regards specifically the interpretation of European Paleolithic cave paintings as shamanistic images, and therefore as the earliest likely manifestations of religiosity, van Huyssteen takes up the work of Jean Clottes and David Lewis-Williams, both of them archaeologists. Shamanism here is defined in a very general sense. It features induction, control, and exploitation of altered states of consciousness, shifts between which are a universal potential of the human nervous system. As a result of the common structure of nervous systems, there are some universal traits recognizable even in shamanistic experiences. The continuum of hallucinative states of consciousness can be modeled as consisting in three "stages". In the initial stage of trance, people usually perceive geometric forms, dots or lines; in the second stage they try to interpret these in terms of their specific worldviews. Following this, there is the sensation of going through a tight vortex into a "world" of intense hallucinations. What exactly one experiences in this deep state of trance is culture- and context-specific, but even there, a common universal theme can be identified: transformation of the self into animal forms. Ethnographical studies on southern African San people, conducted among others by Lewis-Williams himself, have revealed intriguing parallels to European cave paintings. In certain San works of rock art, shamans turning into antelopes are pictured. Half-human and half-beast figures have been identified in the European Paleolithic imagery as well.¹³⁴

The location of many of the paintings also can be seen as analogical to the experience of trance. Images are often found in deep caves, accessible only through narrow holes. Clottes and Lewis-Williams have suggested that narrow entrances were intended to replicate the neuropsychological experience of being drawn through a vortex into another world. It is common even in historically known shamanistic cultures that the vortex-phase is described quite concretely as descent into the ground. All things considered, a highly compelling analogy emerges between shamanism as known today, and some cave paintings of Upper Paleolithic Europe. The analogy is the more plausible given that the cave painters were, as members of *Homo sapiens sapiens*, anatomically equivalent to historically studied humans, and thus presumably capable of having similar experiences. The conclusion then becomes that some kind of shamanistic religion, involving altered states of consciousness and interpretations of them, was likely practiced in European Upper Paleolithic communities.¹³⁵

¹³³ Van Huyssteen 2006, 261–265. It is implied, I think, that "imagination" here pertains not to *fanciful* thoughts, but more generally to the capacity of forming mental images and representations.

¹³⁴ Van Huyssteen 2006, 205–211.

¹³⁵ *Ibid.*

Van Huyssteen also takes notice of criticism directed at the shamanism hypothesis. Specifically, archaeologist Paul Bahn had warned against adopting shamanistic beliefs as default explanations for Paleolithic art, and against any negligent comparisons between historically known shamanistic cultures and Paleolithic archeological remains. Along the lines of Clottes and Lewis-Williams, van Huyssteen stresses that it is only certain caves and images that readily lend themselves to this kind of interpretations.¹³⁶ And this is clearly enough for his purposes. When modern human mind first becomes manifest in archeological material in the form of symbolic abundance, it already seems to deserve the label of religious mind. But what does van Huyssteen see as the Christian theological significance of this early religious tendency of *Homo sapiens*?

4.3.1 Theological relevance of prehistoric religiosity

Biblical literature speaks of humans in relation to God. Even though there are hints in the Bible to a plurality of divine or heavenly beings,¹³⁷ as well as to the vague and unsearchable character of God himself,¹³⁸ the canon is largely explicit on the very specific theological conviction that there is one God and not many of them. It also explicitly describes the first humans as knowing that one God and relating to him. Later on, the same God acts upon various people in various historical contexts, even some who initially have taken no interest in him. There is a clear universalistic tendency there: Humans in general are to be understood through their relationships with God. Now, even if the plausibility of shamanistic explanations for many Paleolithic paintings is granted, does the European archeological record speak of humans in relation to God? That would be hard to establish, firstly because there is no knowledge of the theological systems – if there were any – of the cultures that produced those paintings. At most, the archeological record may be said to strongly suggest that the cultures featured some aspects of what is known today as shamanistic religiosity.

However, I would like to cite again van Huyssteen's important claim in the final conclusive section of his book. As the *imago Dei* is revisioned as emerging from nature, for the theologian this means that "God used natural history for religion and for religious belief to emerge as a natural phenomenon".¹³⁹ Implied here is definitely the idea that, in the context of Christian theology, religion and religious belief in a general sense should be seen as serving some positive ends in God's plan for humanity. Supposedly, God's way of establishing

¹³⁶ Van Huyssteen 2006, 211. On p. 251–256, van Huyssteen takes a closer look at three selected cave paintings that, on his view, best exemplify the role of shamanism in Upper Paleolithic Europe.

