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“Beauty is the normal state.” (Ralph Waldo Emerson , *The Conduct of Life*)

“There can be no such thing as an eclectic philosophy, but there can be eclectic philosophers. But an eclectic is anyone who, from whatever exists and is happening round about, appropriates the things he or she finds congenial to her or his nature; and this context validly includes all that can be called culture and progress in a theoretical and practical sense. It follows that two eclectic philosophers could turn into the greatest opponents if they are antagonistic to one another, each picking out whatever suits him or her in every traditional system of philosophy. (Goethe, *Wilhelm Meister’s Journeyman Years*)

When critics label Goethe's scientific work “literary” or “artistic”, they seem to have little more in mind than a dismissive gesture towards its alleged “subjectivity”, or perhaps towards the beauty of Goethe's illustrations, or, more frequently, the often-noted, though unanalysed, power of his language. But Goethe thinks there is more, *much* more, to “taste” (*Geschmack*) than appreciation of merely formalistic qualities. He holds that aesthetic perception yields the most comprehensive knowledge humanly available; indeed, for him, as for Nietzsche (Bishop and Stephenson 2001), aesthetic experience is the norm against which all other kinds of knowing must be adjudged, and without which human life is robbed of any intrinsic meaning. He clearly sees his own scientific work as a contribution to what might be called, following Alexander Baumgarten's original formulation of 1750, the “science of aesthetics”: “the beautiful is a manifestation of the mysterious laws of nature, which, were it not for the beautiful phenomenon, would be hidden from us eternally” (Goethe [1907] 1976, 47). For Goethe, as for A. N. Whitehead, “an actual fact is a fact of aesthetic experience”; and “all aesthetic experience is feeling arising out of the relation of contrast under identity” (Whitehead [1929] 1978, 280). The metaphysical tenet that underlies Goethe’s scientific method is, in this respect at least, indistinguishable from the Process Philosophy articulated by Whitehead and his followers: “the metaphysical doctrine here expounded,” writes Whitehead in his *Process and Reality*, “finds the foundations of the world in the aesthetic experience, rather than – as with Kant – in

the cognitive and conceptual experience. All order is therefore aesthetic order. ... The actual world is the outcome of the aesthetic order” (Whitehead 1927, 91-92).

This essay is an attempt to identify the *cultural* significance of Goethe's scientific writings. My aim is not to argue for the validity of either Goethe's findings or his ideas. The latter are, as H. B. Nisbet's *Goethe and the Scientific Tradition* convincingly demonstrated over thirty years ago, in any case largely derivative; and the former continue to be controversial amongst those competent to judge, the scientific community and its historians. My concern here is rather with the abiding, indeed increasing, significance of Goethe's method of acquiring and transmitting meaningful knowledge. What follows consists in a re-reading of a selection of Goethe's writings on nature and culture, against a background-sketch of the long historical perspective he himself set them in, as an appropriate cultural response to what he held was the inherently reproductive character of life. Natural phenomena, in Goethe's view, provoke cultural reproduction: a natural object is, as he puts it, something that elicits re-presentation (“*das Darzustellende*”). Intensely aware, long before Bergson, of the severe distortions made by the essentially spatial metaphors with which discursive language operates, Goethe, I suggest, deployed a novel mode of writing (theoretically elaborated by Schiller during their collaboration as “aesthetic discourse” - *schöner Vortrag*) in order to re-enact in language at least something of the complex interchange in natural and cultural process, while at the same time describing with eminent clarity the character of its products. My indebtedness to a whole array of scholars, whose primary aim - of arguing for the scientific respectability of Goethe's various “discoveries” - is not my own, will be clear below.

In order to dispel the cloud hanging over Goethe's scientific writings in the still commonplace description, “Goethe's Romantic approach to science”¹, it is

¹ The formulation is taken from Frazee, 1978, 63-68 (p. 63). The author is quite frank about having derived his impression of Goethe's science from browsing through the secondary literature. Cf. Richards, 2002, 563-4.

helpful, if their true cultural significance is to be appreciated, to evoke the reception of Goethe's activity as a scientist, in particular of his criticism of Newton in its immediate cultural context. It is one of the many ironies of Goethe's reception that, just as Erich Heller's famous book, *The Disinherited Mind*, was popularising old-fashioned, nineteenth-century positivistic condemnations of his scientific work (claiming that Goethe "made no contribution to scientific progress or technique," and that Goethe and modern science "never met"; Heller 1961, 7 & 11), scientists of distinction were returning to Goethe, drawn both by the suggestiveness of his methodology and the simple fact, now generally acknowledged, that he had made several significant discoveries. Indeed, he has been cited throughout the twentieth-century by reputable authorities as the conceptual progenitor of several important developments in various fields. Several factors have contributed to this rehabilitation of Goethe's scientific work in the twentieth century. The increased awareness in the scientific community itself of the limitations of Newtonian mechanistic models, coupled with a greater sense of the history of science, has undoubtedly played its part; as has the Popperian recognition that the kind of mistakes Goethe made are "matters of no consequence"(Arber, 1946, 4), since refutation of error is seen as essential to the progress of science. Relevant, too, is the increasingly evident historical fact that "by pursuing independent paths of inquiry we [in the twentieth century] have recaptured and developed many of the perceptionist insights first gained by the eighteenth century" (Flavell, 1970, 16). Not least, the growing confirmation of some of even Goethe's optical findings has done a great deal to re-establish his historical reputation in science itself (Burwick, 1986, 23; Rehbock, 1995, 388-89).

By contrast, throughout the nineteenth century Goethe's science was by and large dismissed and forgotten as the dilettante dabblings of a great poet who regretfully wasted so much time on irrelevant matters (Wells, 1978, 125-6). After about 1840 Goethe's scientific writings were almost totally neglected (Wachsmuth, 1941, 6), until Raymond Du Bois's Address as Principal of Berlin University in 1882, "Goethe without End", which contained, however, only a fundamental critique of Goethe's fruitless amateurism (Benn, 1942, 466). The 1830s marked the high point of his scientific reputation before the twentieth century. Geoffroy de Sainte-Hilaire's favourable report on the *Metamorphosis of Plants* to the Academy of Paris in 1831 gave Goethe great personal pleasure. In 1833 John Lindley acknowledged Goethe's scientific contribution in morphology in a lecture to the British Association for the Advancement of Science; and, in 1837, William Whewell praised Goethe's work in biology and anatomy (Burwick, 1986, 4). The quite positive reception in England of the *Metamorphosis* did something to mitigate the negative impression that Goethe's anti-Newtonian stance had created (Wolf, 1952-53, 101). His work on colour had to contend with the British scientific establishment's idolatry of Newton, given perhaps its fullest expression in Sir David Brewster's hagiographic study of Sir Isaac. In such a cultural climate, his, and Thomas Young's, savagely hostile reviews were, perhaps, inevitable (Burwick, 1986, 32-34). By contrast, in Russia, where positivistic science was on much less firm a footing - and where the intelligentsia were, in any case, prone to a definite cultural Germanophilia - his scientific work was better received than in either Britain or Germany, or even France, especially at Moscow University. Long before Hegenbauer in the early twentieth century in Germany acknowledged the significance of Goethe's *Morphologie*, his biological ideas had a positive influence in Russian scientific literature. He had, too, in this regard a profound effect on writers such as Alexander Herzen. Such interest as was sustained in Goethe's science in nineteenth-century Germany, as

well as England, was due in very large part to G.H.Lewes' sympathetic though ultimately critical account in his biography of 1856 (Petzschner, 1976, 384-5).

