Making a Theme Audible

Imparting Non-Discursive Knowledge in Natural Philosophy by Means of Poetry and Aphorism

Norman Sieroka[*]

ABSTRACT: This paper is about poetry as a vehicle for imparting knowledge in natural philosophy. It discusses the epistemological and cultural background against which early Greek thinkers such as Parmenides and Empedocles composed in verse, and it explores the rationale why poetry was thought to be a preferred means for transmitting important and often non-discursive knowledge about nature—in other words, how poetry was meant to make "a philosophical theme audible," to prompt an insight that organizes a large field of experience. Much later, related assumptions find a (last) heyday in Goethe's attempt to write a *Naturgedicht* in the vein of Lucretius. Even though new insights especially from classical German philosophy influenced Goethe, his reasons for writing nature poetry show striking continuities with those of his ancient peers. The paper ends with a brief look at later attempts to "make philosophical themes audible" in the context of an ever-increasing fragmentation of knowledge.

Keywords: nature poetry, early Greek philosophers, Goethe, imparting knowledge, intuitive understanding

ZUSAMMENFASSUNG: Dieser Aufsatz beschäftigt sich mit Poesie als einem Instrument zur Vermittlung von Wissen in der Naturphilosophie. Es wird der erkenntnistheoretische und kulturelle Hintergrund erörtert, vor dem frühgriechische Denker wie Parmenides und Empedokles in Versen schrieben, und es wird untersucht, warum die Versform als bevorzugtes Mittel zur Vermittlung wichtiger und oft nicht-diskursiver Erkenntnisse über die Natur angesehen wurde. Es geht insgesamt darum, wie Poesie „ein philosophisches Thema hörbar" machen sollte, um eine Einsicht hervorzurufen, die ein großes Erfahrungsfeld strukturiert. Sehr viel später finden ähnliche Überzeugungen eine (letzte) Blütezeit in Goethes Versuch, ein Naturgedicht im lukrezischen Sinne zu schreiben. Auch wenn neue Erkenntnisse vor allem aus der klassischen deutschen Philosophie auf Goethe einwirkten, zeigen seine Beweggründe, weiterhin Naturdichtung betreiben zu wollen, auffallende Kontinuitäten zu den Denkern der Antike. Der Aufsatz endet mit einer kurzen Darstellung späterer Versuche, weiterhin „philosophische Themen hörbar" zu machen, während gleichzeitig die Fragmentierung von Wissen zunimmt.

Stichwörter: Naturgedicht, frühgriechische Philosophie, Goethe, Wissensvermittlung, intuitiver Verstand

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[*] Professor of Theoretical Philosophy, University of Bremen, Institute of Philosophy, Postfach 330 440, 28334 Bremen, Germany – sieroka@uni-bremen.de

Norman Sieroka

> "All our attention must be directed to
> listening in on nature's procedures."
> (Goethe)

1. Introduction

Why worry about using poetry to impart philosophical knowledge? Isn't this simply an odd cultural convention found in the fragments of some early Greek philosophers? The following is meant to suggest that it is not. Historically, the use of poetry was not a quirk; rather, it can be understood as a struggle for finding a way of expressing philosophical insights—more specifically, of finding a way to induce intuitive, certain, and often non-discursive or even tacit knowledge about nature. Moreover, this attempt was not restricted to the early Greek era. The belief that poetry is an appropriate medium persisted throughout Western history from antiquity to the modern period.[1] To show important continuities and changes in this history, the present paper will focus on the two "ends" of this history: the works of some of the early Greek philosophers and of Goethe, whom I take to be the last important exponent of writing nature poetry with this special philosophical ambition. I will conclude with some brief remarks on the aftermath of all this—in particular, on some of the more recent attempts to employ aphorisms and fragments, instead of scholarly prose, for imparting knowledge in philosophy.

By discussing this historical development, the present paper aims to shed light on the following three issues of current philosophical relevance.

First, the paper is meant to add to recent discussions of Goethe's natural philosophy. Here Eckart Förster has distinguished between a Schellingian-type natural philosophy and a Goethean approach.[2] As it will turn out below, the adherence of the latter to something like a *scientia intuitiva* fits in strikingly well with the idea of using poetry as a means of conveying philosophical knowledge about nature.[3]

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[1] The point is not to deny that philosophical poems about nature do have discursive or propositional content. Lucretius' *De rerum natura*, for instance, obviously contains genuine arguments and even demonstrations. However, the point is that there are other aspects (aspects of persuasive power, experiential immediacy, etc.) which are non-discursive, which are important in the context of gaining knowledge about nature, and which figure prominently in poems. See also Hadot 2004, 201-210, where he discusses poetry as a specific means to unveil secrets about nature.

[2] Förster 2012 and 2014; see also Haag & Wild 2013.

[3] Thus, this paper touches on topics important in the context of romanticism (such as the general relationship between the human subject and objects of nature). However, the paper is not meant as a scholarly contribution to the ongoing debate about the extent to which (or

Second, on a more general level, the use of specific genres or writing styles in philosophy is of interest in relation to questions about the discursiveness and propositionality of knowledge. This has been discussed especially in relation to the aphoristic and fragmentary styles of Nietzsche and the later Wittgenstein, and thus outside a specific philosophy of nature.[4] However, philosophically inspired nature poetry is similar in character here. To put it in terms of the earlier Wittgenstein, instead of *saying* that such and such is the case, aphorisms, fragments, and poems are meant to *show* something.[5] They impart intuitive rather than discursive knowledge—a knowledge neither strictly demonstrative nor conceptually inferred but that, once grasped, comes with subjective certainty and covers an infinity of cases and transitions.[6] A large field of experience is suddenly organized by a kind of induced "aha" moment. The recipient, as it were, immediately recognizes a specific situation and, without actually being in that situation, is confronted with an experiential context that might challenge her or his worldview. Thus, such insights are not about lengthy and nit-picking exposures to textbook knowledge but about an intuitive knowledge of "how to go about things." In this sense, the knowledge gained might even be claimed to be non-propositional: It is indeed a (tacit) *knowledge of* rather than (explicit) *knowledge about* something.[7] Thus, by writing fragments, aphorisms, or poems, philosophical authors often aim for such challenging contexts which bring about experiential, sometimes even therapeutic or revisionary, changes in the recipient.

Third, a closer look at the relation between poetry and natural philosophy is illuminating in the context of discussions of orality and literacy. Standing at the edge of literacy (at least in the Western tradition), early Greek philosophers put their insights into verse for obvious reasons; in particular, to make them memorable and to keep the content stable in dissemination.[8] But these are not the only reasons. Poems rely much more on rhythm and meter than other literary genres. They are more intimately related to sound,

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the exact period for which) Goethe might be classified as being either a romantic or an anti-romantic. See, e.g., Bohm 2003.

[4] See Gabriel 1990 and 2013; Brandt 1985; Frank & Soldati 1989.

[5] See Wittgenstein 1984a (*Tractatus logico-philosophicus*), 6.522 ("Es gibt allerdings Unaussprechliches. Dies zeigt sich"; "There is indeed the inexpressible. This shows itself"). See also the distinction between "apophantic logos" and "narrative myth" in Gabriel 2013, 7.

[6] See Frank & Soldati 1989, 31–2.

[7] See Polanyi 1968.

[8] See Holenstein 2004, 20, for a brief cross-cultural comparison of the historical relationship between natural philosophy and orality, especially about the groundbreaking role played by the Indian *sutra*.

and the recipient is meant to "get into the groove," as it were. As will be discussed below, there is a perceptual immediacy involved, which has to do with integrating—or "harmonizing" in the original sense of the term—the message into one's everyday life. This is different from drawing fine-lined (note the visual, rather than aural, connotation here!) conceptual differences. Accordingly, instead of sticking to Wittgenstein's term "showing," one might use a phrase from Cassirer and say that the poetic form is used to "make a theme audible."[9]

What I mean by "making a theme audible" then is a specific way of making something perceptible. It is not the only way of doing so, but one with special qualities. It involves exposing someone to a domain of phenomena by means of exemplars. Here is nothing like *the* single fundamental case to be shown once and for all, but rather the drawing of attention to the possibilities inherent in individual but various cases. This is where the analogy to music and audition lies: Being exposed to different, but related, sequences of tones, one suddenly perceives them as variations of one another and recognizes a common or underlying theme. Notably, this common theme need not exist separately, need not be written down once and for all, and might be transient in the sounds. (Think of a jazz performance where a standard is played and "varied upon" without "the original" theme ever being played explicitly: One still recognizes the piece and hears what is played as variations.)

This third issue is connected to the second, since such a transient harmonization and integration is not primarily meant to provide propositional truth. It is also linked to the first issue, since for Goethe sound and meter were means to stipulate—or rather: to put into resonant vibration—the relevant (non-discursive) knowledge capacities. Before turning to Goethe, however, let me start off by sketching the background of poetic writing in the early Greek era.

2. Early Greek Poetry: Background, Aims and Scope

Writing in verse might have been an obvious choice in the days when Homer and Hesiod were *the* authorities and models for any kind of philosophical and scientific enquiry.[10] Moreover, long speeches given in prose are difficult to remember and are likely to give rise to instable proliferation. So presenting ideas in poetry made sense in a world where few could read and fewer

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[9] Cassirer 1944, 71. Cassirer uses this phrase in the context of his symbolic forms but unfortunately does not develop the aural connotations.
[10] See Horster & Reitz 2005; see also Most 1999, 342–50 and 356.

possessed books. Most of the people who encountered the works of early Greek philosophers such as Xenophanes, Parmenides, and Empedocles probably *heard* them.[11] They were read to, and for words read out loud, rhythm and meter aid auditors' comprehension and memory.[12] However, such a general observation does not do justice to the philosophical issues of special concern for these early Greek philosophers. It has been convincingly argued that any attempt to account for the presenting of their ideas in poems not only has to talk about the content but also about the literary genre they chose (and about where and how their poems were presented).[13]

Next, it does not come about by chance that those early Greek philosophers who wrote in verse were the ones who were particularly concerned about the fallibility of human knowledge. According to the then received view, *certain* knowledge or "truth" (*alétheia*) is the possession of the gods, whereas humans are typically confined to "mere opinion" (*dóxa*). Thus, for human insights or convictions to become certain, some transmission between the divine and the human sphere is needed. This transmission would require inspiration by a god or a muse.[14] Indeed, the Latin term "inspiration" (Greek: *epí-pnoia*) means "breathing into" and carries both a worldly-physical and a figurative sense,[15] as well as acoustic and aural connotations of resonating air columns and of making themes audible. Thoughts and ideas can be transmitted by inspiration and, putting it the other way round, being inspired means having access to all-embracing (divine) knowledge.

