


THE DISCREPANCIES OF THE ‘ANTHROPOZOIC AGE’ IN ERNST HAECKEL’S *INDISCHE REISEBRIEFE* (1882)

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ABSTRACT

In *Generelle Morphologie der Organismen* (1866), Ernst Haeckel systematised the biological study of morphology along evolutionary lines and proposed that the ‘Anthropozoic Age’ should be considered the most recent paleontological time period. This article first examines Haeckel’s early concept of the Anthropozoic Age in relation to his ambiguous use of the words ‘Nature’ and ‘Culture’ in his life’s work. It then illustrates how his later travel narrative, *Indische Reisebriefe* (1882), projects notions of the Anthropozoic Age onto landscapes from his journey to British-governed Ceylon. Haeckel presents two diverging paleontological timescales: a deep and interconnected past of the island’s organisms and the currently escalating consequences of human cultivation of the land. Lending different scientific and aesthetic attention to the depiction of the two environmental developments, discrepant images are fused in his hopes and visions of a new and better ‘Age of Culture’. The travel report is thus a very early literary response to the scientific concept of living during a time in which humanity dominates the world’s environments. From today’s perspective, the text raises familiar questions regarding how humans should conceive their own agency in the Anthropocene. At the same time, it highlights the concept’s entanglement with contemporary philosophical and socio-political discourses.

In *Generelle Morphologie der Organismen* (1866) systematisierte Ernst Haeckel das biologische Studium der Morphologie entlang evolutionärer Linien und schlug vor, dass das ‘Anthropozoische Zeitalter’ den jüngsten Platz in der Reihe der paläontologischen Zeiträume einnehmen sollte. In diesem Aufsatz wird zunächst Haeckels frühes Konzept des Anthropozoischen Zeitalters im Zusammenhang mit seiner mehrdeutigen Verwendung der Wörter ‘Natur’ und ‘Kultur’ in seinem Lebenswerk untersucht. Anschließend wird aufgezeigt, wie Haeckel in seinem späteren Reisebericht *Indische Reisebriefe* (1882) Vorstellungen vom Anthropozoischen Zeitalter auf Landschaften seiner Reise in das von Großbritannien beherrschte Ceylon projiziert. Haeckel präsentiert zwei divergierende paläontologische Zeitskalen: eine lange und verwobene Vergangenheit der Organismen auf der Insel und die gegenwärtig eskalierenden Folgen der menschlichen Kultivierung des Landes. Während der Darstellung der beiden Umweltentwicklungen verschmelzen die sich widersprechenden Bilder in seinen Hoffnungen und Visionen eines neuen und besseren ‘Zeitalters der Kultur’. Der Reisebericht ist somit ein sehr frühes literarisches Zeugnis für das wissenschaftliche Bewusstsein, dass der Mensch in dieser Epoche die Umwelt beherrscht. In diesem Zusammenhang wirft er aus heutiger Sicht bekannte Fragen auf, wie der Mensch sich im Anthropozän verhalten soll. Die Schrift zeigt zugleich die Verflechtung des Konzepts des Anthropozoischen Zeitalters mit zeitgenössischen philosophischen und gesellschaftspolitischen Diskursen.

INTRODUCTION

Eugene F. Stoermer and Paul J. Crutzen officially proposed the Anthropocene as a new geological epoch in 2000. Since 2009, scientists in the so-called Anthropocene Working Group (AWG) have scoured Earth's surface for rock-hard evidence of this proposed epoch.¹ To many people, the mere proposal of the new time-period has been mind-numbing because the extent to which humanity must have altered its home planet is immense: the evidence is in the ground, above the ground, in the depths of the ocean and in the many layers of the atmosphere.² Unsurprisingly, the geological notion of the Anthropocene has therefore devolved into many spheres of society and led to many artistic, literary and political responses. Berlin's *Haus der Kulturen der Welt* hosted the 2020/2 scientific-artistic exhibition *Earth Indices*, which grappled with the question of how to represent and make sense of the transformations in the Earth's system caused by humanity. It was the 'result of an intensive two-year cooperation between the artists Giulia Bruno and Armin Linke and the many scientist [s from the AWG] who have participated in the stratigraphic research into the Anthropocene'.³ As was the case with the exhibition, ecocritics increasingly argue that cultural productions should meet the natural sciences halfway and address the fact that humanity and the rest of the material world are more, not less, intertwined in their histories than ever before.⁴

The idea of a human-dominated epoch in Earth's natural history is far from new. As this paper will suggest, literary representations of such ideas were also present much earlier. In his magnum opus *Generelle Morphologie der Organismen* (1866), the German naturalist, philosopher and artist Ernst Haeckel (1834–1919) was one of the first to make an extensive scientific description of an 'Anthropozoischen Zeitalter' ('Anthropozoic Age'), which he firmly situated in the paleontological time record and thus considered the newest chapter in the history of the world's long organic development.⁵ For him, evidence of humanity's dominating influence in the natural world was not found in the layers of the Earth, as is the case

¹ 'Working Group on the "Anthropocene" | Subcommittee on Quaternary Stratigraphy', <<http://quaternary.stratigraphy.org/working-groups/anthropocene/>> (accessed 10 September 2022).

² John Parham, 'With or Without Us: Literature and the Anthropocene', *The Cambridge Companion to Literature and the Anthropocene*, ed. John Parham, Cambridge 2021, pp. 1–33 (pp. 1, 5–7).

³ Katrin Klingan, 'Earth Indices: Curatorial Statement', *Haus Der Kulturen Der Welt (HKW)*, 2022, https://www.hkw.de/en/programm/projekte/2022/earth_indices/kuratorisches_statement_earth_indices/text.php (accessed 10 September 2022).

⁴ See discussion on interdisciplinary approaches in Parham, 'With or Without Us' (note 2), pp. 9–10.

⁵ The first mention of an 'Anthropozoic Age' came from the congressional minister Thomas Jenkyn in 1854. For more on the term's history and discussion of the similarities between the 'Anthropocene' and the 'Anthropozoic Age', see Elizabeth Watts, Ulrich Kutschera, Georgy S. Levit and Uwe Hoßfeld, 'Ernst Haeckel's Prescient View', *Nature*, 570/7760 (2019), 64; Ulrich

with the Anthropocene, but rather in the living environment. However, it was still considered part of a long, historically changing past – that is, as part of the world's organic evolution. Haeckel's concept of an Anthropozoic Age is therefore to be seen in the light of what was the topic of most scientific concern during his age, namely, the introduction of the theory of evolution to the life sciences.

Haeckel is still most prominent for supporting, systematising and popularising the theory of evolution in the years that followed Charles Darwin's publication of the *Origin of Species* in 1859. In order to do so, he invented the first hypothetical stem trees of all organic life and coined words such as phylogeny, phylum and ecology.⁶ His popular *Natürliche Schöpfungsgeschichte* (1868), which included a second description of the new Anthropozoic era, shared a much broader and larger audience than Darwin's *Origin of Species* did.⁷ Indeed, after publishing *Generelle Morphologie* with little to no public reception, Haeckel tried to make his scientific concepts accessible to as many people as possible, explicitly addressing non-specialist readers in his later works and helping them visualise his ideas through his literary and artistic imagination.⁸ When Haeckel wrote about the various paleontological ages in *Natürliche Schöpfungsgeschichte*, he would make them discernible through written images of landscapes and living environments. For example, a landscape characterised by a diverse range of ferns on land and with invertebrates and primaeval fish teeming in the oceans would help the reader visualise the Primary Age, or 'das Zeitalter der Farnwälder'.⁹ In other words, he helped the general reader's understanding of paleontological ages by setting the stage and directing the scene of a hypothetical past.