In the twentieth century, Goethe's opposition to Newton has been variously cited as paradigmatic of serious problems confronting the modern mind. He has been enlisted, for example, as a mediator in the "Two-Cultures" debate initiated by C.P.Snow (Schwedes, 1975, 64). And he has also been identified as a champion of historico-genetic thought in its struggle with formalism (Kaufmann, I, 1985, 35-41). This has gone some way towards saving him for those more obscurantist of his admirers who would make him over into a projection of their own, often quite ill-informed, fears of what they think science is about. But in the nineteenth century what led to his being enthusiastically received in theosophical circles in Russia (as a mystagogue!) contributed very substantially in the Western scientific community to his writings' being rejected; especially so in Britain, where to many "anti-Newtonian" was simply synonymous with mysticism, mesmerism, magnetism and all the other hocuspocus associated with *Naturphilosophie* (Burwick, 1986, 34; cf. Schöne, 1987, 64-69). Coleridge who had long thought Newton's optics "monstrous fictions", before, as he claimed, he had ever heard of Goethe, was quite exceptional in not identifying Goethe's critique with that obscurantism which he gradually began to suspect in Schelling (Burwick, 1986, 54 & 242). For the overwhelming majority of Goethe's readers in the nineteenth century his anti-Newton stance could mean only one thing: transcendentalism, attractive to some, repellant to others.

Just as Goethe strove in his biological studies to integrate in one method the formalistic approach of Linnaeus and Cuvier with the genetic approach he found in Rousseau, Herder and later Geoffroy de Sainte Hilaire, so, too, he strove to strike a pragmatic balance between what he regarded as the complementary heresies of the mechanistic cosmology of Newtonianism and the organicistic speculations of his Romantic contemporaries:

All effects...that we observe in the world of experience are interrelated in

the most constant manner....It is inevitable...that we should separate them and contrast them with one another; but this necessarily created an endless conflict in the sciences. Stubborn analytical pedantry and indiscriminate mysticism both do equal damage. (Goethe 1947: I, 8, 232)

When pursued exclusively both of these modes of thought hinder the progress of knowledge: “either one brings together and connects, in the gloom of fantasy and with the cunning of mysticism, things that are worlds apart, or one isolates what belongs together by a disintegrating, in reality unintelligent, analytical procedure...”. (Goethe 1947: I, 9, 347) Like both Newton and the *Naturphilosophen*, Goethe was a grateful heir to the full sweep of the scientific tradition; not just to the post-Galileo empiricist strand, but to what might be designated as the hermetic tradition, embracing magic and alchemy, from the likes of Paracelsus and Jakob Böhme, and the mystical tradition proper, via Nicholas de Cusa and Giordano Bruno amongst others. Unlike, say, Schelling, however, Goethe did not conflate the immanence of scientific inquiry with transcendental speculation. Characteristically, he rejected just those “superstitious” elements of alchemy that fascinated many a Romantic (Goethe 1982, 14:78); Böhme's equation of light with the divinity held no interest for him. But, unlike the Newton of scientific legend, he remained true to the world of sense-qualities (Goethe 1947:I, 6, 300), and in so doing, he felt he was also being true to the majestically ambitious values that had animated the history of science in the West.

And he never makes any secret of the fact that in his scientific endeavours, as elsewhere, he is drawing on others; lifting quite happily, not only from the Ancients (Heraclitus, Aristotle, and Plotinus, in particular) and the Moderns (Spinoza, Leibniz, Shaftesbury), but also from his contemporaries: from his friends (Herder, Schiller) and from his foes (*Naturphilosophen* - even Newton!) alike. Although he was proud of the fact that (since he was not a university teacher) he had no reason to cow-tow to conventional wisdom, and despite his

conviction that some understanding of nature was possible without knowledge of tradition (Goethe 1947, I, 11, 180), he argues that if such knowledge is to attain the status of science, it is absolutely vital to integrate one's individual work with that of one's contemporaries and predecessors in the relevant field. His own eclectic indebtedness to the Neo-Platonic, Empirical, and Rationalist traditions still-flourishing in his own age for theoretical orientation has been clearly demonstrated (Nisbet, 1972). Examination of his statements of scientific principle reveals, too, that they can be traced to crucial stages in the historical development of scientific and technological thought. Indeed Goethe appears to be consciously restating precisely those contributions to the tradition which have become its commonplaces. It is perhaps hardly surprising that a thinker who placed so much emphasis on process and the genetic method should also have evinced such a pronounced sense of history. Just as the employment of the genetic method in morphology enhances clarity of perception, by virtue of the comparisons it enables one to make between different stages of development, so tracing change through the past of human affairs illuminates understanding of the present. Though he is adamantly opposed to historicism, in the sense of absolutising and privileging the context of origin (to Eckermann, 15 October 1825), he is convinced that judgement is impossible without due historical perspective. "The history of science is science itself," he declared in an essay of 1820 (Goethe 1947, I, 8, 157). While naive perception of nature is, of course, entirely possible (and, to some extent, fruitful), "the conflict of the individual with the immediacy of experience and with mediated tradition is, in fine, history of the sciences" (Goethe 1982, 14, 51). And he was by no means exceptional in his age in this awareness of the history of science. The traditional positions in the history of (Newtonian) science and scientific method were available, in Germany as elsewhere in Europe in the eighteenth century, in the form of translations (from the English, French, Dutch and Italian), in the many compendia of science (such as Johann Gottlieb Buhle's grandiose 1810 *History of the Arts and Sciences*

from their Renaissance up to the end of the Eighteenth Century), in scientific periodicals, and in the wide use made of these themes by popular poets and writers (Schatzberg 1973, 325). The sheer variety and quantity of such compendia and manuals (many of which went into several editions) indicates the familiarity of the eighteenth-century reading public with at least the (orthodox) tenets of traditional scientific thinking, even if, as Goethe pointed out, such collections were a source of the “immortalisation of error” (Goethe [1907] 1976, 89).