But how to prove that divine inspiration has taken place? Indeed, what counts as external evidence is the form in which knowledge is presented: namely, it has to be sung, spoken, or written in verse. This mode of presentation differed strongly from ordinary daily discourse and prose texts in which people exchanged "mere opinions."[16] "Truth," however, would make itself audible in verse, since no human being would be able to "speak" in perfect verse without divine intervention.[17] Accordingly, the invocation of

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[11] See Havelock 1966; Lord 1960, 94 and 130–8; Ong 2012, 136–44; Goody 1977, 36–51 and 112–28.

[12] See Ong 2012, 36–57.

[13] See Most 1999, 332–62. Besides, the myth of Orpheus might be invoked here as well, namely as exemplifying an old and common belief that poetry has a special power over natural objects.

[14] See, e.g., *Iliad* 2.484–6; *Odyssey* 8.479–81, 12.187–91, 22.347–8; *Theogony* 24–8, 36–9, 104–9.

[15] See Naddaf 2009 and 2012, 188. See also Snell 2011, 127.

[16] See Aristotle 1984 (*Poetics*) 1449a26–8 where he claims that hexameters are furthest away from ordinary speech.

[17] Erren 1967, 11.

the muses within a poem had a licensing function to demonstrate one's teaching abilities and of the trustworthiness of the content presented.

The presentation of an inspired content always has a pedagogical or didactic purpose as well.[18] The aim is to charm the listener (if not to cast a spell on him or her) and to thus facilitate imparting the lore by means of meter, rhythm, and repetition. The aim is, as it were, to make themes resonate in the recipient. Content-wise, individual cases or exemplars are presented, but are meant to be variations of some much more wide-ranging "truth." This was true already for the epics of Homer and Hesiod, where the deeds of the gods and heroes were understood as paradigm cases for providing social and moral orientation, and it stayed true in the case of the three early Greek philosophers to whom I turn in a little more detail now.[19]

Xenophanes (ca. 570–470 BC) was a poet with his own theoretical interests and who, unlike other classical rhapsodists who only recited Homer, composed his own verses.[20] And unlike early Greek philosophers such as Anaximander or Anaximenes, Xenophanes used this popular medium to shape controversial public discourse, especially at symposia.[21]

Xenophanes's nature poetry partially survives and presents a colorful mixture of topics. He is sometimes sneering, especially in his famous critique directed against the implausible anthropomorphism of the Homeric gods.[22] This critique is an instance of his general attitude toward human knowledge.[23] He was the first among the early Greek philosophers to prominently maintain such a sceptical attitude and to champion a negative path towards knowledge. He often excludes the implausible by providing a *reductio ad absurdum* based on exemplary cases; claiming, for instance, that if "horses were able to draw with their feet and produce the works which men do, horses would draw the forms of gods like horses."[24]

Xenophanes's scepticism also extended to his understanding of divine inspiration. In his view, the muses and gods no longer simply transmit truth to the poet. Instead, humans must search for, uncover, and grasp knowledge. Unlike the oral epic poet of previous times, who was merely a "singer" (*aoidós*), Xenophanes understood himself to be a "poet" (*poietés*) in the literal

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[18] See Snell 2011, 128, and see *Theogony* 96–103.
[19] E.g., DK22 B57, B40 and DK21 B10 (DK = Diels & Kranz 1951–2) show Heraclitus' and Xenophanes' general ambivalence about Homer and Hesiod and illustrate the subtle relationship between poetry and true knowledge.
[20] See Gemelli 2005, 118–34.
[21] See Kahn 2003, 156.
[22] See, e.g., DK21 B15, B23, B24. See also Otto 2013, 312; Wöhrle 1992.
[23] See, e.g., DK21 B34, B35.
[24] DK21 B15.

sense of being a "creator" or "author."[25] Of course, poets would still depend on the graciousness of the gods and muses, but attainment of certain knowledge now required intellectual effort, both careful observation and rational thought.[26]

Similar ideas appear in Parmenides (ca. 540–480 BC). In the tradition of Hesiod and orphic singers, he wrote a poem using epic hexameters and presented it, as far as we know, among like-minded people and the political elite of Elea.[27] This poem is one of the first and surely one of the most impressive examples where a single and closed poetic form was used to provide a *historía perì phýseos*; that is, a general and comprehensive "enquiry on nature" encompassing the origin, growth, and result of all of nature, including cosmogony and anthropogony.[28]

Parmenides's poem falls into three parts: (i) the proemium, (ii) a part on truth (*alétheia*), and (iii) a part on opinion (*dóxa*). The proemium describes, notably in the first-person perspective, a journey from night to light, ignorance to knowledge.[29] Since Parmenides is the traveller in the poem as well as its author, he is not "a mere singer." He has a heavenly guide, Dike, who in the second part of the poem reveals to him divine and unshakable truth.

Being the traveller, he also becomes the equivalent of a Homerian demigod such as Achilles or Odysseus. Those who read or heard the poem could thus see Parmenides as a source of divine and all-embracing knowledge. However—and this mirrors the sceptical attitude we already saw in Xenophanes—this inspired knowledge is not simply revealed but must be scrutinized: The goddess explicitly asks the traveller to "judge by reason the too much contested argument which has been given by me."[30] This effort at judging carries over to the recipient of the poem. This, in turn, implies that Parmenides assumes a special capacity for knowledge in humans that goes beyond simple, and unreliable, sense intuition and by means of which humans can apprehend truth.[31]

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[25] See Nagy 1996.
[26] See DK21 B18 and Naddaf 2012, 190. See also Naddaf 2009, 107, and Snell 2011, 129–31.
[27] Here I rely on a personal conversation with Christoph Riedweg.
[28] DK28 B1. See Naddaf 2005, 11–35. Especially the comprehensiveness (and essentiality) of their efforts is also something that is shared by Homer, Hesiod, and the early philosophers just mentioned (see DK22 B50, DK31 B6, and, as for Xenophanes, Plato 1997, *Sophistes* 242c-d; see also Most 1999, 348).
[29] DK28 B1.1–3 and 22–31. The details of the interpretation of this "epistemic journey" are highly contentious but fortunately not of importance for present purposes.
[30] DK28 B7.5–8.1.
[31] See Snell 2011, 134–6.

Regarding this capacity, note that the proemium itself hardly provides rational arguments or clearly statable (discursive or propositional) knowledge at all. Having said that, it hardly reads like a standard piece of poetry either. Some scholars have emphasized its strongly performative (and indeed acoustic) character. Repetitions and other tropes are used in a way similar to their uses in prayers and meditations.[32] Following this interpretation, Parmenides intended the proemium (if not the whole poem) to induce in the recipient a kind of (religious) experience. Other scholars, approaching the poem from a more aesthetic perspective, have charged Parmenides with a lack of poetic talent.[33] Strikingly enough, they then take the clumsiness of Parmenides's verses as evidence in favour of the special epistemological function of his poetry. For why would Parmenides write about natural philosophy in verse if he obviously lacked the ability to provide his listeners with an adequate degree of poetic pleasure? In any event, both interpretations agree that Parmenides deliberately chose to present his ideas in poetry, and that his doing so relates to his epistemological effort to impart a kind of (non-discursive) knowledge.

This missionary character of the poetic form becomes even more prominent in Empedocles (ca. 495–435 BC). Acting as a wandering seer and healer in a presumably orphic tradition, Empedocles explicitly claimed divine inspiration and even declared himself to be an immortal god or fallen daemon.[34] Once more, the implicit assertion here is that, by invoking the muses, the poet is in the highest psychic state of inspiration and takes part in an all-embracing (divine) knowledge. In addition, Empedocles explicitly claimed that it was his duty to give that knowledge to humans who, in turn, are again assumed to have a special knowledge capacity which goes beyond mere sense intuition.[35]

Moreover, the knowledge is meant to induce in the recipient, in a kind of initiation, both theoretical knowledge about the natural and divine elements in nature as well as practical knowledge about how to properly live and act in this world.[36] The first kind of knowledge is covered in Empedocles's *perì phýseos* ("On Nature"), whereas the second is treated in his *katharmoí* ("Purifications"), which provide concrete instructions in verse for, among other things, ablution and diet. As famously known from the Pythagoreans, rhythmical sounds are taken to be the proper medium for such

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[32] See Gemelli 2008.
[33] See Wöhrle 1992, 17.
[34] See DK31 B3, B112–3, B131 and B146; see also Riedweg 1995 and Primavesi 2005.
[35] See DK31 B114–5 and Snell 2011, 136–7.
[36] See Riedweg 1995.

acts of purification, since they lead to harmony with the world.[37] Metric poetry, like music or rhythmical sound in general, is meant to get one into resonance or unison (*harmonía*) with the whole world and to purify one's soul.[38]

Thus, in Empedocles the poetic form does not only warrant the certainty of the presented knowledge; it also initiates a sublime state of "cosmic harmony" in the recipient.[39] Many rhetorical figures, especially his skilful repetitions and comparisons, fortify the impression that Empedocles's poem functions not only as a presentation but also as an instance of putting his own doctrine into practice.[40]

In sum, in creating their poems, the poets among the early Greek philosophers were not merely following a convention or making their doses of medicine easier to swallow. Instead, the form allows for a special kind of information transfer and to thus make up for certain deficiencies in standard human insight ("mere opinion").[41] Thanks to the mediation by the muses as the direct genealogical link between humans and gods, certain and infallible knowledge ("truth") is on offer.[42] Thus, it is the special evidential status that is made audible by verse. Moreover, poetry is a more direct means of expression than prose. A poem, especially when sung, conveys existential relations in an immediate fashion, making them immediately audible instead of depicting them in an abstract treatise. The focus is on holistic expression instead of terminological differentiations. For this purpose, it must be sung, since the aim is to get the auditor into resonance; to move the recipient, as it were, inside instead of putting something in front of him or her.[43] And this is, as far as we know, what happened in the case of the three philosophers mentioned.