This broad target audience was also the group destined to read his travel narrative *Indische Reisebriefe* (1882) and its translations (*A Visit to Ceylon*, tr. Clara Bell, London 1883; and *Lettres d'un Voyageur Dans l'Inde*, tr. Ch. Letourneau, Paris 1883). Over the years, it saw five authorised editions and came into the hands of such varied figures as Otto von Bismarck, Hermann von Königsbrunn and Stefan Zweig.¹⁰ Even Crown Prince Friedrich Wilhelm

Kutschera and Steve Farmer, 'Ernst Haeckel, Ancient Forests, and the Anthropocene', *Plant Signaling & Behavior*, 15/2 (2020).

⁶ See biographies and histories of Haeckel's science in Erika Krause, *Ernst Haeckel*, Leipzig 1984, pp. 57–90; Mario A. Di Gregorio, *From Here to Eternity: Ernst Haeckel and Scientific Faith*, Göttingen 2005, pp. 115–87; Robert J. Richards, *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought*, Chicago 2008, pp. 113–68.

⁷ Richards, *Tragic Sense* (note 6), pp. 223–4; Jane M. Oppenheimer, '6. Haeckel's Variations on Darwin', *Biological Metaphor and Cladistic Classification*, Philadelphia 2016, 123–36 (123).

⁸ See, e.g., Haeckel's address to this readership in Ernst Haeckel, *Die Lebenswunder: Gemeinverständliche Studien über biologische Philosophie*, Stuttgart 1904, pp. IV–VIII.

⁹ Ernst Haeckel, *Natürliche Schöpfungsgeschichte: Gemeinverständliche wissenschaftliche Vorträge über die Entwicklungslehre im Allgemeinen und Diejenige von Darwin, Goethe und Lamarck im Besonderen*, 1st edn, Berlin 1868, p. 297.

¹⁰ A list of people who were to be sent *Deutsche Rundschau* can be found in '1881–1882. Ceylon. II', Ernst-Haeckel-Archiv Jena, B 184; Stefan Zweig, 'Sehnsucht Nach Indien', *Leipziger Tageblatt*

of Prussia (later Friedrich III) and his wife Victoria received a copy of it after Haeckel's audience with them, when he showed them his photographs and watercolour sketches from Ceylon.¹¹ In this piece of travel writing, Haeckel takes his inspiration from his childhood readings of Alexander von Humboldt's and Charles Darwin's famous travel works, inviting his readers to follow his undertakings in coastal marine research and his botanical observations across the British-governed island.¹² The work includes depictions of landscapes, organisms and natural phenomena that he could use to reveal and explain his scientific and philosophical views.¹³ In this article, I argue that Haeckel's travel narrative also presents literary scenes indicative of the author's scientific concept of the Anthropozoic Age. Seemingly discrepant, they appear as critiques of and reconciliations with the scenes of environmental destruction that he observes in the coffee plantations in the highlands of Ceylon. Like many of today's cultural productions that are attentive both to the discourses of their own time and to the implications of the Anthropocene, the landscapes in Haeckel's travel narrative seek to make sense of the shared history between humanity and the rest of the material world, yet also reveal his entanglement with the scientific, aesthetic and social questions of his day.

SEEING THE AGE OF CULTURE THROUGH ROMANTIC AND DARWINIAN LENSES

An introduction to Haeckel's scientific, aesthetic and philosophical background is necessary to understand his concept of the Anthropozoic Age. From the beginning of the nineteenth century until Darwin's *Origin of Species* was published in 1859, 'Naturphilosophie' dominated the natural sciences in German-speaking countries. Haeckel was brought up within this tradition and was particularly influenced by the pantheism of Johann Wolfgang von Goethe, who had read Baruch Spinoza's critique of mind-body dualism in *Ethics* (1677) and had sought to implement such thoughts scientifically in his first botanical work, *Versuch die Metamorphose der Pflanzen*

(Leipzig, 28 July 1908), Ernst-Haeckel-Archiv Jena, C 1 Konvolut Indische Reisebriefe (1882–1909); 'Ernst Haeckel an Otto von Bismarck, Jena, 22.02.1894, Otto-von-Bismarck-Archiv Friedrichsruh, B 49 40720. References to materials from the Ernst-Haeckel-Archives in Jena will be shortened as 'EHA' in further notes.

¹¹ 'Ernst Haeckel an Friedrich Wilhelm Nikolaus Karl Kronprinz von Preußen', EHA A 31878.

¹² Ernst Haeckel, *Indische Reisebriefe*, 2nd edn, Berlin 1884, p. 4. Further references to this edition of the travel narrative – which contains the original structure of the first serialised edition, yet adds the planned extra chapter on 'Adams Pik' – will appear in the main text as *IR*. All other editions are referenced in the notes.

¹³ Haeckel's main research result resulting from his journey to Ceylon was a confirmation of a hypothesis of Darwin and the Challenger Expedition, namely that saltwater organisms are more geographically dispersed than those in fresh water. He reasons that the large rainfalls on the island make their habitats near Ceylon's coast unfavourable and therefore his own discoveries of new coastal marine creatures unsuccessful. See *IR*, pp. 224–5.

zu *Erklären* (1790).¹⁴ In it, Goethe showed by virtue of his own example that naturalists should immerse themselves in natural phenomena through their senses and seek the natural laws behind what they discover, thereby balancing the mind's conceptions with material observations.¹⁵ Haeckel considered this and its poetical sequels on the metamorphoses of plants and animals as foundational for comparative morphology (the study of organic forms and structures).¹⁶ Furthermore, as an amateur botanist and landscape artist, Haeckel was influenced by Humboldt's *Ansichten der Natur* (1808) and *Ideen zu einer Geographie der Pflanzen* (1807) as well as by Matthias Jakob Schleiden's *Die Pflanzen und ihr Leben* (1848), which all advanced the idea that Nature should simultaneously be seen in its singularities and in its totality.¹⁷ For example, a botanical characterisation of a plant seen in its typical landscape would be indicative of the greater region and climate that contained it.¹⁸ In some ways, this line of Romantic thought¹⁹ moved away from the conventional, strict separation of Nature and Culture. Instead, it suggested an interconnection and balance between the two. Nature was a cosmos in which all organisms, humans included, were interacting.

Haeckel was also influenced by a newer wave of materialists, such as his Würzburg lecturer in pathology, Rudolf Virchow, who wanted to remove metaphysical ontologies from scientific practices (despite, like Haeckel, having had his scientific upbringing under the nature-philosopher Johannes Müller).²⁰ Haeckel wrote in letters to his parents that Virchow's mechanistic, rational and analytical approach was cold and, at points, hard to follow. Still, it was also highly appealing because it appeared new, original and more progressive in its approach to the

¹⁴ See discussions on the intellect being referred to as 'Natura naturata' in Benedictus de Spinoza, *Ethics*, tr. E. M. Curley, London 1996, pp. 20–1 (II/71–2).

¹⁵ See 'Einleitung', in Johann Wolfgang von Goethe, *Versuch die Metamorphose der Pflanzen zu Erklären*, Gotha 1790, § 3; Cf. Chad Wellmon, 'Goethe's Morphology of Knowledge, or the Overgrowth of Nomenclature', *Goethe Yearbook*, 17/1 (2010), 153–77 (155).

¹⁶ Ernst Haeckel, *Die Naturanschauung von Darwin, Goethe und Lamarck*, Jena 1882, pp. 34–5.

¹⁷ Kurt Wedekind, 'Die Frühprägung Ernst Haeckels', *Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universität*, 25/2 (1976), 133–48 (136–8).

¹⁸ Alexander von Humboldt and Aimé Bonpland, *Ideen zu einer Geographie der Pflanzen nebst einem Naturgemälde der Tropenländer*, Tübingen 1807, pp. 28–32.