In what is itself part of Goethe's inheritance from the Enlightenment, he dramatises social and cultural history in terms of alternating progressive and retrograde periods, in which he seeks, as in his morphology, a pattern of recurrence. In the case of the history of science, he discerns two tendencies at work from its earliest recorded history, which he identifies by associating the one with Plato, the other with Aristotle (HA, 14, 54f). These two poles – “two parties” (Goethe 1982, 14, 55) - provide the dynamic of scientific progress, “the driving force” of science-history (Fink, 1991, 53), and it is to the credit of his own age, Goethe contends, that the two are still held in (albeit precarious) balance. That Goethe himself was attracted by, indeed felt an affinity for, the Aristotelian tendency (Wachsmuth 1941, 16) in no way affects the balanced presentation he offers in his *Theory of Colours* of these two poles - the “Platonic” - mechanistic (that is, tending to abstraction) and the “Aristotelian” - dynamic (tending to concretion) - at work in the development of Western science (Groth 1972, 60). In fact, the whole narrative he intends to retell, he announces early on in the “Historical Section”, is merely a “commentary” (Goethe 1982, 14, 58) on this dramatic story of the interplay over centuries of these two opposing modes of thought:

It is, then, my duty to unfold before the eyes of the lover of nature-and-history, the story of how in the modern era the Platonic and Aristotelian

convictions have again come to the surface, how they have been variously repressed or exploited, perfected or distorted, and how, through a singular fluctuation of ancient and modern types of opinion, the topic has been pushed from one side to the other, until finally, at the beginning of the eighteenth century, it has been completely displaced (Goethe 1982, 14, 56).

Oppositions for Goethe are only rarely alternatives; rather each is a reciprocal supplementary activity for the other.

Clearly, such a view of history is cyclical - or, rather, helical - in conception, as he points out at the very beginning of his account:

The circle that mankind must tread, is sufficiently limited and, despite the great standstill that barbarism effected, has more than once completed its course. If we ascribe to it, in addition, a spiral movement, then it return recurrently to places it has already passed through. All true views and all errors are repeated on this path (Goethe 1982, 14, 7).

Innovation, then, for Goethe consists in the refinement and transformation of inherited thought; rather than coming out of nowhere, a *scienza nuova*, a view that had been the received wisdom since at least Nicolo Tartaglia, the sixteenth-century mathematician, had coined the phrase to designate the positivistic sciences (and that is still current enough today to be asserted as self-evident by a recent writer on science, described as having “suddenly exploded all about us”; Appleyard 1992, 4). Progress is conceived by Goethe as a move from general to ever more specific, with recourse to theorising only when enhanced conceptual subtlety is required to account for the increase in detailed knowledge (Goethe 1982, 13, 64). Like any other human enterprise, science (as he also remarked to Eckermann, 23 October 1828) is characterised by regressions: “The sciences have developed in a remarkable way, but by no means in a steady progress, not even step-by-step; but rather through ups and downs, through linear or helical

progressions and regressions” (Goethe 1982, 14, 58). Moreover, the historical record is full of lacunae (Goethe 1982, 14, 51), which make the anyway highly problematic business of writing history (Goethe 1982, 13, 320) even more difficult. What is provided in the “Historical Section” is readily acknowledged as no more than a “sketch” (*Skizze*; Goethe 1982, 14, 55) whose redeeming value is that it outlines those “crucial turning-points” (*Hauptmomente*; Goethe 1982, 14, 56) in the history of colour theory that were already known to the Greeks (though the ideas of Pre-Socratics and post-Aristotelians had their influence only late in the Renaissance) - key ideas, the knowledge of which in historical development is essential to understanding the present (as he remarked to von Müller in 1827, noted in the latter's diary on 23 August).

Goethe is keen, then, to emphasize that *both* aspects of the tradition, the one he is personally opposed to as much as the one to which he adheres, are alike prone to degenerate, unless and until stimulated by their complementary into renewed life - that is to say, into dealing with nature as problematic, and with science as historical. It is, in fact, much the same conviction as that which has guided contemporary historians of science: “the history of science,” writes Popper, “should be treated *not* as a history of theories, but as a history of problem-situations and their modifications, (sometimes imperceptible, sometimes revolutionary)” (Popper 1972, 177). Any mode of thought, including the dynamic outlook Goethe attributes to the Aristotelian school, becomes pernicious when it claims hegemony, something it is far less likely to do if alive to the history of its subject: the rejection of the past, and the consequent temporal parochialism, of much of modern exact science derives, in Goethe's view, in large part from its illusory view of itself as utterly unprecedented, an arrogance which is then extended to its treatment of nature (Goethe 1947, II, 6, 189).

This needful historical dimension Goethe builds in to his scientific writing - indeed, into a great deal of his non-scientific writing, too - by means of those ubiquitous articulations of general principles, broadly methodological in nature,

that are a striking feature of the presentation of his findings. He does nothing to disguise the fact they are derived from tradition; and it is not the case, as has been argued, that he occasionally “extricates” a thought from the esoteric Neoplatonic, or hermetic, tradition and then employs it in the exoteric realm of science (Schneider 1979, 466). Rather he thinks that such (often contradictory) ideas are part-and-parcel of that tradition. It is for example wholly typical of Goethe's method and manner to introduce his “Metamorphosis of Plants” with the observation that “the secret affinity of the various external parts of the plant [his topic]... has in general long since been recognized by investigators”(Goethe 1982, 13, 64). Such perceptions constitute the “crucial moments” (*Hauptmomente*) the Greeks already knew; in his work they are assimilated as what the German eighteenth century called *Maximen* (“maxims”, “principles”, “laws”) guiding activity. The briefest survey of some of Goethe's characteristic statements of principle demonstrate that he is *equally* indebted to the “mechanistic” (that is, “Newtonian” tradition) *and* to the “dynamic” school of thought; and serves to illustrate his determination to situate his own scientific work at the bi-polar centre of the Western scientific tradition (Stephenson, 1995, 35-45).

Indeed, wherever we turn in Goethe's scientific texts we come across the re-affirmation of general principles traceable through the whole length of the three thousand years of scientific tradition evoked in his *History of the Theory of Colours*; and, once they are traced, they turn out very often to be associated with names that are remembered in scientific history for precisely the methodological innovation Goethe is rewriting (such as Roger Bacon or Roger Grosseteste; Goethe [1907] 1976, 200 & 113-14). What may appear to be no more than mere name-dropping is, in fact, the deft employment of the rhetorical figure of *antonomasia* (the use of a proper name to express a general idea) as an argumentative gambit.