Finally, note that also Heraclitus, who did not write in verse, pursued a similar goal with his opaque aphorisms which are full of alliterations, catchy phrasings, pregnant comparisons, and so on. Given that Heraclitus famously claimed that nature "loved to hide",[44] such an approach might be considered particularly apt for a *historía perì phýseos*. Again, the idea is then to expose the recipient to striking exemplars and to, thus, make a common theme audible.

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[37] See, e.g., Riedweg 2008.
[38] See also Plato 1997 (*Timaios*) 47d.
[39] See Gemelli 2012.
[40] See, e.g., DK31 B25 and Most 1999, 357.
[41] See also Plato 1997 (*Phaedrus*) 267a according to whom the use of *written* prose might even weaken one's memory and receptiveness for divine inspiration (*ibid.*).
[42] See, e.g., Schadewaldt 1978, 299; see also Wöhrle 1992, 9–10.
[43] See Schadewaldt 1989, 26–36.
[44] DK22 B123.

As Heraclitus himself puts it: the *lógos*, the great (structural) principle underlying all of reality, is to be "heard".[45]

3. Didactic Poems and Transparency of Content in Antiquity

After the era of the early Greek philosophers, poems continued to be important for imparting knowledge. In particular, from the fourth century BC onward so-named didactic poetry served as a means for presenting sophisticated knowledge in a systematic, coherent, and comprehensive fashion.[46] This could have been, for instance, practical knowledge about farming and fishing, theoretical knowledge about geography and medicine, as well as general philosophical knowledge in the all-embracing sense of a *historía perì phýseos*.

Roughly speaking, a didactic poem functions like an enlarged and systematized (or "harmonized") collection of mnemonics. Even though society became more and more literate, the ability to memorize adequately remained of central concern.[47]

By the same token, didactic poetry also fulfilled Horace's famous request, that poetry should both instruct (*prodesse*) and delight (*delectare*).[48] At times didactic poetry has even been claimed to constitute a separate genre, different from lyric, epic, and dramatic poetry.[49] Nonetheless, throughout most of ancient and especially later history, didactic poetry suffered from a bad reputation. Aristotle, who famously defined poetry in terms of *mimesis*, emphasized that versification alone is insufficient for something to count as poetry.[50] This claim clearly applied to the works of Xenophanes, Parmenides, and Empedocles—even more so since they aimed at presenting their own stance, speaking in their own terms, instead of imitating or emulating someone else's stance or thoughts.

However, the question whether didactic and early Greek "poetry" really deserves that name is not my concern here. Instead, I am interested in the epistemological presuppositions and implications of versifying in philosophy, and I will continue to use "nature poetry" to describe the efforts of Xenophanes, Parmenides, and Empedocles.[51] And what is striking here is the specific linkage of the presentation to its content: Xenophanes, Parmenides,

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[45] See DK22 B1.
[46] See Effe 1977, 11.
[47] See Effe 1977 and 2005; Blümer 2005, 45–68.
[48] Horace 2010 (*Ars Poetica*) 333.
[49] Effe 1977, 11–9.
[50] Aristotle 1984 (*Poetics*) 1447b13–20. See also Fabian 1968.
[51] See Volk 2005. Siehe auch Horster & Reitz 2005, 8; Fabian 1968, 71–2.

and Empedocles are all personally concerned about the knowledge they present and they use verses as a didactic-epistemological means to enable the recipient to attain a new way of experiencing the world.

To draw on a distinction from literary theory, such presentations might be classified as "factual" or "issue-related."[52] However, there are other forms of presentation in didactic poetry as well.[53] Especially during the Hellenistic era, there were authors such as Nicander for whom the poetic presentation was of primary interest and the content secondary. Then there are also more intriguing cases where the (surface) content is used to establish knowledge and insight on a more profound level. The most important example here is Aratus's *Phainómena* which treats astronomical and atmospheric appearances.[54] Other than it might appear at first glance, this work was not meant as a guide for navigators and farmers. Instead, the poem is a general facilitation in favour of a stoic worldview, in which natural phenomena function as signs disclosing the great causal nexus of the whole of nature. Hence, even though the details are quite different from an "issue-related" presentation, this is a further case in which the poetic form is used to offer a special kind of philosophical knowledge—a further case in which doctrines are not stated discursively, but where there are certain themes and motives "audible in the background." Thus, it is the exercise and duty of the recipient to listen carefully and to grasp things by him- or herself. Accordingly, the invocation of the muses by the poet, which still occurs, plays a less important role.[55] The horizontal transfer of knowledge from one person to another becomes more important than a vertical subordination to the divine—though the issue about the warrant of that knowledge remains.

During the Roman Empire, the most important didactic poet about nature was, of course, Lucretius (ca. 99-55 BC). In his poem *De rerum natura*, he provides an issue-related presentation of a unified and comprehensive *historía perì phýseos*, starting from cosmogony, going to anthropogony, and ending up with advice on how to live. The work is an amplification of the Epicurean doctrine as a means for salvation. It aims at destroying religious superstition and taking away people's fear of death.[56] By talking about nature and by being written in an intuitive and easily accessible fashion, the poem

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[52] See Effe 2005 and 1977, 30–3.
[53] See *ibid.* and also Wöhrle 1998.
[54] See Erren 1967; see also Wilson 2015, 66–72 and 110–4, and Effe 1977, 24–6.
[55] Wilson 2015, 43–4 and 107–8.
[56] See Lucretius *De rerum natura* 3.971–6.

aims to get recipients "into the groove," to have them lead their own lives in harmony with nature.[57]

Thus, the poetic form is a psychological instrument for, as it were, philosophical camp-formation and proselytism. In this respect it resembles the work of the early Greek poets: the whole work has a missionary character, employs a first-person perspective, and does battle with false idols.

Given the tight frame of this paper, it seems justified to skip over the Middle Ages, the Renaissance, and the Early Modern Period.[58]

4. Goethe's Various Attempts to Write Nature Poetry

Moving to the Modern Period, one of the last great poets providing something like a *historía perì phýseos* is Goethe. Throughout his career, he tried several literary genres to present his insights and approaches in natural philosophy. In this section I will give a broad overview over these various attempts, with a more detailed discussion of the philosophical implications in the next section.[59]

In 1781 Goethe announced his intention to write a "novel about the universe."[60] A little later he started thinking about lyric poetry being the right medium to communicate knowledge about the most general aspects of nature. Possibly thanks to his intensive engagement with Herder's famous essay "Vom Lukrezischen Gedicht," Goethe took *De rerum natura* as the prime source for guidance for such an enterprise.[61] In 1789 Goethe wrote a fragment in Lucretian verse: "Jussieus Klassen der Pflanzen." This is Goethe's preliminary practice for writing a bigger and more comprehensive poem, a "grand poem of nature" (*grosses Naturgedicht*), which was always "at the back of [his] soul" and which would contain astronomical discoveries, along with other topics.[62]

Goethe wrote his main attempt toward such a single grand poem in 1798–1800. In his correspondence with the Lucretius translator Karl Ludwig von Knebel, Goethe wrote about "an attempt to represent the intuition of nature … rhythmically,"[63] and he stated that he was aiming at "the big work

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[57] See Effe 1977, 70–1, and Mahlmann-Bauer 2005, 116.

[58] For a comprehensive history of didactic poetry from antiquity to the modern period, see Albertsen 1967. See also Fabian 1968.

[59] References to Goethe follow Goethe 1887–1919 (*Weimarer Ausgabe*; abbreviated as "WA").

[60] Goethe WA IV/5, 232 (letter to Charlotte von Stein, 7 December 1781).

[61] See, e.g., Goethe WA IV/9, 78-79 (letter to Stolberg, 2 February 1789). Goethe's numerous references to Lucretius are systematically collected in Bapp 1926.

[62] Goethe WA I/35, 84 ("Tages- und Jahreshefte" 1799).

[63] Goethe, WA IV/13, 200 (letter to Knebel, June 1798).

on nature" for which he "couldn't do better than turning my inventory into a poem."[64]

At least part of this natural philosophical "inventory" was indeed put into verse during that period: namely in Goethe's two didactic poems, "Metamorphose der Pflanzen" and "Metamorphose der Tiere," which are written in hexameters and elegiac distiches, and which deal with the origin, growth, and transformations of plants and animals.[65]

The scope of action of the "Metamorphose der Pflanzen" is a walk through a garden by the speaker and his beloved. This setting immediately advances the intuitive and emotional, rather than abstract or purely discursive, character of the encounter of nature and—given the classical ancient associations of eros and pedagogy—also the educational and missionary intention of the whole poem. Here are a few lines from the poem (verses 1–8 and 63–68):

The rich profusion thee confounds, my love,	1
Of flowers, spread athwart the garden. Aye,	
Name upon name assails thy ears, and each	
More barbarous-sounding than the one before—	
Like unto each the form, yet none alike;	5
And so the choir hints a secret law,	
A sacred mystery. Ah, love could I vouchsafe	
In sweet felicity a simple answer!	
…	
Turn now thine eyes again, love, to the teeming	
Profusion. See its bafflement dispelled.	
Each plant thee heralds now the iron laws.	65
In rising voices hear the flowers declaim.	
And, once deciphered, the eternal law	
Opens to thee, no matter what the guise— [66]	

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[64] Goethe, WA IV/ 14, 52–3 (letter to Knebel, 22 March 1799); see also WA IV/14, 9–10 (letter to Knebel, 22 January 1799). For further original quotations and source citations see also Nisbet 1986, 105–11, Albertsen 1967, 362, and Jaeger 2007.