¹⁹ In German and English criticism, there are differing opinions regarding whether certain classicist writers, such as J. W. von Goethe, should be considered part of the broader Romantic movement. Furthermore, due to Matthias Jakob Schleiden's critique of *Naturphilosophie*, he cannot be considered part of this 'romantic' philosophical movement. Nevertheless, Schleiden was rhetorically influenced by Alexander von Humboldt, who displayed great interest in the works of F. W. J. Schelling, the most prominent proponent of romantic *Naturphilosophie*. In order to enhance readability, I have chosen to group these authors together under a single category. For more on these discussions, see René Wellek, 'Romanticism Re-examined', *Concepts of Criticism*, New Haven 1964, pp. 199–221; Kristian Köchy, 'Romantische Naturphilosophie', *Online Encyclopedia Philosophy of Nature*, 2021, <https://doi.org/10.11588/oepn.2021.1.80608> (accessed 27 May 2023).

²⁰ Bernhard Kleeberg, *Theophysis: Ernst Haeckels Philosophie des Naturanzens*, Köln 2005, pp. 61–6.

natural sciences than older traditions.²¹ Going further in the mechanistic direction, Darwin's *Origin of Species* provided Haeckel with a most important, empirically grounded theory because it allowed him to put all organic life under one natural law. When Haeckel read Hermann Bronn's translation of Darwin's treatise in 1860, he saw in it a new scientific epoch for 'systematische, organische Naturforschung', where it could be attempted 'alle Erscheinungen der organischen Natur aus einem grossartigen [*sic*], einheitlichen Gesichtspunkte zu erklären und an die Stelle des unbegreiflichen Wunders das begreifliche Naturgesetz zu bringen'.²² In his later *Generelle Morphologie*, Haeckel systematised the organic sciences in an interpretation of Darwin's theory, which he adapted to his research interest in morphology. However, he also included a spiritual-philosophical section on monism, interpreting evolution as sufficient evidence to consider Nature as a 'whole'.²³ To Haeckel, then, the theory of evolution offered a reconciliation between the two streams of thought: Nature could be considered whole in its law and, as such, monistic. It did not need 'a' God to produce it; Nature *was* divine in its totality. In his artistic-leaning works, he tried to show Nature's self-producing creativity through the aesthetic form and harmonic structures found in Nature. These qualities can be found in his depictions of the minute micro-organisms and sea creatures in his still-popular *Kunstformen der Natur* (1899–1904) but also in the stylised landscapes of his less famous *Wanderbilder* (1904) and in his aesthetic arguments in *Die Natur als Künstlerin* (1913). For Haeckel, Nature provides 'eine unerschöpfliche Fülle von wunderbaren Gestalten, durch deren Schönheit und Mannigfaltigkeit alle vom Menschen geschaffenen Kunstformen weitaus übertroffen werden'.²⁴

Both the pantheistic and the mechanistic understandings of Nature leaned away from a strict dualism between Nature and Culture. However, the two conceptions were still at odds with each other. In terms of critiquing destructive human activities within a natural environment, for example, the Romantic conception was rather useful: humans and their culture were acting chaotically, creating an imbalance in an otherwise harmonious cosmos. In his early 'Gymnasialzeit' in Merseburg, for example, Haeckel wrote a Humboldt-inspired assignment on the aesthetic character of the so-called plant formations in Northern German landscapes. He added that

²¹ See, for example, 'Ernst Haeckel an Charlotte und Carl Gottlob Haeckel, [Würzburg], 20./21. Januar 1853', EHA A 37455; Peter Zigman, 'Ernst Haeckel und Rudolf Virchow: Der Streit um den Charakter der Wissenschaft in der Auseinandersetzung um den Darwinismus', *Medizinhistorisches Journal*, 35/3–4 (2000), 263–302 (272–3); Krause, *Ernst Haeckel* (note 6), p. 23.

²² Ernst Haeckel, *Die Radiolarien (Rhizopoda Radiaria)*, 2 vols, Berlin 1862, I, pp. 231–2; Cf. Krause, *Ernst Haeckel* (note 6), pp. 44–5; Di Gregorio, *Scientific Faith* (note 6), pp. 65–71; Kleeberg, *Theophysis* (note 20), pp. 105–15; Richards, *Tragic Sense* (note 6), pp. 68–72.

²³ 'Die Einheit der Natur und die Einheit der Wissenschaft' and 'Gott in der Natur', Ernst Haeckel, *Generelle Morphologie der Organismen*, 2 vols, Berlin 1866, II, pp. 441–7, 448–52.

²⁴ Ernst Haeckel, 'Vorwort zum Supplement-Heft. Allgemeine Erläuterung und Systematische Übersicht', *Kunstformen Der Natur*, Leipzig and Vienna 1904.

eine solche Bestimmung des ästhetischen [*sic*] Einflusses bedeutender Pflanzenformationen fast nur oder wenigstens hauptsächlich da Anwendung finden kann, wo die alles verunstaltende und verzerrende 'Cultur' die ursprüngliche, jungfräuliche Natur noch nicht angegriffen, oder wenigsten noch nicht so weit verdrängt hat.²⁵

Emphasising an imbalance in our otherwise harmonious interconnectedness, Haeckel's Romantic interpretation of cultivated landscapes seems – ironically – to create a dualism between Nature and Culture, cosmos and chaos.

On the other hand, evolution suggested that humans and their cultural practices were acting in accordance with natural laws, despite being an increasingly dominant force. Hints of this conception can be found in his *Generelle Morphologie*. In the short – but distinct – chapter called 'Die Stellung der Menschen in der Natur', Haeckel considers the question of how special the place of humanity in Nature should be seen within a *general* history of organic development.²⁶ Here, he first insists that the theory of evolution dictates humanity's place in Nature and that humans should therefore be considered along with all other organisms.²⁷ Further on, however, he writes that although 'higher' characteristics, such as upright walking and speech, can be found in other living organisms, humans are unique due to the combination of all such favourable characteristics in their own single species. This has allowed humans to fare well in the 'Entwicklungs-Concurrenz' and act with an ever more dominating presence within the rest of the material world, as 'Herr und Meister'.²⁸ As he underlines later, this position is not qualitative but rather quantitative.²⁹ Haeckel thus rewrites humanity's place in Nature as part of, yet claiming a more significant space in, the natural world than other organisms. To emphasise this, Haeckel's Darwinian interpretation of human influence on the surrounding world would, like the Romantic interpretation, need to differentiate between the range of complexity in life forms – between 'higher' and 'lower' organisms. This, too, can seem to be a material return to the dualistic notions of Nature and Culture, reminiscent of the enlightened, Lamarckian (and, some would say, originally also Darwinian) idea of progressive development in Nature.³⁰ In its historical context,

²⁵ Ernst Haeckel, 'Der Ästhetische Einfluß Norddeutscher Pflanzenformationen auf den Charakter der Landschaft', *EHA*, B 387b; Cf. Jens Pahnke, 'Ernst Haeckels frühe botanische Studien und die Pflanzenästhetik seiner Tropenreisen', in *Annals of the History and Philosophy of Biology*, 22 (Göttingen 2018), 253–66 (257–8).

²⁶ Haeckel, *Generelle Morphologie* (note 23), pp. 425–31 (emphasis added). With this chapter title Haeckel makes a reference to the first text to consider humanity's history in the Darwinian mode of natural selection, namely T. H. Huxley's *Man's Place in Nature* (1863). This is not to be confused with Charles Darwin's *Descent of Man, and Selection in Relation to Sex*, which was not published until 1871.

²⁷ Haeckel, *Generelle Morphologie* (note 23), pp. 425–6.

²⁸ *Ibid.*, p. 430.

²⁹ *Ibid.*

³⁰ Di Gregorio, *Scientific Faith* (note 6), pp. 188–9; cf. Richards, *Tragic Sense* (note 6), pp. 146–8.

biological progress echoed the upwards-spiralling socio-political optimism among rulers and intellectuals in European and North American countries during the eighteenth, nineteenth and early twentieth centuries.³¹ Like the world's biological developments, 'Culture' and knowledge were seen by many as predestined to evolve progressively throughout history.