Goethe's principal aim as a historian of science is to bring home, by embedding his own convictions in the twin strands of Western science, that his own approach, far from being marginal or eccentric, has throughout almost the whole length of that tradition, been an integral part of its inner dialectic. The marginalization of sensuous perception, he seeks to show, is a deplorable consequence of the undue reliance placed on analysis and rationalisation that has increasingly characterised Western thought and culture in the modern, that is the post-Renaissance, era, of which Newton is the outstanding, Titanic, representative. It is demonstrably untrue that Goethe went to work innocent of, or even repudiating, the preconceptions of modern science (Schrimpf 1977, 132). If Goethe's science is "in opposition to exact science", it is so only in the sense of a complementary polarity supplementing it, not a competing alternative. After all his *Theory of Colour* contains (in the section, "Sensuous-Ethical Effects of Colour") a "not inconsiderable portion" of classical mathematics, in its "symmetrical ordering according to polar relations" (Heissenberg 1967, 422), and his whole scientific *oeuvre* is informed by the principles of modern science (Seamon & Zajonc 1998, ii-x). Goethe's anxiety is that the - to his mind, historically necessary - modern rapprochement between the mechanistic mode and the organistic is, in part because of external socio-cultural factors, too long in coming, with the consequence that claims to knowledge that are every bit as important as those of positive science seem to lack validity in a climate of opinion one-sidedly quantitative in outlook. He had no pretensions whatsoever to originality in this campaign; as he told Eckermann, 16 December 1828, "my theory of colour is no complete innovation". As a pupil of Herder's he was well aware, for instance, of Vico's protest against the suppression of the concrete quality of things, leaving only numbers and number relations (following Galileo's reduction of physics to its "first part", mechanics). But, convinced that historical awareness of the past has the supreme value of provoking and enabling us to project into the future, thus giving to present activity the "ethical" (*sittlich*)

responsibility of evaluation - he has hopes that the longed-for reconciliation of quantitative and qualitative modes of knowing will yet come about. But he is realistic enough to know that the enterprise is fraught with appalling difficulty. It is not just that, while a sense of history may well help guard against undue subjectivity, it can of itself do nothing to overcome the hypothetical impossibility of objective knowledge, the subject-object divide. Equally daunting is the fact, as Goethe sees it, that the swing from one pole to another in scientific outlook brings with it a subtle and all-pervasive change, not simply in the terminology of the specialist subject, but also in the metaphors (and thus the models) that come to dominate human thought. The outlook dominant in any given period in history insinuates itself into scientific and wider discourse, as the norm: “all taxonomies”, he notes, “closely examined, turn out to be taken from the prevailing point of view”(Goethe 1982, 68). Clearly, Goethe's strategy needed to be two-pronged if he was to help shift the linguistically-embedded prejudice of one-sided Newtonianism: on the one hand, to find a way of giving expression in discourse to qualitative knowledge; on the other, to articulate a validating account of the reliability of such knowledge. Of course, the two desiderata are intertwined. But the epistemological challenge is the more urgent, simply because, as he put it in a reflection edited after his death:

When ways of looking disappear from the world, the objects perceived often go missing too. In fact one can say that, in a higher sense, the way of looking *is* the object (Goethe [1907] 1976, 198).

This openness to the whole gamut of traditional thought is Goethe's response to the challenge that he himself threw out to the modern world in one of his most famous aphorisms, taken from his novel of 1829, *Wilhelm Meister's Journeyman*

Years: “Everything worth thinking has already been thought; our endeavour must be to think it through again” (Goethe [1907] 1976, 93).

It is the fruit, as Paul Stöcklein pointed out (Goethe 1963, 9, 742-43), of his “conversation” with his intellectual predecessors. It also helps explain the striking resonance of his thinking that continues into our own day in apparently quite diverse thinkers, themselves equally grateful heirs to the same traditions (Böhme, 67-8). In any case, the growth of the history of ideas in the latter half of the twentieth century has “rediscovered” ideas that were accepted notions in the eighteenth.

But at least equally significant is the second part of the aphorism above: “thinking through inherited thought” for Goethe, as for Schiller, is a matter, not just of conceptual abstraction, but of aesthetic concretization. In fact, the insistence on the crucial role of sensitivity to the material medium in the achievement of an organistic understanding of the world is the defining characteristic of the temper of the aesthetic, scientific, and broader cultural, theory of Weimar Classicism. The movement of Weimar Classical thought is from general to particular, away from the characteristic “scene of Romantic art ... the play with abstractions ... and with disembodied forms and patterns” (Heller 1968, 129-30). The human mind, Goethe argues, while enjoying the elevation of high abstraction, longs for the particular, *without* losing a universal perspective (Goethe 1982, 12, 84). It is the function of the aesthetic to provide this stereoscopic perspective by “epitomising” human significance in a particular form (Goethe 1982, 12, 297). It is, of course, the business of reflection to subject aesthetic perceptions to intellectual analysis; but not to *displace* them with the resultant conceptual entities — a reifying tendency common, in Goethe's view, to Romanticism and Newtonianism alike. And wherever decisive deviation from Platonic abstraction as the ultimate goal of the life of the mind is detectable in thinking about nature and culture, we may well be justified in suspecting at least a continuing trace of the genealogical chain of ideas to which Goethe and Schiller felt their own project belonged. In respect of the cultural discussion that has followed that of Goethe and Schiller, evidence of a similar, non-Platonic, valuation of aesthetic experience as yet higher than intellectual insight may well indicate the filiation of their characteristic thought. Everything depends in this context on the morphology of ideas, as distinct from

merely verbal likeness. That is to say, it would seem reasonable to assume that, where the form of conceptualisation in Weimar Classicism and in a later writer is similar, it is possible to discern shared (and often demonstrably linked) participation in a perennial concern with aesthetic value (Stephenson, 2005).

Goethe speaks of his own heuristic methodology as the projection onto the external world of an “intimated rule”: “there is something unknown, yet lawful, in the object which corresponds to something unknown, yet lawful, in the subject” (Goethe [1907] 1976, 69, and 227). There is not much doubt that this is Pre-Socratic. It is certainly not Schellingian; the “unknown”, whatever else it is, is not an Idea, an object of rational cognition. It is, rather, precisely what Goethe calls it, an imaginative heuristic tool that directs attention to the world. But since it is “unknown”, it can scarcely be the basic component of his theory of knowledge that some have seen in it. Like Spinoza's thought, the Pre-Socratic doctrine is functioning here as a congenial framework for Goethe; and, as in the case of Spinoza's metaphysics, “all particularities escape [it]” (Goethe to F. H. Jacobi, 9 June 1785). The essence of reification² for Goethe is to mistake abstract disembodied *structure* for concrete, embodied *form*. Looking for the Universal qua abstraction in the Particular is, for him, always such an act of reification, since the particular and the universal are, from the standpoint of aesthetic perception, simply *names* for aspects of a concrete reality. Intellectual certainty is, for him, a category-mistake; the Pre-Socratic formula of an (unknown) Self finding itself in an (unknown) Nature is merely an adumbration of the problem as are all such abstract formulae – and no solution.