¹³⁷ See van Huyssteen 2006, 119.

¹³⁸ See, for example, *Job 26* and *38*, *Ecclesiastes 8:16–17* or *Romans 11:33*.

¹³⁹ Van Huyssteen 2006, 322.

relations between himself and humans has been to let them develop religious beliefs through natural processes. Some of the earliest signs of such emerging beliefs would be precisely the Paleolithic cave paintings, arguably representative of shamanism, that van Huyssteen has considered in his book. In this sense, then, a theologian would be entitled to say that, *to her as a theologian*, even the European archeological record does speak of humans in relation to God. It would have to be seen as irrelevant whether any Paleolithic Europeans thought of themselves as relating to God, and besides, it is impossible to know if they did.

An interesting question now is whether many theologians would be willing to make that kind of a theological interpretation of natural history. In other words, would van Huyssteen's theological anthropology come across as credible in intradisciplinary debate? For one, it seems to require a fair amount of dogmatic liberalism, as it does not set any Christian notion of human-God relationship fundamentally apart from other religious concepts and experiences. In the light of what I have read, I see no possibility of clear distinctions between such traditional concepts as orthodoxy, heresy and paganism in van Huyssteen's theology. In his treatment of human religiosity from a Christian theologian's perspective, a view resembling that of Robert Jenson's is implied. The latter had it that Adam and Eve stand for whoever first found embodiment before God in ritual, or whoever first used any expression we might translate as "God" (see subchapter 4.1). Crucial questions here are whether all ritual is embodiment before God and whether all religious language somehow ultimately pertains to him. Should a Christian believer perceive embodiment before God, for example, in an obscure, prehistoric shamanistic religion, or in the non-Christian religions of today? In *Alone in the World?*, van Huyssteen does not take a stance on this, but I think as a theologian he probably should do that on some occasion.

Historically, it has by no means been an unknown idea in Christianity that even non-Christians, through their own traditional religions and philosophies, may know at least something about God and relate to him. To distinguish between non-Christian and Christian ways of coming to know God, the concepts of general and special revelation, respectively, have often been employed. Karl Rahner, a renowned Catholic theologian, even developed the theologically inclusive idea of "anonymous Christians" to describe people who, without recognizing it in Christian terms, are experiencing and expressing connectedness with God.¹⁴⁰ But such terms are not used by van Huyssteen in *Alone in the World?* The fact is that he largely omits theological discussion of prehistoric or otherwise non-Christian religiosity and

¹⁴⁰ Imhof & Biallowons 1986, 89, 218–219.

its theological meaning. On this subject, he makes some implications that are subject to my interpretation here, but he does not really explicate his views.

Quite naturally, a profound intradisciplinary discussion in theology could emerge as a result of van Huyssteen's *Alone in the World?*. While it is definitely true that the theological consequences of his interdisciplinary odyssey are too many and problematic to be explicated within the same book, I would have appreciated a section devoted to just briefly formulating the chief theological problems highlighted by this novel approach to the doctrine of *imago Dei*. It seems that the universalism inherent in Christian theological anthropology somehow would have to be reconciled with what is known of human prehistory and the emergence of religiosity. As van Huyssteen correctly notes, with Jenson's refiguring of the notion of first humans, "Christian theology is liberated from the obligation to stipulate morphological characteristics that would absolutely distinguish prehumans from humans"¹⁴¹. In theological terms this means that it is not necessary to point out exactly the "historical Adam and Eve". However, I think Christian theology is still left with the question of whether there are characteristics in some worldviews or religions that indicate a privileged contact with the divine. As the pressure to discuss biological exclusivity eases, the question of theological exclusivity versus inclusivity remains and is perhaps even intensified.

Moreover, a way should be found to retain Christian universalist notions of human-God relationship within the postfoundationalist philosophical epistemology that, after all, radically emphasizes the historical, traditional and contextual nature of all knowing, including religious convictions. How to appreciate the fact that many religious people do not see themselves as worshipping the same divine being as Christians, if one at the same time believes that it is relationship with God that defines humanity? As long as these important problems are not engaged, the impression remains that many central concepts – such as "God" and "revelation" – have to become excessively vague and abstract if a comprehensible theological anthropology based on van Huyssteen's interdisciplinary study is to be offered.