It is apparent that Haeckel's scientific background and his use of the word 'Culture' point in disparate directions when it comes to understanding humanity's place in Nature. In *Generelle Morphologie* and his following *Natürliche Schöpfungsgeschichte*, he brings these seemingly conflicting streams of thought together in his proposition of a new paleontological time-period. Indeed, he systematised it according to the world's long organic development. It was situated under the 'Quaternary Period', which could be loosely described as

derjenige, gegen die Länge der vier übrigen Zeitalter verschwindend kurze Zeitraum, den wir gewöhnlich in komischer Selbstüberschätzung die 'Weltgeschichte' zu nennen pflegen. Da die Ausbildung des Menschen und seiner Cultur, welche mächtiger als alle früheren Vorgänge auf die organische Welt umgestaltend einwirkte, dieses Zeitalter charakterisiert, so könnte man dasselbe auch die Menschenzeit, das anthropolithische oder anthropozoische Zeitalter nennen. Es könnte auch das Zeitalter der Culturwälder heißen, weil selbst auf den niedrigeren Stufen der menschlichen Cultur ihr umgestaltender Einfluß sich bereits in der Benutzung der Wälder und ihrer Erzeugnisse, und somit auch in der Physiognomie der Landschaft bemerkbar macht. [...] Der biologische Charakter der Quartärzeit liegt wesentlich in der Entwicklung und Ausbreitung des menschlichen Organismus und seiner Cultur. Weit mehr als jeder andere Organismus hat der Mensch umgestaltend, zerstörend und neubildend auf die Thier- und Pflanzenbevölkerung der Erde eingewirkt. Aus diesem Grunde, – nicht weil wir dem Menschen im Uebrigen eine privilegierte Ausnahmestellung in der Natur einräumen – können wir mit vollem Rechte die Ausbreitung des Menschen mit seiner Cultur als Beginn eines besonderen letzten Hauptabschnitts der organischen Erdgeschichte bezeichnen.³²

As mentioned earlier, different landscape appearances, their so-called physiognomies, were to play a part in distinguishing different time periods from each other, thereby making 'Culturwälder' the landscape typical of the Anthropozoic Age. Writing specifically of an influence that is 'zerstörend', Haeckel critiques humanity's transformative power over the landscape. This is similar to the Romantic interpretation of the chaos with which humans act towards the rest of the world. At the same time, however, Haeckel writes that the short cultural period is still part of the world's natural system and long organic development; it merely acts

³¹ Eric Paul Jacobsen, *From Cosmology to Ecology: The Monist World-View in Germany from 1770 to 1930*, Bern 2005, pp. 31–2.

³² Haeckel, *Natürliche Schöpfungsgeschichte* (note 9), pp. 300–1.

with a quantitatively more significant force within Nature. Here, 'Culture' is at once critiqued and still considered a natural development in the history of the organic world. However, humans are still part of a 'higher' development, which is 'special' ('besonders') enough to herald the coming of a new paleontological time-period. These two diverging notions of man's place in organic Nature are similar to what Hannes Bergthaller calls the 'true paradox' of the Anthropocene, namely that '[t]he Anthropocene proposes that humans act as a geological force; but insofar as they form a *concept* of themselves as a geological force, they are also fundamentally unlike any other such force'.³³ With the two diverging frames able to critique the dualism of Culture and Nature, Haeckel's Anthropozoic Age seems to encapsulate the discrepant logic of considering humanity part of the rest of the natural world, yet, because of the awareness of the enormous scale of its actions, also estranged from it.

CEYLON'S LANDSCAPES: PRAISE OF NATURE AND CRITIQUE OF CULTURE

About sixteen years after Haeckel presented his first idea of an Anthropozoic Age, he went on his research visit to Ceylon, which resulted in the travel narrative published serially in *Deutsche Rundschau* (1882) – the 'most important cultural medium of the German bourgeoisie' – and later in a separate book format (1883).³⁴ The following will show how Haeckel witnesses and presents the transforming effects of the cultivation of coffee on the island, revealing the discrepant logic of his concept of the Anthropozoic Age. Reminding us of the importance of landscape appearances as part of the characterisation of this new cultural era, Haeckel's portrayal of Ceylon's hill districts from February 1882 is particularly interesting because it contains landscape depictions of both seemingly harmonious and disharmonious states of Nature. These are marked by the seemingly undisturbed tropical forests and the bustling coffee plantations, respectively.

As indicated above, Haeckel was inspired by Humboldt's plant physiognomy and aesthetic landscape characterisation.³⁵ This representational

³³ Hannes Bergthaller, 'Humans', *The Cambridge Companion to Literature and the Anthropocene*, ed. John Parham, Cambridge 2021, pp. 211–25 (p. 212). Cf. Hubert Zapf's claim that '[h]uman culture and consciousness have evolved from but cannot be reduced to matter and bodily nature: they are matter or nature becoming self-aware', see Hubert Zapf, 'Creative Matter and Creative Mind', in *Material Ecocriticism*, ed. Serenella Iovino and Serpil Oppermann, Bloomington and Indianapolis 2014, pp. 51–66 (pp. 55–6).

³⁴ Erika Krause, 'Zur Popularisierung der Biologie unter dem Einfluß Ernst Haeckels', in *Popularisierung der Naturwissenschaften*, Berlin 2002 (translated by me); *Deutsche Rundschau*, ed. Julius Rodenberg, Berlin, February to December 1882; Ernst Haeckel, *Indische Reisebriefe*, 1st edn, Berlin 1883.

³⁵ Christoph Kockerbeck, *Die Schönheit des Lebendigen: Ästhetische Naturwahrnehmung im 19. Jahrhundert*, Vienna 1997, pp. 28–9; Kleeberg, *Theophysis* (note 20), pp. 38–57.



Figure 1. 'Farnbäume bei Nurellia, Ceylon' (15. Februar 1882). © Ernst-Haeckel-Archiv Jena (EHA Jena), Bestand H-522. Published courtesy of Friedrich Schiller Universität Jena.

method included creating a more realistic portrayal of organic forms and promoting an understanding of their relationship to their surroundings, which would, in turn, reveal a 'characteristic' effect of the landscape.³⁶ For example, a tree fern was to Haeckel uniquely representative of the tropical forest environment in Ceylon. Hence, while travelling, he selectively chose to sketch it (see Figure 1). Later in the travel narrative, he would describe it in relation to its form and surrounding environmental relations (*IR*, pp. 351–2). It is therefore clear that Haeckel favoured the effective stimulation of the reader's imagination of the Ceylonese highland forests over the actual impression of the thousands of unfamiliar species observable there. Deciding to portray a 'representative' plant made imagining the Ceylonese tropical environment easier for lay readers in Europe, who would certainly have been overwhelmed by the actual wealth of diversity observable

³⁶ Humboldt and Bonpland, *Ideen zu einer Geographie* (note 18), pp. 28–32.

there. This was also what contemporary reviewers praised about Haeckel's narrative. In the *American Naturalist*, one commentator wrote that Haeckel

never fails to record in enthusiastic terms the endless variety and richness of the tropical forest, which he studied with pencil in hand, and repeatedly photographed; until the impressions the reader obtains are perhaps more vivid than if the description had been prepared by a specialist in botany.³⁷

The selective technique stimulated an imagination of the underlining beauty of Nature and a scientific understanding of its 'wholeness'.