Certainty is rather an aesthetic quality of embodied feeling, a valuation that occurs at every level of interaction between subject and object. The pure abstraction to which Platonists aspire is, for Goethe, simply impossible to attain: both what he calls the “empirical” and the “scientific” phenomena retain something of the sensuous matrix – **the concrete context of origin and growth - in which each has its birth. This is what he had learned as a practising artist. A successful work of art re-presents traces of lived experience in the meaningfully interconnected array of the textured surface of its physical medium, whether in paint or marble, in the sound and look of language, or in the undulating figurations of the dancer's body.** It is, in his view, only sensible, therefore, that human thought in every area of study should take

² Literally, “Ver-ding-lichung”: “making a thing” of what is but a mental entity.

account of the medium in which it operates. For this reason, his chosen term for the highest perception (of the “*pure* phenomenon”) – *Anschauung* (“aesthetic intuition”) – also does duty for any, or all, of the instances of sensuous perception that occur within the open-ended, cyclical, process of ever more specific (and ever more theorized) insight which underlies his own scientific method – just as “Understanding” (*Verstand*) and “Reason” (*Vernunft*) will do duty for each other, in order to indicate similarly the continuous refinement of intellect that necessarily accompanies this procedure (Goethe [1907] 1976, 167). Although Goethe agrees with modern science that the senses are fallible, he does not join in its headlong flight from the sensuous world (Heisenberg 1967, 425). Standing in a tradition that has continued into the twentieth century,³ Goethe calls, by analogy with Kant's *Critique of Pure Reason*, for a “Critique of the Senses”:

Kant has drawn our attention to the fact that there is a *Critique of Reason*, that this – the highest faculty we possess – has cause to be self-aware. What great advantages this voice has brought, everyone will have tested, it is to be hoped, in respect in themselves. I, however, would, in the same spirit, like to throw down the challenge that a Critique of the Senses is necessary. (Goethe [1907] 1976, 97)

His play here on the homonym *Sinn* (which translates well enough into the English “sense”) underlines Goethe’s conviction that meaning is fundamentally, and intrinsically, sensuous. What saves this epistemological stance from collapsing into solipsism is the constitutive, formative, function he ascribes to the objective medium of the senses, which, for the artist and investigator of nature alike, consists in the physical, bodily experience of the aesthetic phenomenon, either actual or imagined (or remembered). Feeling arises when sensuous impression is answered by evaluative response, whether it be visceral or visual. For Goethe, meaningless experience is a contradiction in terms. Nature speaks to us through our senses, he tells us, in the 1810 Preface to his *Theory of Colours* – perhaps the most magnificent passage in the whole of his scientific writings – famously defining colours as “the acts of light, acts and sufferings” (*Taten des Lichts, Taten und Leiden*):

³ Process-philosophy aspires to “a critique of pure feeling” (Whitehead [1929] 1978, 158).

Close your eyes, prick up your ears, and from the softest sound to the wildest noise, from the simplest tone to the highest harmony, from the most violent, passionate scream to the gentlest words of sweet reason, it is but Nature who speaks, revealing her being, her power, her life, and her relatedness, so that a blind person, to whom the infinitely visible world is denied, can grasp an infinite vitality in what can be heard. (Goethe 1982, 13:315)

In an essay written in 1792, entitled “Experiment as Mediator between Object and Subject”, Goethe outlined his position in respect of experimentation. His interest lies, not so much in testing a theory, nor primarily in what he calls the “scientific phenomena” (Goethe 1982, 13, 25); but, like Francis Bacon's, in increasing his knowledge of the living phenomenon in all its given contingency (Wells, 1978, 103-4). Goethe gave himself all possible trouble and took the greatest care to convince himself of the reliability of facts by means of accurate and sustained experiments before re-submitting them to his mind as matter for reflection. By sticking close to the object in its setting, Goethe seeks to avoid any arbitrary connections the imagination might be tempted to make. In his experiments the faculty of memory - the imagination in its “imitative” modality - has a crucial role, assimilating experience and putting it into sequential order - an *Er-innerung* (an “innering”), as Hegel was later to call such retentive assimilation. Having first observed the phenomenon in its immediate environment, noting its relations with other forms, Goethe then studies it under varying experimental conditions (Nisbet, 1972, 38 & 40). In order to study the dynamics of this complex of experiments he imagines it as a successive series in time, each stage imaginatively “derived” (*abgeleitet* – “abducted” - is his term), extending backwards (and sometimes forwards) from the “pregnant point” (Goethe 1982, 13, 40) at which complexity of interrelationship reaches its highest degree of intricacy. His rationale for adopting this procedure is quite simply pragmatic: it is the one way of conceptualising the distinctive “character” a phenomenon has taken on through time. What Goethe is seeking to do in his

experimentation is to recapture, in heightened detail, the glimpse of living form gained in earlier, fleeting aesthetic perception: an experiment is the setting-up of conditions which make the aesthetic structure of an object again manifest. It is not just a test of theory; more a proof of perception. As he told Jacobi (29 December 1794), he strives “to catch phenomena, to hold them fast in experiments”; in fact, the aesthetic form of some phenomena (such as the rainbow) is clearer under experimental conditions than in nature itself (letter to Boisserée, 11 January 1832). The whole point of Goethe's experimentation is, then, *Darstellung* - “representation of an object, brought into relation with others in such a way that its significance is revealed” (Arber 1946, 85):

If we deliberately reproduce the experience of our predecessors, or experiences which we or others at the same time as ourselves have gained, and reconstruct (*wieder darstellen*) phenomena which arose partly by chance, and partly by design, we call this an experiment.
(Goethe 1982, 13, 14)

So the aesthetic phenomenon is revisited in experiment, but now its appreciation is heightened by a much more exact grasp of detail.

The geometric shapes that the mind lends to objects, the phenomena, strictly speaking, do not have; the latter exist rather in clusters constituted by their prehension of each other. And these relations between things, conjunctive as well as disjunctive, are just as much matters of sensuous apprehension as the things themselves. Phenomena endure by repetition of pattern, or better rhythm, of relations – by *form*, which is the diagram, as it were, of the force of polarity. Sensuous elements sustain their identity, magnet-like, through the attraction-and-repulsion of polar opposites. This fundamental rhythm we make out through the ceaseless bombardment of our sensorium by these *Elemente*. Sensation is the mere inarticulate feeling of their presence, or rather, of their “penetration” of the sensorium - the key idea in Goethe's doctrine of sentience. A few months before he died he noted in his Diary: “If only

one could become sufficiently penetrated by the micro-magic of Nature, one would attain soon enough to many a concept” (11 June 1831).