[65] See Goethe, WA I/3, 85–7 and 89–91.

[66] Translation by Douglas Miller. The German original reads as follows: "Dich verwirret Geliebte die tausendfältige Mischung / Dieses Blumengewühls über dem Garten umher, / Viele Nahmen hörest du an und immer verdränget, / Mit barbarischem Klang, einer den andern im Ohr, / Alle Gestalten sind ähnlich und keine gleichet der andern / Und so deutet das Chor auf ein geheimes Gesetz, / Auf ein heiliges Rätsel. O könnt' ich dir, liebliche Freundin, / Überliefern sogleich glücklich das lösende Wort! […] / Nun Geliebte wende den Blick zum bunten Gewimmel, / Das verwirrend nicht mehr sich vor dem Geiste bewegt. / Jede Pflanze verkündet dir nun die ew'gen Gesetze, / Jede Blume sie spricht lauter und lauter mit dir. / Aber entzifferst du hier der Göttin heilige Lettern, / Überall siehst du sie dann, auch in verändertem Zug."

What is encountered first is a profusion or rather "crush of flowers" (*Blumengewühl*, verse 2). There is no simple and effable rule underlying the lifespan of a plant, but close observation allows one to intuit an "iron," or rather "eternal" (*ewig*), and "secret law" (verses 6 and 65). Nature, and in particular each plant, is experienced as process-like and "becoming" (*werdend*, verse 9), instead of being made up of strictly separated and individually nameable parts (verse 3). Each plant is experienced as being continuously in transition or transformation but still forming a closed unity with an inner identity (verses 66–8). The word *metamorphosis* in the title refers to these transformations; and, of course, proves Goethe's adoration of Ovid. Note also the multiple references to hearing in this process of gaining new experience and knowledge ("assails thy ears," "barbarous-sounding," "choir," "heralds," "rising voices hear … declaim").

According to Goethe, each phase of a plant's (six-stage) circle of life is a transformational state or variation of a leaf; and the circle as a whole is then understood as an actualization of the idea or concept of a leaf (verses 63–70).[67] Once this is apprehended by the recipient of the poem, he or she will recognize the idea of a leaf in these variations in any plant. The general becomes graspable in the particular; or, to put it in terms from above: variations do make the theme audible. What is more, toward the end of the poem (verses 70–80) the recipient is shown analogies between vegetable and human prosperity. The changes undergone by human beings in terms of their feelings and mutual relationships are variations of the leaf states (seed, blossom, fruit). Thus, by intuitively understanding plants, we also grasp something about ourselves. And this is possible because—just like plants—we are part of nature and because there is an overall harmony or resonance.

Goethe thus seeks the fundamental comprehensive structure of nature (from plants to humans) in a synthetic fashion. His natural philosophical attempt transcends the then predominant analytic Linnaean system of classification.[68] Classification is surely an important task, but it remains only half the battle of gaining comprehensive knowledge about nature. According to Goethe, a further step is needed from static taxonomy to dynamic

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[67] See also Goethe, WA II/7, 282–3: "Alles ist Blatt, und durch diese Einfachheit wird die grösste Mannigfaltigkeit möglich. […] Ein Blatt, das nur Feuchtigkeit unter der Erde einsaugt, nennen wir Wurzel; ein Blatt, das von der Feuchtigkeit ausgedehnt wird, pp. Zwiebel […]. Ein Blatt, das sich gleich ausdehnt, einen Stiel." ("All is leaf, and through this simplicity the greatest diversity becomes possible … A leaf which absorbs humidity exclusively underground is called a root; a leaf which is expanded by humidity is called a bulb. A leaf which lengthens itself uniformly is called a stalk.")
[68] See, e.g., Pörksen 1986, 72–80.

morphology.[69] For him, a special type of intuitive grasp is needed, namely that of the "primordial plant" (*Urpflanze*) as a kind of living principle underlying every existing plant. And Goethe identifies that principle with (the circle of life of) a leaf. All parts of the plant can be understood as moments or stages of the development of a leaf, each being a variation of the other and of a common theme.[70] There is no actual primordial plant "out there" which could be put in front of me. However, in the process of being confronted with exemplary cases, I start seeing all plants, and all their developmental stages, as variations of one another.

In Goethe's "Metamorphose der Tiere," too, the recipient of the poem is meant to undergo a process of observation and contemplation leading to an intuitive, synthetic grasp of certain relational aspects of nature. By the end of the poem, the recipient should be able "to re-conceive" (*nachzudenken*, verse 57) productive nature with respect to the origin, growth, and transformations of animals. More specifically, Goethe aims "to establish a type against which all mammals would have to be proven for similarities and differences; just as I had previously searched for a primordial plant (*Urpflanze*), I now strived for finding the primordial animal (*Urtier*), which in the end means: the concept, the idea of animal."[71] So, again, his aim is to grasp a "primordial appearance" or "primordial phenomenon" (*Urphänomen*) within a domain of nature or natural experience.[72] By means of a series of observations a necessary connection between the different parts and single occurrences is recognized. The observations now appear as variations of a common theme and provide knowledge about all possible individual occurrences and parts. The most striking example and indeed exemplification of this type of scientific work are Goethe's own investigations in osteology. Seeking the relevant series and transformations in and of cranial bones, Goethe himself found (or at least he claimed to have demonstrated the presence of) the intermaxillary bone in humans.[73]

The "Metamorphose der Tiere" starts off with the phrase "Dare you …" (*Wagt ihr…*) and ends with "certainty" (*Gewissheit*). Thus, as it was for the early Greek poets, the aim is to lead the recipient of the poem to immutable and certain knowledge. Moreover, Goethe even claims "the lips

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[69] See also Sewell 1960, 191–8, 222–9 and 253–5.
[70] See Nassar 2011, 75.
[71] See Goethe, WA II/6, 19–20 ("Hierbei fühlte ich bald die Notwendigkeit einen Typus aufzustellen, an welchem alle Säugetiere nach Übereinstimmung und Verschiedenheit zu prüfen wären, und wie ich früher die Urpflanze aufgesucht, so trachtete ich nunmehr das Urtier zu finden, das heißt denn doch zuletzt: den Begriff, die Idee des Tiers.")
[72] See Goethe, WA II/11, 148 (letter to Knebel, 16 July 1798).
[73] See Wells 1967.

of the Muse" as the warrant for this indeed "lovely complete certainty" (verses 59–61).[74]

Given Goethe's aim to write a single all-embracing poem about nature and natural philosophy, one might wonder about other poems he wrote on related topics. For even though the origin and growth of plants and animals would be important parts of his enterprise, the project of a comprehensive poem of nature should encompass other topics as well, especially physics and cosmology. Indeed, Goethe repeatedly emphasized their importance as well as his intention to versify on what he took to be the "primordial phenomenon" of all physics: magnetism.[75] Goethe even went as far as to claim that polarity, as it occurs in magnetism, is a "symbol" for all experiencing of nature. This latter thought as well as the general reliance on magnetism nicely illustrate Goethe's adherence to the *Naturphilosophie* of Schelling during that period.[76]

However, after 1800 Goethe abandoned the project of writing a single all-embracing poem of nature in a Lucretian vein. The strengthening diversification and deepening of scientific inquiry worked against such a unified project.[77] But this did not mean for Goethe a full renunciation of his effort toward writing nature poetry.

The next work to be mentioned is indeed *Faust*, Goethe's famous *Weltgedicht*. Based on its metric form and some of its philosophical notes and implications, it is sometimes claimed to stand in the tradition of didactic poetry.[78] In particular, his claims that all elements of nature bear a secret inner relationship to each other and that each human is a microcosm reflecting the macrocosm are reminiscent of his ideas about primordial phenomena. Moreover, even though *Faust* is a single poem, the fragmentation of knowledge is a prominent theme in it. Famously, Faust claims that, after studying philosophy, jurisprudence, medicine, and

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[74] Goethe, WA I/3, 91: "Hier stehe nun still und wende die Blicke / Rückwärts, prüfe, vergleiche, und nimm vom Munde der Muse, / Daß du schauest, nicht schwärmst, die liebliche volle Gewißheit."

[75] See, again, Goethe, WA II/11, 148: "Der Magnet ist ein Urphänomen, das man nur aussprechen darf, um es erklärt zu haben; dadurch wird es dann auch ein Symbol für alles übrige, wofür wir keine Worte noch Namen zu suchen brauchen." ("Magnetism is a primordial phenomenon, which one is allowed to pronounce only, to have explained it. It thus becomes a symbol for all that remains, for which we need not seek for words nor names.")

[76] See Schelling SW I/2 and I/4, passim.

[77] See, e.g., Goethe in a conversation with Boisserée, 3 October 1815 (discussed and quoted in Nisbet 1986, 110).

[78] See, e.g., Böhme 2000. For a different interpretation see, e.g., Albertsen 1967, 28.

theology, "I stand, no wiser than before."[79] So the point is, again, that for comprehending the world, (propositional) textbook knowledge is insufficient. Moreover, the means to overcome fragmentation is strongly reminiscent of the metamorphosis poems. Not unlike the "crush of flowers" encountered in the garden, Faust now undergoes a "crush of experiences" in different constellations such as Auerbach's cellar or Walpurgis night to learn and apprehend life as a whole.[80]

A little later, about 1815, Goethe once more reflected on the problem of writing a single unified poem of nature versus producing fragments about natural philosophy. Remembering his earlier efforts, Goethe now maintained that the two metamorphosis poems show that the classic (unified) form of didactic poetry is "too much constrained" and that one should better pick up "single thoughts […] which can be later arranged to form a whole."[81] Or, to put it into the phrasing from above: maybe the two metamorphosis poems, together with other poems, can be read as variations which make a common theme of nature audible.