Haeckel takes Humboldtian plant physiognomy a step further by letting it become part of his own heavily subjective evaluation of the aesthetic appeal of the landscape and its organisms that he observes in Ceylon. To him, tropical climates would host the most scientifically and aesthetically interesting forms of organisms and it was thus his primary objective to see tropical landscapes for himself on the journey to Ceylon:

Denn innerhalb der Wendekreise [der Tropen] allein entwickelt unter dem gesteigerten Einflusse des Sonnenlichts und der Sonnenwärme sowohl die Tierwelt als die Pflanzenwelt unsrer Erde jenen höchsten und erstaunlichsten Formenreichtum, von dem die Fauna und Flora unsrer gemäßigten Zone nur als ein schwacher und farbloser Abglanz erscheinen. (*IR*, p. 4)

Haeckel fuses his own perception of aesthetic beauty with his scientific concept of evolutionary development and with a diverse range of forms. Beauty and natural history would go hand in hand in his portrayals of nature in Ceylon, and the more varied and developed, the more beautiful was the scene he observed. His paleontological stem trees of the plant kingdom (see Figure 2, from the fourth edition of *Natürliche Schöpfungsgeschichte*) reveal the same two factors of natural beauty, namely a *long* developmental past running vertically and therefore in a 'temporal' sense, and a *broad* range of branched forms running horizontally in a 'spatial' sense. The 'Anthropozoic Age' of the present day is also represented here. Because of its longest history and most extended possible development, this last paleontological age also has the greatest potential range of different organic forms in the landscape. On the stem tree, we find the tree ferns as representative of the cryptogamic plants, which are on one of the oldest branches of the current plant kingdom. Haeckel's description of the tree fern of Ceylon is thus not merely unique in and of itself; it is representative of how the long developmental past reaches its full range of form in the tropics, resulting in a positive aesthetic evaluation of the hill forest landscape on Ceylon:

Die prachtvolle Waldvegetation, welche die engen Schluchten erfüllte, glänzte im frischesten Grün und namentlich die herrlichen Guirlanden [*sic*]

³⁷ 'Haeckel's Visit to Ceylon', *The American Naturalist*, 17/9 (1883), 956–8 (957).

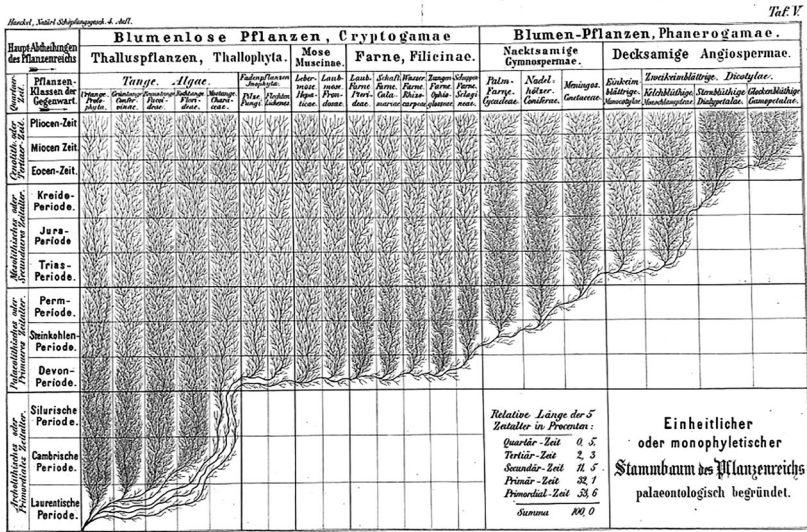


Figure 2. 'Einheitlicher oder monophyletischer Stammbaum des Pflanzenreichs, paleontologisch begründet', in Ernst Haeckel, *Natürliche Schöpfungsgeschichte*, 4th edn, Berlin 1873.

der Schlingpflanzen, welche von den mächtigen Schultern der hohen Bäume gleich grünen Kränzen herabhangen, erregten auf's Neue unser Entzücken. [...] Ganz besonders aber bewunderten wir die prächtigen Baumfarne (*Alsophila*), diese Palme der Hochlandsluchten. Ihre schirmförmigen, zierlichen Fiederkronen mit den gewaltigen und doch so zarten frischgrünen Wedeln bildeten die schönsten Schattendächer über den schäumenden Wasserfällen, über deren Felsenbecken ihre schlanken, schwarzen Stämme sich zwanzig bis dreißig Fuß erhoben; einzelne Prachtexemplare erreichten hier sogar die seltene Höhe von fünfundvierzig bis fünfzig Fuß und darüber. Es war das letzte Mal, daß ich mich an solchen großartigen Farnbüden erfreute; denn weiter unterhalb an den Bächen waren sie viel unansehnlicher und kleiner, und beim weiteren Herabsteigen in das Tiefland verschwanden sie bald ganz. (*IR*, pp. 351–2)

Superlative adjectives of splendour mark an aesthetic evaluation of the tropical forest, and the small size and scarcity of ferns lower down and towards less diverse areas indicate the opposite. Haeckel's assessment of a landscape is thus dependent on the wealth of organic forms; as he moves further away from the tropical forests of the hill districts, ferns appear less often and their forms are less attractive. Consequently, the environment becomes less aesthetically interesting.

Haeckel deliberately devotes less narrative space to places that do not match his aesthetics. These are recognisable by his use of adjectives of opposite connotations, often appearing monotonous. Sometimes, these landscapes would naturally appear this way. This was the case with those he observed in the endless stretches of the Egyptian desert on his journey to and from Ceylon via the Suez Canal (*IR*, pp. 31–4, 375–7). Most often, however, they were cultivated landscapes with long rows of short-cut crops, as seen in the coffee districts of the Ceylonese highlands. To highlight this, Haeckel deliberately separates his portrayals of the cultivated parts of the hill districts from other, less cultivated areas. For example, there is a chapter devoted solely to the cultivation of coffee in the hill region ('Die Kaffee-Districte des Hochlandes', *IR*, pp. 279–94). Furthermore, in a chapter explicitly delineating the time he spent in what he calls the most remote area of Ceylon's highlands ('Am Ende der Welt', *IR*, p. 340), a short passage describing the burning of grass is specifically separated from other passages describing the pristine tropical forest:

Die singhalesischen Gebirgshirten [...] haben nämlich die Gewohnheit, vor Eintritt der Regenzeit die Grasflächen anzuzünden und niederzubrennen, um dadurch das Grasland zu verbessern. Wir genossen jeden Abend das prachtvolle Schauspiel dieser ausgedehnten Präriebrände, die sich bei dem wellenförmigen Hügelterrain der Hochebene und inmitten der dunklen Wälder, die die Patnas umschließen, doppelt großartig ausnahmen. Bald kroch die rote Flamme im Zickzack gleich einer feurigen Riesenschlange an den Bergkanten hinauf; bald ergriff sie, rasch sich ausbreitend, eine größere Fläche trockenen Grases und schuf ein Flammenmeer, dessen roter Glanz von den düsteren Wäldern des Hintergrundes und den dunkeln Wolkenmassen des Firmamentes zurückgeworfen wurde. Dann wieder stiegen Hunderte von kleinen weißen Rauchwolken aus den Patnas aus, als ob heiße Geisirquellen aus dem Schoße des Gebirges hervorbrächen; und die roten hellen Feuerstreifen, welche dieselbe blitzartig durchzuckten, vermehrten die vulkanische Illusion. (*IR*, pp. 346–7)

Haeckel's description of the human use and cultivation of the landscape lends animating words to the fire from biology and the human world of art and aesthetics. His view of the practice of burning the greenery by the herdsmen is an 'illusion' created by a theatrical display of sorts. Hence, he keeps the human cultivation of this landscape in the realm of the artificial, something violating the true character of the tropical forest landscape that he will later describe. Haeckel deliberately chooses to separate this evening picture in form and value from his following characterisation of the pristine forest. Here, Haeckel sketches a beautiful literary picture in front of him and jokingly questions how the European experience of 'Waldeinsamkeit' – seeking a sense of solitude in woodlands – could ever be compared to 'der wahren und unergründlichen Waldeinsamkeit, welche hier die alten Urwälder im Hochlande von Ceylon uns darbieten? Hier sind wir sicher, in

Wahrheit ganz allein mit der ursprünglichen Natur zu sein' (*IR*, p. 347). This is a highly romanticised conception of the scene, appearing rather ironically at a position in the text just after the description of herdsmen burning the greenery. The deliberate portrayal of a pristine forest is also fully in line with Haeckel's earlier understanding of 'true' landscape characterisations, remarking in his school assignment from Merseburg that it can only be made where 'Culture' has not attacked or at least not fully suppressed 'die *ursprüngliche*, jungfräuliche Natur' (emphasis added).³⁸ The physiognomy of tropical forest landscapes was subjectively selected by the scientific observer and Romantic artist rolled into one. Otherwise, Haeckel could not reveal the extent to which Nature had developed its beautiful organisms. Portraying cultivated landscapes would indicate that transformative acts of destruction by humans had taken place, and thus he simultaneously emphasises and critiques the unnaturalness of human actions.