The body is, then, not simply an instrument of the rational will – as, say, it appears in Kant's moral philosophy. The body for Goethe is the site of our sensuous interactions with the “external” world, and as such the necessary medium of our knowledge: “it is astonishing,” he writes to Frau von Stein from Italy (1 February 1787), “how difficult it is to learn to see without using one's own hand.” What grows out of his experience of nature and observation of her products – and this is crucial to the coherence of his “sensuous-intellectual” theory of knowledge – is what he calls a “a way, a *technique* of sensing” (*Sinnesweise*; Goethe 1982, 13:41). And in the last significant letter of his life (to Wilhelm von Humboldt, 17 March 1832) he is still insisting on the importance for human happiness of acquiring as soon as possible “a craft, skill, some kind of art” (*Handwerk, Kunst*). What he has in mind is close to what Edward Bullough calls “technical memory” (Bullough 1957, 145). The senses have, after all, developed in and for the external environment: “the eye has light to thank for its existence” (Goethe 1982, 13:323). They are, then, themselves techniques of the body, developed to cope with sensate stimulus. Traces of the impacting object (Goethe is fond of highlighting the etymology of the German word for “object”, *Gegenstand* – “something standing [over] against”) – are left in the muscular, tactile, *kinetic* memory, and these constitute the medium in and through which the mind works. **Goethe posits a regulative faculty at work – one he himself experienced, enabling him to see with his mind's eye the growth of plants he had earlier studied – a faculty that co-ordinates all other faculties (including “reason” in its usual sense):**

Here the phenomenon of the after-image, memory, productive imagination, concept, and idea must all be in play at once, and be manifest in the living organ of perception, with complete freedom, and without purpose or guidance. (Goethe 1919, II, 11, 283)

These traces of the surface of things – “after-images” (*Nachbilder*) Goethe sometimes calls them – are the residue of physical contact left in the form of techniques, in the sense of habituated responsive adjustments by the organism in its passive-active confrontation with matter. These physical adjustments have (relatively simple) form – “sentience gives to imagination clearly circumscribed, definite forms (*Gestalten*)”,

he writes to Maria Paulowna, 3 January 1817. This fact accounts for the “charm”(Reiz) that natural phenomena exert (Goethe 1982, 13:255). In a wholly characteristic transformation of the Pre-Socratic metaphysical dictum that “depth speaks unto depth”, Goethe lends the formulation specific content: “form (*Gestalt*) speaks to ‘forms of like form’ (*gleichgestalteten*) ” (Goethe 1919, II, 46:276; cf. Goethe [1907] 1976, 103).⁴ What we, as (admittedly highly complex) forms, need do is “eavesdrop” on nature (Goethe 1982, 13:36). For Nature “deigns to speak to ... senses, known, ignored, unknown” (ibid. 315-6). These “elements” *penetrate* us in the sense that they leave their traces in our senses in the form of fixed, physical adjustments, isomorphic with their elemental shape; such after-traces can barely be controlled, and exercise “human mind, cunning, and courage”: they are “arbitrariness” itself (*Willkür*); and if it were not for the fact that we register the polarity that animates them, we should not have a clue as to their nature (Goethe 1919, II, 12:102-3). Being so near to elemental Nature – being in it and of it – sentience is ruled by Nature. Therefore, sentience, in order that some degree of complexity may be grasped, “raises itself to imagination” which, though distanced from Nature is, in its workings, nonetheless very close to her (Goethe 1947, 1, 10:251).

In the case of human perception, then, a faculty (itself a mental technique) is developed, according to Goethe, to accommodate the sensuous in-rush, and to co-ordinate the more localized techniques – “senses” – developed to deal with it immediately. This faculty, he variously refers to – reflecting both its genesis and its multi-functioning – as the “sense-power” (*Sinnkraft*), or the Memory, or the Imagination. Like the sense-organs, the faculties, too, have a genetic history in which they took their form in functional response to Nature, and, as such, their form and function retain the impress of Nature. In that sense, Imagination is “more akin” to Nature than our senses because as a faculty it has retained more of the complexity of Nature's working by dint of co-ordinating at a higher level a multiplicity of lower-order sense-organs (ibid.). In contrast to the intellectual faculties of Reason and Understanding, which are too distant, and the senses, which are too close, Imagination, in its “productive,” aesthetic modality⁵, is at the optimal distance from

⁴ Cf. Gardner 1979, 136: “asymmetry begets asymmetry.”

⁵ **Goethe, like Schiller, distinguished not only between different modalities of the imagination, but also between those of aesthetic experience. The aesthetic also operates in three different modalities: there is the**

Nature. But what inspires Goethe's trust in this faculty, not only in art but in science, with its tendency, as Francis Bacon has it, to "exceed the measure of nature, joining at pleasure things which in nature would never have come together ... making unlawful matches and divorces of things"? (Gilbert and Kuhn 1939, 219). It seems especially odd in view of the "arbitrary" nature of the elemental traces imagination is appointed to govern. The answer brings us into the very heart of Goethe's scientific endeavour, to that nodal point where he seeks to justify his having deployed his artistic gifts in the service of the investigation of nature. Imagination may seem to have no rules, but it in fact obeys aesthetic judgement – "which is the way Reason masters all matter, all elements" (Goethe 1919, II, 46:396). Aesthetic experience, then, is the indirect way by means of which ("subjective") Idea and ("objective") Experience converge. Goethe's trust in imagination stems from two aspects of its workings: first, imagination works with after-images which are as close as we ever get to nature's materiality; second, in its aesthetic modality, imagination works with every other faculty. Just as the Newtonian scientist depends on **the inter-subjectivity of the scientific community** to test the objectivity of data, so, Goethe is suggesting, the inter-faculty testing of the products of imagination gives grounds for relying on this *co-ordinating*, faculty, which when functioning alone, admittedly, cannot achieve "truth" and "integrity" (see his letters to Frau von Stein, 7 November, and to the

"subordinate" role that Schiller envisages for the aesthetic as the prime matter, as it were, on which the intellect goes to work in order to produce concepts and theory; there is the "co-ordinate" role as direct object of enjoyment; and there is its "superordinate" role in gracious living (Wilkinson & Willoughby 2002, 233-68). In this third case, a "Third Realm" (or, to use a biological analogy, an *ambient*) is envisaged by Schiller, one created by interlacing the texture of those outward, physical, and observable aspects of milieu and person that are in any case already subordinate to purposeful action: a perceptible aesthetic form is thereby created, one that clothes and sustains activity and on to which — as on to any aesthetic object — the free and dynamic play of the inner life can be projected and released.

Symbolic expression is, therefore, not only possible, on this theory, within the privacy of one's own inner life or in the communal sharing of artistic appreciation. It is also at work in the manner and style of any and all *public* actions. Schiller does not share the post-Kantian Idealist's faith in *Geist*, in the sense of a Reason to which Nature is to be subjugated. It is true that the sense in which Kant is an "Idealist", in holding that an *Idee* (a *Vernunftbegriff* – a "concept of reason") may regulate reality, is also Schiller's, and Schiller also uses the word *ideal*, beyond the ordinary notion (of perfection), to mean "having existence only as an idea"; but, since on his and Goethe's theory, Art articulates *Geist* (only as a synonym for *Gehalt* – "felt import") in the broad sense of "the inner life" (*das Innere*), "*Kunst des Ideals*" ("Ideal Art", *Aesthetic Education*, Letter II, paragraph 3 & Letter XXVII, paragraph 1) is not "perfect art", nor is it "intellectual art" (presenting a concept of reason), but art replete with significant (i.e., symbolic) import. It is this insistence that the import (*Gehalt*) of art and of all aesthetic phenomena is more than intellectual, even if its material (its *Inhalt*) is wholly or partly intellectual, that distinguishes the "Idealism" of Weimar Classicism from that of those Romantics who subordinate Art to Philosophy (and Religion).