Five years later, Goethe adjusted his own efforts accordingly. When asked to return to the project of versifying in a Lucretian manner, he did not come up with a single unified poem but compiled some of his earlier poems and added some newly written ones covering additional topics in natural philosophy. This collection, finished presumably between October 1821 and May 1822, finally appeared in 1827 under the title *Gott und Welt*.[82]

Even though this collection has no closed poetical format, it is very much indebted to systematic aspects of a versified version of a *historía perì phýseos*; that is, a presentation of the origin, growth, and result of nature in a broad sense. This indebtedness can be most easily shown by a quick run through the single poems, which cover all core areas of natural philosophy, from cosmology and physics to biology and anthropology.

The collection starts off with a proemium advocating a typically Goethean synthetic-qualitative (rather than analytic-quantitative) method in natural enquiry.[83] Next, there are four poems on cosmology which all stress the transitory and process-like character of nature. One of these poems,

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[79] See Goethe, WA I/14, verse 359 (*Faust*): "Da steh' ich nun, ich armer Tor, / Und bin so klug als wie zuvor."
[80] See again Goethe, WA I/14, and also Böhme 2000.
[81] Goethe in a conversation with Boisserée, 3 October 1815; here quoted from Albertsen 1967, 364.
[82] See Goethe, WA I/3, 71–111. For the discussion see Seele 2008.
[83] See Goethe, WA I/3, 71: "Du zählst nicht mehr, berechnest keine Zeit. Und jeder Schritt ist Unermeßlichkeit." ("You no longer count the moments or calculate the time. And every step is infinity.")

"Weltseele," was written between 1798 and 1802 and was strongly influenced by a work of Schelling bearing the same name (and to which I will come back below).[84] The poem describes the creation of the world, from an initial emanation of light, followed by the genesis of planetary systems and the Earth's atmosphere, to the origin of organic life, and ending with "the first pair" of humans—all understood as a huge, single, and evolving process.[85] The other three poems of this group treat, among other things, the change of seasons and the maturation and degeneration of fruit as well as of human beings. All these poems contain various allegories and personifications so as to evoke a certain feeling of closeness, if not kinship, with the physical objects described. And this might now be interpreted as forming part of Goethe's intention to, as already quoted, "represent the intuition of nature rhythmically." Different objects, phenomena, and experiences are in tune or resonance in the sense of being understandable as variations of one another.

The subsequent group includes the two metamorphosis poems, embedding them into a kind of dialogic arrangement known from classical comedy (parabase, epirrhema, antepirrhema). Once more, one of the main issues here is the relation between the general and the particular.[86] That is, the issue is how to understand something as being an exemplar, or a variation, of an underlying theme. (I will come back to this below.)

Next, there are three poems on the theory of clouds, one of which, "Howard's Ehrengedächtnis," comes close to classical didactic poetry. This poem is based on the insights of the British amateur meteorologist Luke Howard, who had provided a classification system for clouds. Goethe now interprets (or rather "dynamizes") this typology in terms of a life cycle of a single cloud.[87] That is, Goethe takes clouds to be like living organisms, exhibiting an inner force or gestalt drive. In referring to Howard, Goethe acknowledges again the importance of the intermediate step of analysing and naming phenomena. To a naïve observer, the sky may be filled with a "crush" of clouds—just like the "crush of flowers" in a garden, but thanks to Howard, this crush resolves into a distinguishable order. Now it is Goethe who takes

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[84] See Sørensen 1996, 280–3.

[85] See Goethe, WA I/3, 77–8.

[86] See, e.g., Goethe, WA I/3, 84 and 88; that is, "Parabase," verses 5–6: "'Tis the eternal One and All, variously revealed" ("Und es ist das ewig Eine, das sich vielfach offenbart"); "Epirrhema," verses 1-2 and 9-10: "Students of nature, make this your goal: Heed the specimen, heed the Whole … What's alive cannot be One, it's always manifold." ("Müsset im Naturbetrachten, immer eins wie alles achten; […] kein Lebendiges ist ein Eins, immer ist's ein Vieles").

[87] See Goethe, WA II/7, passim. See also Nisbet 1996 and Wellbery 2013.

the second, synthetic step of showing each cloud to be in permanent metamorphosis, always exhibiting a variation of the common underlying primordial cloud phenomenon. Terminological categorisations, such as Howard's or Linnaeus's, are important to begin with, but then the point is to understand the transitional and transformational character of all appearances.[88] Finally, the life cycle—the atmospheric rise and fall, as it were—of a cloud serves as an analogy for human cognitive capacities and with the upward striving of the creative mind. Thus, towards the end of the poem we once more, just as in the case of the "Metamorphose der Pflanzen," learn something about the transformational character of human capabilities which, just like clouds, are parts of nature and thus stand in relations of resonance and harmony.

The collection *Gott und Welt* ends with three poems on color theory. These poems are aimed at Newton's theory of light and color. Once more, Goethe opposes a view which analyses or dissects things into elements and types without acknowledging the unity of a field of phenomena. According to Goethe, Newton just disintegrates the field of color, vision, and light by talking about corpuscles, polarization, and so on.

Looking at the collection *Gott und Welt* as a whole, it is evident that Goethe always aims at an intense and emotionally involved contact with the subject matter. Besides this, *Gott und Welt* covers all major areas of natural philosophy in the sense of a *historía perì phýseos*. The collection provides an account of the origin, growth, and result of nature—covering cosmology and atmospheric phenomena as well as organic life and visual perception. Moreover, the poetic form is meant to "rhythmically transform" recipients or to "make underlying themes audible." It is not about imparting textbook knowledge but about encouraging something of a transformative character. Thus both the early Greek philosophers and Goethe seem to aim for a state of mind transcending discursive knowledge. The early Greeks aim to transcend "mere opinion" and make (divine) "truth" audible; Goethe aims at an intuitive and tacit knowledge made audible by poetry. But how exactly do Goethe's poetic attempts relate to his theoretical claims in and about natural philosophy?

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[88] See, e.g., Goethe, WA I/3, 97 and 102; that is, "Atmosphäre", verses 5–6: "To find yourself in the infinite, you must distinguish and then combine" ("Dich im Unendlichen zu finden, musst unterscheiden und dann verbinden"); "Wohl zu merken", verses 1–4: "And when we have discerned, then we must restore living ingredients to the separated again and enjoy a subsequent life." ("Und wenn wir unterschieden haben, dann müssen wir lebendige Gaben dem abgesonderten wieder verleihn und uns eines Folge-Lebens erfreun").

5. Goethe's Natural Philosophy: Primordial Phenomena and Intuitive Understanding

Goethe's poems about aspects of nature usually start off with a great (and confused) profusion or "crush" of phenomena, whether of clouds or flowers. Next, to handle this profusion, the phenomena are classified into a handful of types. Finally, those types become recognized as the lawfully changing temporal stages or variations ("metamorphoses") of a single underlying theme, the *primordial phenomenon*. This phenomenon is understood in terms of a general gestalt drive, an inner ability to develop a certain form and go through a whole transformational life circle. Moreover, since humans are themselves part of nature, the reported findings often resonate with everyday life. Findings about plants, animals, and clouds find their analogies in claims about human capacities and capabilities. Thus, as with the early Greek philosophers, Goethe's nature poetry often includes guidance how to properly live a life.

Notably, the grasping of the *primordial phenomenon*, which marks the last and decisive step in gaining knowledge about nature, is fundamentally active, and it calls for action on the part of the recipient. Instead of adding more items to a heap of facts, the recipient is urged to comprehend the phenomenon as a dynamic whole. The nature poem's purpose, right from the beginning, is to "in-spire" the recipient—in the original sense of the ancient loanword.

Next, it is striking how Goethe avoids a coherently trimmed terminology because, arguably, such a terminology would hinder an adequate access to the initial crush of natural phenomena. Instead, the diversity in nature is reflected in a shifting and varying diction.[89] Cognate terms and synonyms are used as variations on a common theme, as it were. Instead of simply "naming" an object, each expression emphasizes something slightly different—just as any individual plant or animal evolves a little differently. This wealth of terminological perspectives leads to mutual clarification. Structural analogies become visible and foster the recipient's grasp of the common theme, the primordial phenomenon.[90]

Gott und Welt prompts something similar on the level of the poems themselves. Instead of presenting a single comprehensive and all-embracing poem, Goethe provides various poems not only about different aspects of nature but also in different forms and metres as well as with varying speakers and addressees. The collection appears as a "crush of poems." As in the case

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[89] See Pörksen 1986, 81–5. See also Böhme 2000.
[90] See again Pörksen 1986, 81–5.

of the plants, the recipient might then come to recognize classificatory orders and structural variations in those poems and grasp them as a kind of "meta-metamorphoses." Thus, for the attentive and involved recipient, the collection as a whole might make the theme of a "grand poem of nature" audible.

These considerations gain further evidence by looking at Goethe's own reflections on didactic poetry, which appeared in 1827, the same year as *Gott und Welt*. In his short essay "Ueber das Lehrgedicht,"[91] Goethe claims didactic poetry should be placed between poetics and rhetoric, and he notes that it is often used for the sake of popularization. A didactic poem is thus an instructive work of art, adorned "with rhythmic euphony and ornament of the power of imagination."[92] It allows uniting the opposed elements of "knowledge and power of imagination (*Wissen und Einbildungskraft*) … in a living body."[93]

To better understand Goethe on the power of imagination in didactic poetry, it helps to briefly look at his philosophical background, which was shaped by what is now called classical German philosophy (especially Kant, Fichte, and Schelling) and also by Spinoza. The focus here will be first on Schelling and then on Kant, for around 1799, when Goethe made his early efforts in writing didactic poetry in the vein of Lucretius, Schelling's *Naturphilosophie* itself was at its height, and Goethe's interaction with Schelling its most intense.[94]

Already in his 1798 work *Von der Weltseele*, Schelling maintains that "the individual objects of nature constitute … a continuous self-encircling chain of life in which each link is necessary for the whole" and that these objects are "the individual modes of intuition (*Anschauungsweisen*) of the general organism."[95] This is strikingly similar to what Goethe will say only a little later about transitions and transformations ("metamorphoses"). In his *Darstellung meines Systems der Philosophie* from 1801, Schelling in turn picks

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[91] See Goethe, WA I/41(2), 225–7.