Haeckel's choice of aesthetically separating Nature and Culture as a tool for critiquing cultural developments is even more evident in an additional chapter inserted in the 1893 edition of his travel narrative, which describes Ceylon's indigenous inhabitants. He separates these people as 'Naturweddas' and 'Culturweddas', the former being those still in the tropical hill forests and the latter those living in villages.³⁹ As Perry Myers has noted, Haeckel foregrounds the 'Naturweddas' in his depiction and evaluates them as the more interesting of the two groups.⁴⁰ Indeed, Haeckel highlights their high morals, their attentiveness to their small families and their intricate relationship to their surroundings, their 'Oecologie'.⁴¹ To Haeckel, these amicable qualities reveal their closeness to their natural surroundings. As the preceding chapter ('Am Ende der Welt') framed the tropical forest environment they lived in, Haeckel's description of the Veddas could produce a more complete typography of the organisms lending aspects to the original diversity and historical wealth of the highland forests of Ceylon. Just as the old tree ferns indicate their landscape's tropical character and represent a long developmental past, so too the 'Naturweddas' are most interesting to Haeckel because they are what he calls a 'Denkmal primitiver Menschenbildung'.⁴²

In choosing this static and idealised model, specifically one single memorial, Haeckel follows many contemporary poets, travel writers and artists whom postcolonial critics of travel writing, for example, Mary Louise Pratt, have denounced for creating a too naïve, idealised and melancholic

³⁸ Haeckel, 'Der Ästhetische Einfluß' (note 25); cf. Pahnke, 'Ernst Haeckels frühe botanische Studien' (note 25), pp. 257–8.

³⁹ Ernst Haeckel, *Indische Reisebriefe*, 3rd edn, Berlin 1893, p. 363.

⁴⁰ Perry Myers, 'Monistic Visions and Colonial Consciousness: Ernst Haeckel's Indische Reisebriefe', *Seminar: A Journal of Germanic Studies*, 44/2 (2008), 190–209 (200–1).

⁴¹ Haeckel, *Indische Reisebriefe*, 3rd edn (note 39), pp. 366, 382–3.

⁴² *Ibid.*, p. 387.

picture of the development and disappearance of indigenous peoples during the colonial and imperial eras.⁴³ Indeed, some critics have noted how the early-to-mid-nineteenth century travel narratives of Haeckel's idols Humboldt and Darwin tended to conceive of racial differences by blending 'the cultural with the biological, rendering superficial variations as manifestations of an inner essence'.⁴⁴ Haeckel takes these tendencies a step further by depicting the Veddas in the more schematically racialised manner of late nineteenth-century anthropology (something he shared with contemporary anthropological lectures on the Veddas such as those by his former mentor Rudolf Virchow).⁴⁵ However, Haeckel also clearly sympathises with those still living in the tropical forest, because, in comparison to 'cultured humans', they appear closer to the natural world and the necessities that this life brings: 'Gegenüber diesen Lichtseiten des naiven Weddacharakters erscheinen seine Fehler größtenteils als die notwendigen Schattenseiten: Vor allem ausgeprägte Fremdenschau und tiefe Abneigung gegen die Culturmenschen (– meiner Meinung nach sehr berechtigt!), hartnäckiger Trotz, ferner große Reizbarkeit und Jähzorn (besonders wenn sie verspottet oder ausgelacht werden)'.⁴⁶ He bemoans the changes happening to the Veddas as the influence of 'Culture' changes the character or state of their habitats, habits and views of life, just as cultivation of the forest resulted in changing it. The Veddas' gradual

⁴³ See the critique of Alexander von Humboldt's portrayal of 'primeval' environments and disappearances of indigenous peoples in Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation*, London and New York 1992, pp. 126–7.

⁴⁴ It is important to underline, however, that such conceptions may have led to important scientific realisations and that both Darwin and Humboldt were politically against slavery and horrified at the treatment of indigenous people in the colonies they visited. See Joseph L. Yannielli, 'A Yahgan for the Killing: Murder, Memory and Charles Darwin', *The British Journal for the History of Science*, 46/3 (2013), 415–43 (436); Nigel Leask, 'Darwin's "Second Sun": Alexander von Humboldt and the Genesis of The Voyage of the Beagle', in *Literature, Science, Psychoanalysis, 1830–1970: Essays in Honour of Gillian Beer*, ed. Helen Small and Trudi Tate, Oxford 2003, pp. 13–36 (pp. 25–30); Cf. Gillian Beer, *Open Fields: Science in Cultural Encounter*, Oxford 1996, pp. 24–7.

⁴⁵ Myers, 'Monistic Visions and Colonial Consciousness' (note 40), notes that Haeckel's representation of the Veddas reveals how the 'harder, more social-Darwinist aspect of his monist model becomes manifest [in the travel narrative]', see 200. However, in Haeckel's notes from an 1882/3 lecture, which would help structure the chapter inserted into the 1893 edition (EHA B 109 1–41), he bases his representation on scientific writings from acknowledged contemporary ethnographers and anthropologists, e.g., Rudolf Virchow's *Über die Veddas von Ceylon und ihre Beziehungen zu den Nachbarstämmen*, Berlin 1881, EHA VI 2. Among other works, Virchow's article likely inspired Haeckel's descriptions of Vedda-skulls. Haeckel writes in his travelogue that the skulls are generally 'lang und schmal', the nose is 'mit tiefem Sattel [...] und breiten Flügeln' and the face is 'niedrig' (p. 365; cf. Virchow, *Über die Veddas*, pp. 46, 54, 56). However, Haeckel's chapter distinguishes itself from Virchow's in that it explicitly tries to confirm humanity's ape origins and the Veddas' closeness to 'anthropoiden Affen' (p. 383). Despite later becoming famous for opposing the use of racial categorisations in relation to antisemitic sentiments, Virchow also remarks that a photograph confirms that two male Veddas look 'klein und affenartig' (see Virchow, *Über die Veddas*, p. 44). As exemplified by Virchow, even opponents of monism could not completely evade the influence of contemporary anthropological discourses.

⁴⁶ Haeckel, *Indische Reisebriefe*, 3rd edn (note 39), pp. 382–3.

'cultivation' leads them away from their natural environment, the tropical forest. Ironically, the aesthetic separation of 'Nature' and 'Culture' thus serves as a critique of human, cultural practices that are out of balance with their natural environment. What is important to note, however, is that Haeckel has matched the 'Naturweddas' with amicable qualities fit for a bourgeois European audience, thus allowing his readers to recognise the Veddas' compatibility with his picture of the pristine state of Ceylonese tropical forests. Without denying Haeckel's sincere sympathy with the indigenous inhabitants, he has nevertheless generalised his picture of the Veddas to fit them into his own aesthetic-scientific picture of the tropical forest and its long natural history. In this way, his characterisation of the Veddas echoes a tendency evident in today's media describing the Anthropocene. Elizabeth M. Deloughrey argues that the media often present the 'Age of Man' in an undifferentiated way, thereby erasing the social, cultural and gender differences between humans.⁴⁷ This makes people across the world appear to be similar, although the consequences of the Anthropocene and of people's experiences within it are highly variable. As can often happen in natural history, portraying our species' varied experiences and developments as one global natural phenomenon can lead to undifferentiated universalisations. Yet, just as we humans tend to imagine the fates of different individuals within an endangered species as being identical to each other, these individuals might also perceive more similarities than differences in us. However one perceives humanity's natural history, difficult questions concerning universalisation and anthropocentrism thus arise.