Herders, 10 November 1786). Within the mind, during aesthetic experience, the imagination “penetrates” every other faculty.⁶

Aesthetic experience reveals the real world – for all its elemental dynamism – to be ordered by similarly rhythmic patterns as are at work within us: in the same way as we feel tension, intensity, and resolution (*Polarität, Steigerung, Spezifikation*), so the universe, too, evinces these processes. If art can hold up the mirror to this otherwise inexpressible life *within* us, why, Goethe is asking, should it not be helpful to turn the principles, learned about art through practice and theory, *outwards* on to nature, and so complement a one-sidedly analytic approach? But, unlike say Schelling, Goethe is not seeking any kind of transcendence in his science.⁷ Nature's incredibly complex processes are seen to be utterly unlike the logical structure of “Ideas”; if they are like anything, it is the complex processes at work within human beings, but at a much more primitive level than rationality. Goethe's injunction to the natural scientist is “to seek nothing behind phenomena” (“nichts hinter den Phänomenen suchen”; Goethe [1907] 1976, 116). The attempt to reach with mind what can only be achieved through bodily means is the very cause of that most Romantic of maladies, nostalgic longing (*Sehnsucht*). Admittedly, once a cycle of investigation has resulted in the perception of the “laws” governing a phenomenon's self-sustaining existence, a feeling of awe supervenes. The living order apprehended in the particular leads to reflexion on the whole of which the particular is but a part; and the particular aesthetic perception may well serve as an analogue of the whole, enabling the researcher to engage in that intellectual love of God that Spinoza held consisted in an insight into the dependence of all things on the whole of nature. Such sublime speculations are not, however, part of aesthetic experience proper; rather they are its possible by-product, leading, as Spinoza's phraseology suggests, to intellectual development rather than to directly renewed observation. The aesthetic perception of nature remains an earthly symbol, reflecting back to human observation, an analogue of human feeling: “forms speak to forms” (ibid. 208). The revelation of pattern in the object is at once a revelation of self; but not a fusion such as a mystic might seek in loss of individuality.⁸ Rather it is

⁶ For a fuller account of the epistemological foundations of Goethe's science, see Seamon & Zajonc, i-x and passim; Stephenson 1994, 54-64.

⁷ See Adler 1998, whose stress on the mutual enrichment of the Goethe-Schelling relationship in no way contradicts recognition of their fundamental conceptual divergence; cf. Stephenson 1994, 27-31.

⁸ When Goethe speaks, in conversation with Eckermann (13 February 1829), of “the divinity that manifests itself in *Urphänomenen*, both physical and moral”, he is expressing his own personal conviction, not a necessary entailment of his scientific method.

more like the intensification of self experienced in reciprocated human love: its objectivity – like the reality of love for those involved – is unquestionable: it consists, quite blatantly, in its having the defining characteristic of all living form (*Gestalt*), a palpable sensuous, bodily existence.

The onward march of exact science can do no harm to the progress of what we might call Goethe's "Science by Acquaintance" so long as there are individuals willing to practise it. So long, that is to say, as the Platonizing tendencies of Western thought do not become so all-powerful that the abstract Universal **wholly displaces experience of the concrete Particular, and is mistaken for reality**. When he speaks of "identity" he has in mind, as he strives to make his exquisitely expressive language show, not the Platonic universal, but the unique, distinguishing patterns of individual organisms, overlapping across species and genera, without any individual therein losing its individuality (Goethe 1982, 13:164). When he speaks of "the universal" (*das Allgemeine*) he is exploiting the very form of the German word: "all-common", a ubiquitous rhythm of contrasts, one that characterizes without homogenizing. Only in this sense can he endorse Aristotle's alignment of the two poles of the philosophical pair, universality and particularity: "the particular eternally succumbs to the universal, and the universal eternally has to adapt itself to the particular" . . . "the universal and the particular coincide: the particular is the universal appearing under varying circumstances" (Goethe [1907] 1976, 49, and 115).

Goethe is not simply making the metaphysical point that each term in the pair is a co-implicate of the other. He is saying more: that both, *qua* conceptual terms, are inadequate to the perplexing complication that characterizes real entities-in-interaction in Nature. The harmony Nature achieves is not a bland, neat, set of equivalences; it is, like the harmony of great art, an asymmetrical co-ordination of opposites: "equilibrium in inequality, opposition of similarity, harmony of the dissimilar" (Goethe 1982, 12:133). In Goethe's universe, there are no perfect Forms; only beautifully-formed imperfections.

The potential cultural benefits of Goethe's way of "eavesdropping" on nature are very considerable. Increasingly, since the Renaissance, the mechanistic world-view has furnished Western culture with the overwhelmingly dominant paradigm of what constitutes scientific knowledge. As Ernst Cassirer puts it, the mechanistic cosmology

“has become the medium within which the human spirit has developed its own self-knowledge” (Cassirer 1932, 48). Even the historical approach has become a neglected aspect of the equipment of the scientist, indeed of many non-scientists, prompting a prominent historian to call for a “stereoscopic vision,” combining genetic-diachronic with ontological-synchronic modes of thought (Bullock 1990, 27).⁹ Such a blending of simultaneity and succession, so congenial to himself, Goethe declared, would seem like insanity to the positivistic mind (Goethe 1982, 13:32). Indeed, to the mind nurtured in a mechanistic medium – the modern mind, according to Cassirer – Goethe's insistence on the difference between mere “detail” (dismissed by conceptual thought) and the unique particular (available only to aesthetico-sensuous apprehension), obvious enough to anyone familiar with the arts, would, he claims, seem nonsensical: “anyone born and educated in the so-called exact sciences will not easily grasp from the heights of his rational intellect (*Verstandesvernunft*) that there can be such a thing as an exact-sensuous imagination (without which art would be inconceivable)” (ibid. 42). The coinage, “Understanding-Reason” (*Verstandesvernunft*) forcefully expresses the climactic, somewhat abstruse, precarious, heights reached by one-sidedly rational-abstract training. **“From the heights of reason the whole of life looks like a serious illness”, Goethe told C.G. Voigt in conversation (19 December 1798) “and the world looks like a madhouse.”** Aesthetic symbolization, in Goethe’s view, counters the deplorable cultural tendency fostered by one-sided intellectual development to see real life and the real world as unbearably inadequate. For him as for Schiller, *“Gestalt always connotes formal relations as they are perceived in some actual [literal] phenomena”,* whereas *“form, by contrast, [...] connotes formal relations after they have been abstracted from particular phenomena, or as they are conceived in the mind prior to their embodiment in some medium”.*¹⁰

If the increasingly widespread cultural opposition to a qualitative approach to nature is to be countered, a medium has to be found, or devised, in which the insights gained in aesthetic perception could be transmitted in a way that appeals *not only* to the intellect. Because, by virtue of its particularity, the occasion of *Anschauung* is

⁹ For a clear account of Goethe’s own theory of history, see Nisbet 1998.