[92] Goethe, WA I/41(2), 225–6 ("mit rhythmischem Wohllaut und Schmuck der Einbildungskraft").

[93] Goethe, WA I/41(2), 227 ("ein Werk aus Wissen und Einbildungskraft zusammenzuweben [...] in einem lebendigen Körper zu verbinden").

[94] See Plath 1901. References to Schelling are to Schelling 1856–61 (*Sämmtliche Werke*; abbreviated as "SW").

[95] Schelling, SW I/2, 373 und 500 ("Von dieser Seite betrachtet, bilden die einzelnen Dinge der Natur nicht eine unterbrochene oder ins Endlose auslaufende Reihe, sondern eine stetige, in sich selbst zurückkehrende Lebenskette, in welcher jedes Glied zum Ganzen notwendig ist [...]. Der Organismus ist nicht die Eigenschaft einzelner Naturdinge, sondern umgekehrt, die einzelnen Naturdinge sind ebenso viele Beschränkungen oder einzelne Anschauungsweisen des allgemeinen Organismus").

up this Goethean terminology by claiming that "the parts of an organism as well as the organism as a whole must be thought of as originating from *metamorphosis.*"[96] Or, to provide an example from the inanimate part of nature, Schelling maintains that the planetary system originated from a metamorphosis based on the polarity of magnetic forces. According to Schelling "all physical bodies are merely metamorphoses of iron."[97] This is not the occasion to judge the sensibleness of these claims. Instead, it is important to see the connection to Goethe's already mentioned efforts to versify about magnetism and about the evolution of the planetary systems in his poem bearing the Schellingian title "Weltseele."

In his 1800 *System des transcendentalen Idealismus* Schelling acknowledges that poetry plays an important role in natural philosophy.[98] He even writes a (rather weary) quatrain in the vein of the "Metamorphose der Pflanzen."[99] Afterwards, in his *Philosophie der Kunst* from 1802–3, he affirmatively discusses his ambition for composing a single and all-embracing didactic poem about "the nature of things" in a Lucretian vein.[100] The form of such a poem would not be an arbitrary additive to beautify the content, for Schelling understands the content to be "poetic itself" and the poem itself to be "the reflection of the universe into knowledge."[101] Referring also to the poetic efforts of Xenophanes and Parmenides, the universe is understood here as a *kósmos* in the original sense of the term. It is a developing order which culminates in human art and culture, with indeed the genre of didactic poetry being at the high end of this self-organizing development. Didactic poetry reflects—or one might say, is in resonance with—the universe (nature) in the sense that it provides universal knowledge and depicts its harmony.[102]

Notably, Schelling considers that, given the increasing fragmentation of knowledge, a didactic poem might be able to cover only some limited aspect of nature. For him this is legitimate if that aspect comprises other and general aspects of nature; that is, if that aspect stands out as a variation of an

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[96] Schelling, SW I/4, 207, my emphasis ("Die Organisation im Einzelnen sowohl als im Ganzen muss als durch Metamorphose entstanden gedacht werden").

[97] Schelling, SW I/4, 157 ("Alle Körper sind blosse Metamorphosen des Eisens").

[98] See Schelling, SW I/3, 628 ("Was wir Natur nennen, ist ein Gedicht, das in geheimer, wunderbarer Schrift verschlossen ist").

[99] See Nisbet 1986, 110.

[100] See Schelling, SW I/5, 662–7.

[101] Schelling, SW I/5, 666–7 and 664 ("Es gibt daher kein wahres Lehrgedicht, als in welchem unmittelbar oder mittelbar das All selbst, wie es im Wissen reflektiert wird, der Gegenstand ist. Da das Universum der Form und dem Wesen nach nur Eines ist, so kann auch in der Idee nur Ein absolutes Lehrgedicht seyn, von dem alle einzelnen blosse Bruchstücke sind, nämlich das Gedicht *von der Natur der Dinge*").

[102] See again Schelling, SW I/5, 664.

underlying theme, as an exemplary case for nature in general. Arguably, the polarity of iron would be such an aspect for Schelling. Also think again of Goethe's metamorphosis poems and how, toward their ends, he moves from botany and zoology to broad reflections on human capabilities.

To better understand some of the philosophical background of these claims and how they relate to the imparting of (non-discursive) knowledge, it is helpful to remember Kant's distinction between two sources of human knowledge, namely intuition and understanding, which are both finite.[103] Combined non-discursive forms of these two sources—that is, intellectual intuition (*intellektuelle Anschauung*) and intuitive understanding (*intuitiver Verstand*)—cannot exist according to Kant. This is because they would suppose infinite mental capacities which finite human beings necessarily lack.[104]

Recently, these notions have been discussed intensively by Eckart Förster in his systematic reconstruction of classical German philosophy.[105] According to Förster, progress in philosophy after Kant is synonymous with an explication of one of these non-discursive sources. In this sense, Fichte's *Wissenschaftslehre* can be viewed as a transcendental philosophical attempt to provide a more fundamental philosophy of subjectivity by promoting and defending the notion of intellectual intuition.[106] In contrast, Schelling's *Naturphilosophie* was bound to fail because he also tried to base it on intellectual intuition. Schelling thereby did not see that, in contrast to a theory of subjectivity, a theory of nature must be based on intuitive understanding.[107] Following Förster, the most advanced natural philosophy directly after Kant was indeed Goethe's attempt, which was partially based on Spinoza's notions of a *natura naturans* and a *scientia intuitiva*.[108]

So, what is this so-named intuitive understanding? It is a holistic or integral grasping of something and, hence, is to be distinguished from the creative or productive looking (*Hinschauen*) of intellectual intuition.[109] Intuitive understanding goes from a (structure-endowed) whole to its properties or parts. The paradigm case of such an understanding is that of an organism: its parts appear as necessarily connected to form a whole, and it is only in relation to this whole that one understands the functions and purposes of the parts. Again, this is where the discrepancy with Kant lies: For Kant

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[103] See Kant 1781/87 (*Kritik der reinen Vernunft*), A19/B3 and A50–1/B74–5.
[104] See Kant 1790/93 (*Kritik der Urteilskraft*), A335–50/B339–54 (=§§76–7).
[105] See Förster 2012.
[106] See Förster 2012, 185–223.
[107] See Förster 2012, 226–51.
[108] See Förster 2012, 253–76. See also Amrine 2011 and Lange 2011.
[109] Förster 2012, 103–9, 172–82, 250–1, 257–60, 272–6.

understanding is always discursive and goes from the parts to the whole, never from the synthetic whole to the parts.[110]

As already discussed, for Goethe, intuitive understanding is at work not only in the case of plants but also in many other areas of what today is called natural science—including animals, planets, clouds, and color phenomena. According to Goethe, all of nature is to be understood intuitively: by grasping fundamental structural features as being different stages or metamorphoses of a primordial phenomenon. The point is that by means of such a grasping an infinite manifold (a great profusion or "crush") of possible instances is intuitively given, but without there being theorems or propositions about the *primordial phenomenon*.[111]

Nature poetry then is meant to spark such a grasping. Poetry, as already mentioned, is surely not the only possible prompt for organizing and illuminating a large field of experience, but it is one with special qualities. Given that a poem cannot itemize a functionally infinite manifold of instances, it must present one or a few as exemplars. And the recipient must grasp such an exemplar as exactly that: as something standing for a whole infinite manifold. The recipient has thus gained some tacit knowledge about "how to go about things" in a given domain of nature. He or she has grasped, as it were, the underlying theme and is now able to recognize other cases and examples as being variations of that theme. The recipient has gained an intuitive understanding.

Goethe explicitly criticises Kant for denying the possibility of an intuitive non-discursive type of understanding in humans.[112] After quoting the relevant passage from Kant's *Kritik der Urteilskraft*, Goethe claims that an intuitive way of comprehending is indeed possible when it comes to judgments about nature. Based on his own experience doing natural philosophical investigations, Goethe thus speaks of an intuitive power of judgment (*anschauende Urteilskraft*).[113]

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[110] See, again, Kant 1790/93 (*Kritik der Urteilskraft*), A335–50/B339–54 (=§§76–7); see also Förster 2014, 52.

[111] See Goethe, WA IV/42, 167 (letter to von Buttel, 3 May 1827): "Ferner ist ein Urphänomen nicht einem Grundsatz gleichzuachten, aus dem sich mannigfaltige Folgen ergeben, sondern anzusehen als eine Grunderscheinung, innerhalb derer das Mannigfaltige anzuschauen ist." ("Furthermore, a primordial phenomenon is not to be regarded as a principle from which manifold consequences result but is to be regarded as a basic phenomenon within which the manifold is to be viewed.")

[112] See Goethe, WA II/11, 54–5.

[113] Goethe's short essay (WA II/11, 54–5) indeed bears the title "anschauende Urteilskraft" and the quoted passage is, again, Kant 1790/93 (*Kritik der Urteilskraft*), A345–7/B349–51 (=§77). See also Hindrichs 2011 and 2013.

Notably, one might argue that already for Kant, the power of judgment is neither strictly propositional nor discursive but a kind of knowing-how.[114] Being the knowledge of how to judge, the power of judgment, for Kant, is an a priori readiness to synthesize; and it is spontaneous in the sense that it automatically organizes unstructured input in a yet unprecedented way.[115] Thus, at least for Goethe an intuitive power of judgment is at play when confronted with a "crush" of flowers or other natural phenomena. It is this power which makes the common theme audible and which leads to an immediate, spontaneous, and receptive understanding which, technically speaking, provides itself with an intuition. According to Goethe, natural phenomena can be grasped in such a fashion, even though their temporal extension usually transcends the limits of a unified sensual intuition (just think of planets and plants here). Thanks to the integrative power of judgment, a unified knowledge of a progression is gained, a general sense of its direction and all its transitional states.