¹⁴¹ Van Huyssteen 2006, 316.

5. Conclusions

I have now conducted my analysis and critique of interdisciplinary reasoning in J. Wentzel van Huyssteen's *Alone in the World?*, and my thesis will close with a summary of the insights I gained into this remarkable book. Apart from a rough description of van Huyssteen's basic approach to the problematics of science and theology, I will present three different categories of insights: 1) philosophical, 2) methodological, and 3) theological. Specifically, answers will be provided to the questions posed in the beginning of my study: What kind of philosophical principles are central to van Huyssteen's method of interdisciplinary study? Does van Huyssteen stay consistent with his philosophical principles? Are some of his proceedings problematic with regard to epistemic credibility, and if so, why? How does van Huyssteen compare the Christian idea of human-God relationship with the prehistoric emergence of human religiosity?

I began my inquiry into the subject by introducing different approaches to science and theology, or science and religion, according to Ian Barbour's four models theory. I estimated that van Huyssteen's work featured important aspects of a typical *dialogue* approach, and this became clear in the course of my study. Van Huyssteen pointed to questions arising within specific research traditions that could be answered best by reaching out to other disciplines for rational support (see 1.2). Highly important to van Huyssteen were also the parallels he saw between scientific and theological methods of inquiry, and their shared rational resources (1.2 and 2). As I noted, both so-called boundary questions and methodological parallels were among the factors that, in Barbour's view, motivated attempts to develop dialogue between science and theology (1.1). Also, van Huyssteen seemed to advocate a qualified *integration* approach, one that Barbour could have labeled "theology of nature". This was evident as van Huyssteen analyzed the Christian theological doctrine of *imago Dei*, as pertaining to the unique status of humans in the creation, and tried to reinterpret it in accordance with natural scientific views about human uniqueness (3).

1) The *philosophical* principles upon which van Huyssteen's interdisciplinary project built were mostly epistemological, that is, concerning the nature of knowledge and rationality. On an implicit level at least, even ontological convictions were present. In his postfoundationalist epistemology, van Huyssteen emphasized the general, unifying aspects of rational thought and knowledge. He argued that all human knowledge consists invariably of interpreted experiences, and that there are no immediately given beliefs. He also argued that even when different areas or domains of reasoning can be identified, there are rational resources and

epistemic values shared across domain boundaries: he mentioned a quest for intelligibility, the shaping role of personal judgment, an ongoing process of problem solving, and experiential accountability. His purpose with these central claims was to point towards a possibility of interaction and dialogue between disciplines as different as, for instance, theology and paleoanthropology. He argued explicitly against any attempts to define either theological or scientific rationality as principally isolated from other kinds of reasoning.

Van Huyssteen saw comprehensibility, over against certainty, as a central epistemic goal. In his view, our experiences were rendered comprehensible through associations with other interpreted experiences. This made up the ongoing process of transversal reasoning, or transversal rationality, in which information of many different kinds could be gathered and combined. The prioritizing of comprehensibility, along with the strong emphasis on the interpreted nature of all knowledge, resulted in an epistemology with no clear notions of truth and falsity (2.1 and 3.1.2). There could be more and less convincing views, and epistemic justification depended on whether it was possible to convince others of one's own views in a specific social context. Justification was always taken to require an epistemic community where different views could be evaluated, and the postfoundationalist view on justification was therefore a kind of social coherence theory (2). However, an important "meta-contextual" question could be identified that van Huyssteen did not ask: Does a view become more justified if it appears as convincing in many different contexts, and not just in one? Wesley Wildman pointed out the varying correctness of hypotheses, and what I would call their varying degrees of obviousness. Some views can be tested more easily than others, which makes their truth or falsity seem more obvious. Van Huyssteen did not consider this, and consequently, his epistemology did not really explain how it is possible to convince people of anything (2.1). For example, the notion of "experiential accountability" as an epistemic value¹⁴² could have been elaborated towards an explanation.