Haeckel represents Ceylon's cultivated landscapes and their 'natural history' in a different, less Romantic style. In the Ernst-Haeckel-Archive in Jena, photographs can be found that the author collected in Ceylon. They reveal an interest in British imperial production and practice. In opposition to all his self-made sketches and paintings from the island, they include motifs of intensified cultivation brought on mainly by colonisation, for example, large paddy fields, coffee production and various fruit plants.⁴⁸ In a photograph from the coffee districts of the highlands (see Figure 3), the foreground depicts Tamil labourers and British cultivators. The background reveals both cultivated plants and burnt and cut-down trees. In the travel narrative, Haeckel's interest in the colonial practice is sketched out in a literary sense when he describes the ecology of the monocultural lands and explains why coffee production has been vanishing across the island. Haeckel bases his knowledge of the plantations on the up-to-date *Ceylon Directory* (1882) with 'much useful information referring to the planting enterprise', offering a summary of the coffee plant destruction currently visible in the highlands. Here, a fungus is described as a 'disease'

⁴⁷ Elizabeth Deloughrey, *Allegories of the Anthropocene*, Durham and London 2019, pp. 10–11.

⁴⁸ See photographs in EHA K (Karton 46, unnumbered).



Figure 3. 'Ceylon. Kulies Kaffee siebend'. © Ernst-Haeckel-Archiv Jena (EHA Jena, Bestand K, unnumbered). Published courtesy of Friedrich Schiller Universität Jena.

performing an 'operation' on the island's coffee production, with every pair of years showing 'a worse outturn than their predecessors'.⁴⁹ To Haeckel, however, the fungus is not merely seen in the economic light of cultivators but is also lent its own historical and biological agency. Haeckel writes that in 1817 most of the highlands were impossible for Europeans to cross because their centre was covered by forest, but in:

verhältnismäßig kurzer Zeit [...] hat sich dieser Charakter des Hochlandes völlig verändert. Im Jahre 1825 legte der verdienstvolle Gouverneur Sir Edward Barnes die erste Kaffeepflanzung im Hochlande in der Nähe von Peradenia an und wies nach, daß Boden und Klima daselbst für die Kaffeecultur außerordentlich günstig seien. Ermuntert durch sein Beispiel, angespornt teils durch die lockende Aussicht auf hohen Gewinn, teils durch die eigentümliche Romantik des Hochlandlebens drang jetzt ein ganzes Invasionsheer von Kaffeepflanzern in die Urwälder des Gebirges ein und verwandelte in weniger als zwanzig Jahren mit Hilfe von Axt und Feuer den größten Teil derselben in einträgliche Kaffeepflanzungen. An den steilen Abhängen der Berge wurden ganze Wälder dadurch niedergelegt [...]. Der Ertrag derselben war so reichlich, und die ganze Kaffeecultur wurde durch zufälliges Zusammentreffen von glücklichen handels-politischen

⁴⁹ 'The Planting Enterprise in Ceylon', *The Ceylon Directory; Calendar, and Compendium of Useful Information* (Colombo 1882), EHA IX 312, pp. 1–67 (pp. 1, 11).

und commerciellen Verhältnissen so ausnehmend begünstigt, daß schon zwanzig Jahre nach dem ersten Anfang, 1845, die Kaffeespeculationen eine schwindelhafte Höhe erstiegen hatten. Natürlich blieben die Rückschläge, die stets auf solche übertriebenen Speculationen folgen, nicht aus. [...] Auch machten sich, wie es bei allen Culturpflanzen früher oder später geschieht, bald zahlreiche und gefährliche Feinde geltend, die den Kaffeepflanzungen großen Schaden brachten, teils Tiere, teils Pflanzen und Protisten: so namentlich die gefräßigen Golundaratten (*Golunda Elliotti*) und die gefährlichen Kaffeeschildläuse (*Lecanium Coffeae*), ferner verschiedene vegetabilische Parasiten. In den letzten zehn Jahren wuchsen zunehmend die Verwüstungen durch den weitaus gefährlichsten Feind, einen mikroskopischen Pilz, die *Hemileja vastatrix*; die durch ihn bewirkte Krankheit der Kaffeeblätter hatte gegenwärtig solche Dimensionen angenommen und hatte sich als so unheilbar erwiesen, daß in vielen Pflanzungen die Kaffeecultur ganz aufgegeben worden war. (*IR*, pp. 282–4)

Haeckel uses words such as ‘Verhältnisse’ that have become ‘begünstigt’, which are reminiscent of phrases from Hermann Bronn’s original translation of Darwin’s *On the Origin of Species* (*Über die Entstehung der Arten*).⁵⁰ These exemplify a view of the ecological happenings in hill districts as factors that initiate evolution. This idea was already apparent in Haeckel’s second coinage of ecology from 1870, where he wrote that an investigation of an organism’s environment should not merely focus on its climate and soil but also include observing ‘die freundlichen und feindlichen Beziehungen zu denjenigen Thieren und Pflanzen, mit denen es in directe oder indirecte Berührung kommt’, meaning the total ‘verwickelten Wechselbeziehungen, welche Darwin als die Bedingungen des *Kampfes um’s Dasein* bezeichnet’.⁵¹ Haeckel’s passage on the fungi attack gives narrative agency to non-human organisms, who become the evolutionary antagonists to the district’s present occupiers, the cultivated plants. These have the power to transform the landscape that was otherwise characterised by ‘Kaffeecultur’. This situates the fungi in a similar ‘struggle for existence’ to that of the humans who had earlier ‘invaded’ the place and transformed the entire physiognomic character of the forest landscape. By drawing parallels between the destructive actions of humans and non-humans towards their environment, the comparatively short era of ‘Culturpflanzen’ becomes part of the otherwise long developmental history and natural system reflected in the Ceylonese hill landscape.

⁵⁰ Charles Darwin, *Über die Entstehung der Arten im Thier- und Pflanzen-Reich durch Natürliche Züchtung, oder, Erhaltung der Vervollkommeneten Rassen im Kampfe um’s Daseyn*, tr. H. G. Bronn, Stuttgart 1860, chapters 4, 11–12 (‘Natürliche Züchtung’ and ‘Geographische Verbreitung’); Charles Darwin, *On the Origin of Species by Means of Natural Selection, or, the Preservation of Favoured Races in the Struggle for Life*, 1st edn, London 1859, chapters 4, 11–12 (‘Natural Selection’ and ‘Geographical Distribution’).

⁵¹ Ernst Haeckel, ‘Rede gehalten beim Eintritt in die philosophische Facultät zu Jena, am 12. Januar 1869’, *Studien über Moneren und andere Protisten, nebst einer Rede über Entwicklungsgang und Aufgabe der Zoologie*, Leipzig 1870, p. xv.