Note also the structural resemblances here to the workings of the power of imagination (*Einbildungskraft*). In so-called "free play," although the power of imagination reaches out for a concept which is meant to fully grasp the phenomena under consideration, the power can never be sure of its concept. There is no exhaustible list or series of final judgments, but instead an "unutterable fullness of thoughts" (*unnennbare Gedankenfülle*).[116] However, whereas Kant discusses this exclusively in the context of aesthetic reflection, Goethe now applies it to the context of natural philosophy (which, for Kant, would not be the place for a "free play" of cognitive capacities). Besides, and as already mentioned, Goethe relates this power directly to the notion of intuition and also to didactic poetry.[117]

Two additional remarks about these two integrative powers of judgment and imagination:[118] First, note that these powers keep the mind in check, so to speak. Otherwise, as Kant emphasizes in his *Anthropologie*, searching for similarities in a crush of phenomena might easily become a process of arbitrary association and "silliness."[119] This is exactly the problem which

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[114] See, e.g., Kant 1781/87, *Kritik der reinen Vernunft*, A69/B94, A50/B74, B132.

[115] Whereas, e.g., in Descartes and Leibniz innate ideas provide a stable basis for judgment, Kant's view on the power of judgment is much more procedure based. And one may argue—though, admittedly, this is a controversial claim within Kant scholarship—that this a priori readiness to synthetize occurs not only on a discursive or conceptual level but also on an intuitive and non-discursive one (see, e.g., Hanna 2006, Ch. 1).

[116] Kant 1790/93 (*Kritik der Urteilskraft*), A325/B329 (=§53).

[117] See "Entwurf einer Vorrede zu Knebels Lucrez-Übersetzung" in Goethe, WA I/42(2), 448–52.

[118] Regarding the functional similarities between these two powers see also Centi 2001.

[119] See Kant 1798 (*Anthropologie*), §46. See also Gabriel 2009, 35–47.

Goethe addresses when, in the "Metamorphose der Tiere" (verse 59), he says that one must not "rave about" (*schwärmen*) but "see" (*schauen*) the primordial animal. Second, this also nicely reinforces why for Goethe, other than for Kant, this goes along with an *intuitive* understanding.[120] It is not that some individual transitions are known (or "seen") discursively. All concrete intermediate states form a kind of dense series, and the transitions from each state to the next are all immediately grasped at once.[121] Thus, all possible stages of a plant, to stay with this example, and all its infinitely many transformations are intuitively grasped at once and are grasped in their structural ordering as being variations of a leaf—where "leaf" is now understood as a primal phenomenon, not as a concrete specimen nor as a principle for deriving scientific propositions.

Accordingly, the knowledge which is thus gained is not discursive. Even though one can describe any series of experiments or observations by discursive means, the transitional and transformational relations between the single phenomena are graspable only intuitively. Of course, this is not to deny the importance of those numerous comparative and serially ordered observations that form the basis for such a transition or transformation; nor is it to deny that this new grasp then applies to individual cases and implies the ability to single out invariant aspects. However, it is only from the grasped totality that the single case is truly understood. There is, as Goethe claims, "nothing behind the phenomena, they themselves are the theory": "the general and the particular coincide, the particular is the general as it appears under various conditions."[122] The proper intuition of a particular instance immediately gives a "clear view" (*Übersicht*) over the whole array of possibilities.[123] Or, to put into my own terms from above: The common

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[120] Notably, both capacities, the power of imagination and the power of judgment, relate to understanding. Thus, allowing for an *intuitive* understanding would be expected to have an impact on both powers. See also Förster 2012, 259–63, and Förster 2014, 54.

[121] Since audition is an important theme of this paper, the following aural phenomenon might emblematize some (surely not all) important aspects of such a transition or transformation: If clicks (or simple beats) are presented at a rather slow rate, they are heard as such; that is, as individual clicks (or beats). However, if the presentation rate increases, at some point the clicks are no longer perceived as individual clicks but as a continuous tone with increasing pitch. Maybe this phenomenon exemplifies, as it were, a "crush of sound-bits" which, after a series of separate individual (and pitch-less) perceptions, gives rise to a new kind of continuous perception (namely an ongoing tone with an increasing pitch).

[122] Goethe, WA II/11, 131 and 129 ("Man suche nur nichts hinter den Phänomenen; sie selbst sind die Lehre"; "Das Allgemeine und Besondere fallen zusammen: das Besondere ist das Allgemeine, unter verschiedenen Bedingungen erscheinend").

[123] See Goethe, WA I/35, 87 ("eine Anschauung der einzelnen Gestalt und eine Übersicht des Ganzen").

theme is made audible by means of variations, and there are indeed nothing but variations (of variations).

What happens in the recipient then is a change in his or her propositional attitudes and convictions, a "gestalt shift" so to speak. This change, however, is itself nothing propositional. According to Goethe the workings of the intuitive powers of judgment and imagination are something one cannot speak of directly.[124] Also, remember Goethe's terminological variations here: For him a single word can never replace what is to be grasped. There is no single concept to be pinned down. Instead, various cognates are needed for, at best, a discursive approximation. Thus, those words should rather be understood as variations which make the common theme audible. Hence, writing poems about or in natural philosophy is not just idle padding. It is meant to induce something in the recipient which transcends the standard distinction between science and art.[125]

This, however, leads back to Kant's worry about arbitrary associations. How can one be sure to be really "seeing" (*schauen*)—or, for that matter, hearing—rather than merely "raving about" (*schwärmen*)? This, I think, can only be answered with reference to subsequent scientific work. If Goethe finds the premaxilla bone based on his ideas about continuous transitions and every animal being a variation of an *Urtier*, then this indicates that he really "saw" something. However, if this remains the only successful application and if, based on later knowledge about anatomy and evolution, Goethe's finding appears to be just a lucky coincidence, then, of course, one will have to call him a "dreamer" (*Schwärmer*).[126]

6. Grasping by Analogy and Making Themes Audible

Poems and aphorisms often appear to be nothing more than an entertaining way to convey information to the recipient. They may be charming ways to present something, often providing some catchy (and hence easily memorizable) phrases which allow for handy instant comments.[127] This is particularly true for early Greek philosophy with poets such as Xenophanes, Parmenides, and Empedocles and aphorists such as Heraclitus. However, memorability is not the only reason for using poetry and aphorisms and by

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[124] See Hindrichs 2011, 58.
[125] See, e.g., Goethe, WA II/6, 139, and WA II/11, 51.
[126] The same holds true, of course, also for current and non-poetic cases where scientists "rave about" more or less all natural phenomena as being variations of a common theme (think of slogans such as "it from bit" here).
[127] Fricke 1990.

no means the historically most persistent nor the epistemologically most relevant one.

The early Greek poets, as discussed, were engaging in a *historía perì phýseos*; that is, an enquiry into the origin, growth, and result of nature. Later nature poets, most famously Lucretius, turned out to be working on the same kind of single and comprehensive literary framework. Finally, Goethe also fit into that tradition even though with him the development more or less came to an end, which was, roughly speaking, due to the immense increase and fragmentation of scientific knowledge. Goethe's later attempt to cope with this new situation was to abandon strict unity and to provide his audience with a collection of poems—poems different in form and style, poems about different areas of science, but together still covering all main areas of a proper *historía perì phýseos* and still meant to induce knowledge by means of intuitive understanding. Those poems are meant as variations which, taken together, still make a common theme audible.

Accordingly, the insights and knowledge presented in Goethe's as well as in the early Greek poems are in part non-discursive and non-propositional. Not everything can be laid out adequately in a rational argument; rather, there are "things" that can be made audible to the recipient in a way that prompts a change or new dimension in her or his experience. Accordingly, it is the lively report of an individual experience, rather than a formal inference, which is used as such a prompt.

By the same token, the experiences or cases presented in a nature poem are meant to be *exemplary* ones. What is presented are one or maybe a few variations but never *the* variation nor *all* the (infinitely many) variations. The point is to display and grasp the general in the particular—to grasp the common theme or what Goethe called the *primordial phenomenon*.

However, how to know what an example is, and isn't, an example of?[128] Fortunately, there is at least one branch of human knowledge where it is evident that individual cases can "exemplify" general properties: mathematics. And maybe it is not by chance that the two periods under consideration here, namely the formative period of Greek philosophy and the period of classical German philosophy, saw huge advances in the mathematical description of nature. Maybe the success of mathematics was taken to be partially due to the specific way it gains insights.

In mathematics something general can be shown (even proven) by investigating only a single case—such as, for instance, proving the sum of the

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[128] On "exemplification" see, e.g., Goodman 1976, 52–7. See also Gabriel 2009, 46, and Kant 1798 (*Anthropologie*), §44, on the notion of "wit" (*ingenium*).

angles of *any* triangle to be 180° (in Euclidean space) by examining only one triangle. Once the individual case is grasped, it is evident that it applies to any possible case.

Comparing this to natural philosophy, what differs is the propositional content. Having grasped the mathematical proof, one knows *that* the angles sum up to 180°. In the case of natural philosophy, one is also shown something (plant samples, say) and one also grasps something, namely the primordial phenomenon. However, this "being shown something" or "grasping something" does not result in a propositional content in the same sense. There is no final botanical theorem and, in this case, "being shown something" is not equivalent to being shown "something to be an X" or "that X is the case".

To put things into a nutshell: In the case of natural philosophy, there is an underdetermination problem—and exemplarity is supposed to be the remedy. The worry is that underdetermination might easily lead to a "silly" (to pick up Kant's term) overflow of associations. Hence, Xenophanes, Parmenides, and Empedocles implicitly claimed a special mental capacity of humans, namely the ability to exemplarily grasp and scrutinize divine inspiration. Later, Goethe proclaimed a human capacity of "intuitive understanding" or "intuitive power of judgment." In both cases, however, this mental capacity is meant to grasp the infinite in the finite. For Goethe as well as for the early Greek poets, there exists a specific human capacity which allows us to grasp something as being exemplary.