Evolutionary epistemology was applied by van Huyssteen for several reasons. It provided an explanation for the unified character of knowing and rationality, as all knowing was equally seen as a function of evolved, organic entities, such as *Homo sapiens* individuals. It also entailed a rudimentary view of the origins of rationality, which allegedly lie in interactions between organisms and their surroundings during a lengthy evolutionary history. Van Huyssteen's hearty acceptance of evolutionary epistemology seemed to imply a materialistic or at least substantially non-dualistic ontology for humans, as he expressed no need to explain our cognitive activities with reference to non-organic minds or souls (2.2). He

¹⁴² See van Huyssteen 2006, 15.

saw human cognition as an emergent phenomenon with thoroughly biological origins. Van Huyssteen showed no interest in arguing explicitly for any ontological position, so it is unclear whether he would consider the emergent mind as a *substance* different from its biological basis, the brain.

2) Van Huyssteen's *method* of interdisciplinary reasoning has close connections with his philosophical epistemology, and especially the idea of transversal rationality. Transversal attempts to make things comprehensible were apparent at several points, as semantic and conceptual parallels between disciplines were introduced. "Interpreted experience" appeared as a crucial concept that first described the epistemic-hermeneutic processes in human thought, and then served to illuminate a phenomenon arguably very different, namely the evolution and gradual change of organisms. This use of the concept suggested that experience, interpretation, and knowledge have a physical and embodied character, and this again pointed toward an underlying non-dualist ontology. The notion of transversality itself, and the essentially psychological term "cognitive fluidity" were paired up to create a persuasive vision of a multifaceted yet necessarily unified reflective apparatus that is the human mind. Furthermore, to van Huyssteen, a "new way of knowing" was something that marked the beginning of recognizably human life in both theological and natural scientific anthropology.

This kind of transversal reasoning that proceeded very much through associations and conceptual parallelisms was effective in combining data from many different fields. It could powerfully suggest that philosophy, sciences and theology are different approaches to the same reality, and not isolated, self-contained discourses. Throughout his book, van Huyssteen appeared very consistent methodologically. He restrained from attempts to actually prove the truth of any theory he had chosen to advocate, while he put much effort into presenting theories from different fields as cohering or "resonating" with one another. While he usually did explain why the theories should be seen as plausible on their own terms, he was more interested in their functionality as parts of an interdisciplinary scheme, a big picture of human uniqueness. The weak side of van Huyssteen's method was, arguably, that it allowed for overlooking some problems, both when choosing theories for consideration and when linking them together as parts of the interdisciplinary construct. This could possibly have a negative impact on the epistemic credibility of the results. As an example, I pointed out how van Huyssteen preferred Steven Mithen's theory of human cognitive evolution in a seemingly quite arbitrary manner (3.2–3.2.1). Another example is the apparent but, in a sense, uneasy

”resonance” between human religious capacities and the idea of human-God -relationship. Of this I have more to say shortly.

3) Van Huyssteen pointed out some convergence in the ways human uniqueness was understood in theology and sciences. In both theological and scientific anthropology, a new way of experiencing oneself and one’s surroundings was seen as central to the emergence of human beings. Van Huyssteen chose to look at emergence on a phylogenetic rather than ontogenetic level, that is, with respect to the species rather than individual. This is, in a sense, noteworthy, for there has been willingness in modern Christian theology to read the Biblical account on the dawn of humanity as describing the existential experience, rather than the prehistory, of being human. Van Huyssteen’s interpretation of theological anthropology explains why he sought interdisciplinary discussion partners for the Biblical account and its later theological interpretations in evolutionary biology and paleoanthropology rather than in psychology and existentialist philosophy.

From a scientific point of view, the emergence of humans entailed some phenomena that could be characterized as religious. Some archeological findings, notably from Upper Paleolithic period in Southwest Europe, suggested altered states of consciousness and their ritualistic reconstruction in paintings. Observing this, van Huyssteen envisioned something of an equivalence between 1) human-God relationship as understood from a Christian theological perspective, and 2) religious thought and behavior as understood in scientific terms. This equivalence was not explicated yet strongly implied. There was also no reflection on how it could be argued for in theological terms, and this could well be the next major problem to be considered, if the anthropological project of van Huyssteen is to be taken further. When discussing scientific and theological anthropologies in relation to each other, *theology of religions* is a subject hardly avoidable. Van Huyssteen seemed not to define religion very clearly, associating it varyingly with meaning-making, a sense of supernatural, and spirituality. This vagueness had, in my view, a slightly negative effect on the credibility of his treatment of religion’s significance as a human phenomenon, even though his reflections upon a specific case of early religious behavior were well formulated and insightful. How should human religiosity in its entirety and complexity be understood within Christian theology? Although J. Wentzel van Huyssteen’s *Alone in the World?* had a different subject matter, it very much pointed towards this big question.