THE FUTURE OF THE ANTHROPOZOIC AGE

In the chapter on the coffee-growing districts, Haeckel first admits to his readers that he was not looking forward to portraying the monocultural lands that he would have to cross to get to the remotest areas of Ceylon. Only these remote areas would reveal to him the beautiful organic diversity of the forests that he had hoped to see, writing 'ich musste schon ziemlich weit [durch die Kaffee-Districte] wandern, um noch ein größeres Stück desselben in seiner ursprünglichen jungfräulichen Beschaffenheit kennenzulernen' (*IR*, pp. 284). Eventually, however, walking through the coffee districts 'erwies sich [...] weit unterhaltender' than Haeckel had anticipated (*IR*, p. 287). He first seems to find solace in the mountain ravines diversifying or punctuating the monotonous picture of the heavily agricultural lands. But not only that – newly cultivated plants also seem to diversify the image:

Übrigens ist auch der Anblick der Kaffeepflanzungen selbst ganz hübsch. [...] Die schönen, dunkelgrünen, glänzenden Blätter bilden ein dichtes Dach, auf dem die Büschel der duftenden weißen Blüten und der dunkelroten kirschenähnlichen Beeren anmutig zerstreut sind. Auf ausgedehnten Strecken findet man jetzt, mit dem ursprünglich herrschenden Kaffee abwechselnd, den duftigen Teestrauch und den schlanken Cinchonabäum, beide ebenfalls mit zierlichen weißen Blüten geschmückt. (*IR*, pp. 289)

To adapt to the fungal destruction of the coffee crops, new plants are cultivated by the planters, which also diversifies the landscape. Haeckel proceeds to give a short physiognomic description of the cultivated plants along with his favourite adjectives associated with the picturesque, such as 'hübsch', 'glänzend' and 'duftig'. These words are not dissimilar to those he would use to describe the productions of the tropical forest in their spatial diversity. However, the tree ferns were represented with more superlatives ('frischesten', 'schönsten', *IR*, pp. 351–2). What is more, Haeckel has essentially marked the new beginning of a cultural period in the history of the landscape, mimicking its temporal development – but with a higher velocity when compared with the prolonged action necessary to produce the diverse organisms of the tropical forests. Of course, it may seem ironic that the coffee is described as the original occupant ('ursprünglich herrschend') of the soil. Previously, Haeckel had described the cultivators' attack on the forest landscape, which he in his 'Waldeinsamkeit' of the tropical forests called an 'ursprüngliche Natur' (*IR*, p. 347). Likewise, the forest's development into a state of beautiful diversity predated by far the cultural diversification now visible in the otherwise monocultural lands. Within his description of a landscape encapsulating a long evolutionary past, he thus presents a shorter era of cultivation with its own starting point of monoculture.

The question arises of how Haeckel can lend an aesthetic to cultural landscapes while simultaneously finding the destruction of the indigenous lands and disappearances of their peoples so terrible. These two images, those of a destructive ending and a promising new beginning, are evaluated in a discrepant manner, which is inconsistent with a Romantic aesthetic framework like his which favours cosmos over chaos. Nor is it consistent with the evolutionary interpretation of seeing 'Culture' solely as part of the natural developments of the organic world. It is compatible, however, with Haeckel's notions of the Anthropozoic Age as seen in *Generelle Morphologie*. He divides this between an older, more primaevial quaternary period, and a more recent 'Cultur-Zeit', where the latter is again divided into two: firstly, the so-called 'Dueiistische [*sic*] Cultur-Zeit', and secondly, the 'Monistische Cultur-Zeit'.⁵² Without indicating at which point in the Anthropozoic Age his contemporary (European) world was, other works suggest that he saw himself living in a threshold era on the way to conceiving the world 'monistically' rather than 'dualistically'. In his late work *Die Lebenswunder* (1904), for example, Haeckel writes that a truly cultural future society would eventually direct itself towards our improved knowledge of Nature; this education would serve to provide all humans with a happy existence; there would be a perfected morality without any dogmas; wars would be unnecessary and would cease, and the dominating character of the church would disappear.⁵³ In this way, the fact that Haeckel's travel narrative portrays a literary image of more balanced and increasingly diverse cultivation next to an earlier description of destruction could indicate an optimistic hope for a gradual move into a more monist line of thought, where the natural sciences would help humanity to work along with, and not opposed to, the rest of their natural environment.

In other chapters in the travel narrative, we find similar optimistic notions of humanity's capacity to change its dualistic views to a monistic one. For example, on top of Adam's Peak, a mountain sacred to many different and old 'dualistic' religions in Ceylon, Haeckel commemorates the 'Geburtstag des großen Reformators der Naturwissenschaft', Darwin (*IR*, p. 325). He heralds thereby a modern, more science-directed era, as another enlightened prophet on a mountain. Representing himself as a prophet was not unusual or something that Haeckel himself came up with. As a New Year's wish in a jesting and morbid 'English fashion', T. H. Huxley wrote in December 1874 to Haeckel wishing that his 'shadow never be less' and that all his enemies, those 'unbelieving dogs who resist the Prophet of Evolution', should 'be defiled by the sitting of jackasses upon their

⁵² Haeckel, *Generelle Morphologie* (note 24), p. 319.

⁵³ Haeckel, *Die Lebenswunder* (note 8), pp. 529–59; Cf. Rolf Winau, 'Ernst Haeckels Vorstellungen von Wert und Werden menschlicher Rassen und Kulturen', *Medizinhistorisches Journal*, 16/3 (1981), 270–9.

grandmothers' graves!'⁵⁴ Among Darwin supporters, the prospect of a new 'evolutionary era' in the life sciences overshadowed current intellectual ignorance and stupidity. As seen in his *Lebenswunder*, however, Haeckel did not envision this coming era as happening only in the world of academia. Through progression to monism, the new point in history would see significant socio-environmental, philosophic and spiritual improvements. Despite seeing the destructive setbacks of intense cultivation by human activity in the coffee-producing districts of Ceylon, Haeckel's worldview promised him an eventual perfection. Destruction and imperfection would necessarily be followed by more beautiful and highly developed states of the natural world.

CONCLUSION

In *Indische Reisebriefe*, Haeckel's portrayals of the hill districts of Ceylon offer a fascinating insight into how the accelerating presence of human activity on Earth has been imagined through the lens of a nineteenth-century naturalist. Seeing landscapes with continuous attention to evolutionary morphology, his portrayals reveal an understanding of humanity as part of, yet estranged from, the rest of the natural world. Haeckel's descriptions fuse Romantic aesthetics, material bluntness, ecological awareness, racial anthropology and monistic philosophy which expose both his critiques and his hopes for humanity's contemporary and future relationship with Nature. Today, this cautions us that we should be attentive to how seemingly neutral scientific concepts are constantly in dialogue with both observable and invisible physical phenomena and the discourses and cultural representations of their contemporary times. As Eva Lövbrand, Malin Mobjörk and Rickard Söder have written, the Anthropocene can already be considered as having an extensive 'discursive cartography' and is used in different natural-cultural situations and with different geopolitical, activist and even commercial intentions in mind.⁵⁵ Haeckel's early literary representation of the Anthropozoic Age therefore reminds us to be aware of what contexts the Anthropocene is used in and to continuously question its modes of propagation.

Although we may look back at Haeckel's *Indische Reisebriefe* as telling of its own scientific, socio-political and cultural day, it is clear that Haeckel saw the positive potential for learning, changing views of life and adapting to new ways of living when faced with the destruction of the Ceylonese ecosystems. Current ethical and political debates concerning the

⁵⁴ *Life and Letters of Thomas Henry Huxley*, ed. Leonard Huxley, 3 vols, 2004, II, chapter 2.5 (1874), Project Gutenberg <<https://www.gutenberg.org/ebooks/5226/pg5226.html.utf8>> (accessed 19 November 2022).

⁵⁵ Eva Lövbrand, Malin Mobjörk and Rickard Söder, 'The Anthropocene and the Geo-Political Imagination: Re-Writing Earth as Political Space', *Earth System Governance*, 4 (2020), 1–8 (3–6).

Anthropocene also question what implications naming the new geological epoch after ourselves will have for our understanding of our future actions towards the environment. In this regard, Kate Rigby has written that it is a shame that more environmental disasters are not seen 'as true catastrophes: that is to say, opportunities for deeper understanding and, potentially, new directions'.⁵⁶ Confronting the destruction of the tropical forests in the Ceylonese hill districts with his hopeful visions of a future beyond a Nature-Culture dualism, Haeckel's travel narrative offers a historical example of such hopes.

⁵⁶ Kate Rigby, *Dancing with Disaster: Environmental Histories, Narratives, and Ethics for Perilous Times*, Charlottesville 2015, p. 18.