This capacity works like a "hidden compass" in an immediately given natural environment which then appears in a somehow harmonized and integrated fashion.[129] The accuracy of this hidden compass, however, can never be proven directly or by discursive means. This is also what drives those thinkers towards writing poetry. Non-discursive claims cannot be made directly. So alternative forms of presentation are sought, here rhythm and meter appear as particularly promising ways to, as it were, make things resonate and make underlying themes audible. Nature poetry thus gives rise to something in between cognizing propositional content and sensing (hearing) temporal pattern.[130]

Just to repeat a point from above: This is not meant to say that poetry is the only means for prompting non-discursive knowledge. Of course, being an apprentice in a lab is an outstanding way to gain a lot of non-discursive, especially tacit, knowledge. And there are other genres of literature as well.

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[129] See Gabriel 1990, 15.
[130] See Lerdahl 2001.

The reading of a textbook or of, for instance, Darwin's *Origin of Species* can be "inspiring" and might also prompt non-discursive knowledge. Arguably, however, it is not as strongly intended as in the case of poetry, where rhythm and meter are the immediate vehicles to "make a theme audible."

Note also the different auditory qualities when reading out loud texts of different genres. The way prose is read out loud usually differs from the way a poem is. And this seems true for reading out loud as well as for silent reading to oneself. Arguably, one's inner voice when reading a poem sounds different from the way it sounds when, say, reading a textbook, and an internally read verse seems closer to a heard utterance than to a written manifestation of a proposition.[131] Also note that, in comparison with other sense modalities, hearing is particularly aggregative and harmonizing, synthesizing rather than analysing.[132] Thus, the idea of "making a theme audible" in natural philosophy really reaches to the level of the perceptual.[133] Or, as Goethe himself put it in 1823: "All our attention must be directed to *listening in* (*abzulauschen*) on nature's procedures."[134] That is, by means of careful listening we experience the fundamental structure of nature and are even able to, as it were, recite and predict natural phenomena.

All these aural connotations nicely link up not only with Goethe's natural philosophy but also with what has been said above about the early Greek philosophers. However, to not ride roughshod over important differences here: Of course, Goethe no longer lives in a primarily oral society, and by his time the general conditions for producing (memorizable) poems had changed substantially.[135] Next, the occasional invocations of muses in Goethe do not fulfil the same function as in Parmenides and Empedocles. Goethe surely thinks differently about the divine origin of rhythmically presented knowledge and about the human capacities involved. However, an important part of the epistemological and "missionary" background remains the same: The main concern is still to impart non-discursive knowledge in relation to the origin, growth, and result of nature; to make a common theme audible and to initiate in the recipient an "aha" moment in the sense of an active grasp of natural phenomena organizing a large field of experience. Differences, however, lie in the specific nature of that non-discursive knowledge or common theme: In the case of the early Greeks, what is at stake

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[131] See Ong 2012, 32 and 71–3.
[132] See Fiumara 1990 as well as Sieroka 2009 and 2015.
[133] See Hillebrandt 2022, entitled "Reading with the Ears" (*Mit den Ohren lesen*), even though the book focusses on poets not discussed in the present context.
[134] Goethe, WA II/7, 76, my emphasis ("Unsere ganze Aufmerksamkeit muss aber darauf gerichtet sein, der Natur ihre Verfahren abzulauschen").
[135] See Goody 1977, 26–7.

is especially the evidential status—that, what is heard, is "truth" rather than "mere opinion"— and this status cannot be convincingly claimed by prosaic means. In the case of Goethe, the point is about intuitive understanding—about grasping infinitely many (possible) phenomena all in one sweep—and, similarly, this cannot happen in terms of propositional claims.

7. Aftermath: Current Replacements

Considering contemporary literature, two ways of writing come to mind as possible modern successors or replacements of nature poetry: works of popular science and philosophical aphorisms and fragments.

Like popular science today, nature poetry was often used as a handy tool for providing a wider audience with scientific insights in a digestible form. This was true for Hellenistic didactic poetry and is also a hallmark of pre-Goethean German didactic poetry during the eighteenth century. The works of poets such as Gottsched and von Haller are mostly efforts to popularize scientific knowledge for mathematically uneducated laypersons.[136] Thus, modern popular science may be viewed as a partial replacement of such poetry—even more so, since grasping by analogy plays a fundamental role in both genres. Given that contemporary scientific theories often go far beyond everyday knowledge and experience, popularization frequently implies the building up of analogies. This build-up is a very delicate enterprise in which, at least ideally, the role of the popularizer is like that of the muses in antiquity. He or she has to warrant the truth and mediate between a domain of higher (scientific) knowledge and the down-to-earth everyday understanding of laypersons.[137] Moreover, popular science texts often show didactic and rhetorical features that are congenial to didactic poetry rather than academic publishing. The imagery used in the analogies is often very strong and sometimes even stirring, there is often an extended use of emotional adjectives and verbs, and sometimes the reader is even addressed directly. As in nature poetry, the point is to involve the recipient on an immediate experiential level—to, as it were, strike a chord with him or her.

Philosophical aphorisms and fragments can be viewed as possible successors or replacements for nature poetry as well. This is because they, too, react in a specific way to the fragmentation of human knowledge. Writing self-sufficient aphorisms or perspectival fragments is a way to counteract the

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[136] See Albertsen 1967, 159–315.
[137] See Tetens 2006, 241.

build-up of a single, unified, and comprehensive theory.[138] Authors that immediately might come to mind here are Nietzsche and the later Wittgenstein.[139] It comes as no surprise that the former was strongly influenced by the early Greek philosophers. Heraclitus, as already mentioned, had a very prominent aphoristic style (and was indeed hoping to make the *lógos* audible). Nietzsche picked up on that, and it allowed him to find a new language for, often non-discursive, philosophical insights. Again, the presentation is meant to strike a chord with the recipient – it is indeed full of aural allusions and poetic elements[140] – and to impart something of therapeutic character, helping people to lead their lives.

Wittgenstein's fragmentary style is not so much indebted to an engagement with early Greek philosophers, but some of his philosophical convictions closely resemble those of Goethe. On the one hand, this is due to the general missionary or therapeutic character of the *Philosophische Untersuchungen*.[141] On the other, the concrete aims and the methodological means for achieving them are strikingly similar to Goethe's. Wittgenstein refers to Goethe even explicitly. Just like Goethe—who was talking about gaining a "clear view" (*Übersicht*) by putting phenomena into a serial order, investigating their transitional character, and then intuitively grasping the primordial phenomenon—Wittgenstein aspires a "clear" or "perspicuous representation" (*übersichtliche Darstellung*) which "produces just that understanding which consists in 'seeing the connexions.' Hence the importance of finding and inventing intermediate cases."[142]

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[138] On the distinction between fragment and aphorism see Frank & Soldati 1989, 34.

[139] See, e.g., Nietzsche 1988, vol. 3 (*Die Fröhliche Wissenschaft*), and Wittgenstein 1984a (*Philosophische Untersuchungen*).

[140] For instance, *Die Fröhliche Wissenschaft* (Nietzsche 1988, vol. 3) starts with a "Prelude in German Rhymes" (*Vorspiel in deutschen Reimen*) and ends with "Songs of Prince Vogelfrei" (*Lieder des Prinzen Vogelfrei*); "listening" and "listening to someone" (*hören, gehorchen*) are very prominent concepts in *Also sprach Zarathustra* (Nietzsche 1988, vol. 4), especially in part II; and fifteen years after writing *Die Geburt der Tragödie* Nietzsche criticises himself for *not having sung* the content of that book ("ich hätte *singen* sollen"—Nietzsche 1988, vol. 1, 15).

[141] See Wittgenstein 1984a (*Philosophische Untersuchungen*), §309: "Das Ziel der Philosophie – der Fliege den Ausweg aus dem Fliegenglas zeigen" ("What is your aim in philosophy? To show the fly the way out of the fly-bottle"). Notably, a similar therapeutic mission is already present in his *Tractatus logico-philosophicus* (Wittgenstein 1984a) when he distinguishes between saying and showing—see Section "Introduction" above. At this early stage, however, there are neither obvious and immediate stylistic consequences, nor does the reference to Goethe play a prominent role.

[142] Wittgenstein 1984a (*Philosophische Untersuchungen*), §122 ("Die übersichtliche Darstellung vermittelt das Verständnis, welches eben darin besteht, dass wir die ‚Zusammenhänge sehen'. Daher die Wichtigkeit des Findens und Erfindens von Zwischengliedern"). See also Wittgenstein 1984b (*Bemerkungen über die Philosophie der Psychologie*), §950: "Naturgeschichte beschreibt, sagen wir, Pflanzen und Tiere. Aber könnte es nicht sein,

So, once more, this is about grasping a profusion of cases all in one sweep, about prompting the organization of a large field of experience. This grasping, again, is not a cognizing of propositional content but a sensing of pattern. So maybe, instead of "perspicuous representation," "making a theme audible" is indeed the more suitable phrase for the underlying aspiration. And examples of such "themes" that could be "(transiently) heard" rather than "(manifestly) seen" would be Parmenides's *alétheia*, Heraclitus's *lógos*, and Goethe's *Urphänomen*.

Acknowledgements

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daß Pflanzen in allen Einzelheiten beschrieben worden wären, und nun erst jemand daherkäme, der Analogien in ihrem Baue sieht, die man früher nicht gesehen hatte? Daß er also eine neue Ordnung in diesen Beschreibungen herstellt. Er sagt z.B.: 'Vergleiche nicht diesen Teil mit diesem; sondern vielmehr mit jenem!' (Goethe wollte so etwas tun). Und dabei spricht er nicht notwendigerweise von Abstammung; dennoch könnte die neue Anordnung auch der wissenschaftlichen Untersuchung eine neue Richtung geben. Er sagt 'Sieh es so an!' – und das kann nun verschiedenerlei Vorteile und Folgen haben." ("Well, natural history describes, say, plants and animals. But could it not be that plants have been described in all their detail, and then someone turns up and notices analogies in their structure that nobody had noticed before? So he imposes an order on these descriptions. He says, e.g. 'Don't compare this part with that; rather, with this other one!' (Goethe wanted to do some such thing.) And in so doing, he is not necessarily speaking of descent, but nevertheless the new way of arrangement might also give scientific investigation a new direction. He says 'Look at it in this way!'—and this may have advantages and consequences of different kinds.")

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