Bibliography

Source

Van Huyssteen, J. Wentzel, *Alone in the World? Human Uniqueness in Science and Theology*. Grand Rapids, MI: William B. Eerdmans. 2006.

Reference literature

Barbour, Ian G. (1997). *Religion and Science: Historical and Contemporary Issues*. San Francisco, CA: HarperCollins.

Brandon, Robert (2014). *Adaptation and Environment*. Princeton: Princeton University Press.

Baghrmian, Maria and Carter, J. Adam, "Relativism", *The Stanford Encyclopedia of Philosophy* (Summer 2017 Edition), Edward N. Zalta (ed.),
URL = <<https://plato.stanford.edu/archives/sum2017/entries/relativism/>>.

Dennett, Daniel C. (2006). *Breaking the Spell: Religion as a Natural Phenomenon*. New York: Viking.

Fuentes, Agustin, Aku Visala (2016). *Conversations on Human Nature*. Walnut Creek, CA: Left Coast Press, Inc.

Imhof, Paul, Hubert Biallowons (ed.) (1986). *Karl Rahner in Dialogue*.

Levins, Richard, Richard Lewontin (1985). *The Dialectical Biologist*. Cambridge, MA: Harvard University Press.

Livingston, James C. (2006). *Modern Christian thought. Vol. 2*. Minneapolis, MN, Fortress Press.

Peterson, Gregory R. (2008). Uniqueness, Image of God, and the Problem of Method: Engaging van Huyssteen. *Zygon* 43:2, 467–474.

Peterson, Michael, et al. (ed.) (2003) *Reason and religious belief*. New York, NY: Oxford University Press.

Reynhout, Kenneth A. (2006). The Evolution of van Huyssteen's Model of Rationality. Published in F. LeRon Shults (ed.): *The Evolution of Rationality. Interdisciplinary Essays in Honor of J. Wentzel van Huyssteen*, 1–16.

Rohlf, Michael, "Immanuel Kant", *The Stanford Encyclopedia of Philosophy* (Spring 2016 Edition), Edward N. Zalta (ed.),
URL = <<https://plato.stanford.edu/archives/spr2016/entries/kant/>>.

Schrag, Calvin O. (1992). *The Resources of Rationality*.

Stone, Jerome A. (2006). Van Huyssteen in Context: A Comparison with Philip Hefner and Karl Peters. Published in F. LeRon Shults (ed.): *The Evolution of Rationality: Interdisciplinary Essays in Honor of J. Wentzel van Huyssteen*, 73–86.

Van Huyssteen, J. Wentzel (1997). *Essays in Postfoundationalist Theology*. Grand Rapids, MI: W.B. Eerdmans.

(1999). *The Shaping of Rationality*. Grand Rapids, MI: W.B. Eerdmans.

Wildman, Wesley J. (2006). Rational Theory Building: Beyond Modern Enthusiasm and Postmodern Refusal (A Pragmatist Philosophical Offering). In F. LeRon Shults (ed.): *The Evolution of Rationality: Interdisciplinary Essays in Honor of J. Wentzel van Huyssteen*, 30–46.

(2008). Hand in Glove: Evaluating The Fit Between Method and Theology in van Huyssteen's Interpretation of Human Uniqueness. *Zygon* 43:2, 475–491.

Wilkins, John S., Paul S. Griffiths (2013). *Evolutionary Debunking Arguments in Three Domains: Fact, Value, and Religion*. Published in Gregory W. Daves & James Maclaurin (ed.): *A New Science of Religion*.

Wuketits, Franz M. (1990). *Evolutionary Epistemology and Its Implications for Humankind*. State University Plaza, Albany, N.Y.: State University of New York.

Internet sources

<https://www.giffordlectures.org/lecturers/wentzel-van-huyssteen>

<https://www.lrb.co.uk/v18/n23/jerry-fodor/its-the-thought-that-counts>