¹⁰ See Friedrich Schiller, *On the Aesthetic Education of Man: In a Series of Letters*, ed. and trans. by Elizabeth M. Wilkinson and L.A. Willoughby [1967] (Oxford: Clarendon Press, 1982), p.309.

unique, it can never simply be repeated, only re-enacted with a degree of variation (though this is kept to a minimum in experimentation). The problem of the communication of what is not susceptible of discursive expression – the *Urphänomen* – is a problem with which Goethe wrestled from at least his discovery of the “primal plant” (*Urpflanze*) in 1787. While “there is no substitute for the direct perception of the concrete achievement of a thing in its actuality” (Whitehead 1926, 248), there is, both Goethe and Whitehead insist, a means available for fostering such apprehension of the self-manifesting *Urphänomen*, namely aesthetic education.

In characterizing Goethe’s *Farbenlehre* as “the novel of European Thought,” Thomas Mann highlights two related aspects of Goethe’s scientific writing, each of which accounts for its abiding importance (Mann 1948, 40): on the one hand, Goethe’s deliberate, self-conscious placement on his own work within the whole length of the history of western science; on the other, the literary quality of his writings on nature. The reader is encouraged by Goethe’s employment of a metaphorical language couched in the figurative use of the simplest operations of nature, such as polarity to “see” with the mind’s eye what the scientific experimenter has observed with the physical eye (Goethe 1982, 13:488-93): “if [a book that deals with natural phenomena] is to be enjoyed, if it is to be used, then nature must be present to the reader, either in reality or in vivid imagination” (Goethe 1982, 13:321). Besides its imitative and productive functions the faculty of imagination has (Goethe to Knebel, 21 February 1821), a third modality, “a circumspect power of imagination, which, while receiving a communication, looks about itself, grasping identities and similarities, in order to confirm what is being said”. By means of what he calls “a mode of presentation in conformity with nature” (*eine naturgemässe Darstellung*; Goethe 1982, 13:31), Goethe seeks to appeal to this capacity, enabling his reader to store the impressions thus gained in memory, until they yield for the reader what they have yielded for the original observer. Given Goethe’s acute awareness of the severe limitations of language in expressing natural and aesthetic process, it is hard to accept that all he had in mind, as critics have suggested (Fink 1991, 50), is the deployment of rhetorical figure, in conjunction with his overtly narrative representation of both observation and growth.

When he laments, as in his letter to Frau von Stein, 9 July 1786 (as he so often does throughout the length of his scientific and cultural writings; e.g., Goethe 1982, 13:103) an inability on his part to communicate precisely what he has so joyfully

experienced, he clearly has more in mind than the rhetorical mastery of figures of thought and speech, however precise. In his own case, all reasoning transforms itself into a kind of presentation (*Darstellung*) as he contemplates the form and colour of the world (Goethe to Schiller, 15 November 1796). To reproduce this effect in his reader, he needs to exploit more than method and manner. To induce in his reader a state of mind in which thought and perception become one, Goethe's presentation must re-enact, in its very style, this co-ordinated equilibrium, something entirely foreign to discursive language, however metaphorical and however evocative, because discourse appeals first and foremost through meaning (through concept) making its imaginative effect a secondary, subordinate matter ("mere metaphors" as Goethe dismissively puts it in the *Farbenlehre* [Goethe 1982, 13:492]). As he claims in his essay, "Simple Imitation of Nature, Manner, and Style" of 1789, style rests on the deepest fundamentals of knowledge, on the very things themselves, in as far as we are permitted to know them in visible and tangible forms (*Gestalten*; Goethe 1982, 12:32). Martin Walser has argued that "we owe the awakening of the German language [to] Goethe's insistence on vision, on what one feels, perceives" (Walser 1989, 36). Certainly, it is through the revivification in and through powerfully aesthetic language – in a word, through literature – that Goethe recreates for his reader the delight of participating in natural creativity. And the long historical dimension that he evokes, not only in his pioneering *Geschichte der Farbenlehre*, but throughout his cultural and scientific writings, is an attempt on his part to bring home to his reader his own conviction that such intimate experience of Nature, as of Art, is directly proportionate to our grasp of the potentialities inherent in our culture. As in *Faust*, recognition of the diachronic temper of his theory of culture is crucial: in order to uncover ever greater significance in perceived reality, we must increasingly build the symbolic riches of our cultural inheritance into our everyday perception (see Stephenson 2001, 244-47). Or, as he puts it in his *West-östlicher Divan*:

Who of three thousand years
 An account is unable to give,
 Remains in the dark without experience
 And must a trivial existence live. (Goethe 1982, 2:49)

In a barely veiled attack on his contemporary, the physicist Albrecht Haller, in a poem of 1820, the opening stanza highlights the cant-phrase “into the inner world of Nature” (taken from a philosophical poem of Haller’s published in 1730):

“Into the inner world of nature” –
 Oh, you philistine!
 “Penetrates no created spirit.”
 The likes of us
 You don’t need to remind
 Of such words:
 We think that, wherever we are,
 We’re always already in the midst of nature. (Goethe 1982, 1:359)

Useful only as rhetorical expedients, spatial metaphors are utterly misleading if taken to be accurately descriptive of nature (Goethe 1982, 13:43). For that reason he chooses *Propylaen* as the title for the cultural periodical he launched in 1798, because the Greek term denotes the room between inner and outer, the border-line, as it were, at which natural processes have their being (ibid. 12:38). Nevertheless, he relies upon spatial tropes himself quite heavily, remarking that “everything that has to confront life, everything that is to be actively effective, must have a covering skin” (*Hülle*; ibid. 59). For all his reservations, he is clear that science must have a language at its disposal that enables it to talk about problems in manageably practical ways.

In an essay of 1823, appropriately entitled *Problems*, he insists that, while it is impossible to represent in expository, didactic language the ubiquitous simultaneity of oppositional forces at work in nature, one can yet envisage an “artificial discursive practice” which could intimate at least something of it, beyond the limitations necessarily imposed by our inveterate tendency to one-sidedly visual metaphor, and hence to abstraction: “We really have to entertain the introduction of an artificial discursive practice (*ein künstlicher Vortrag*). A new symbolism would need to be put in place. But who would do it, and who acknowledge it if it were (ibid. 36)?”

Whatever else this symbolism might consist in, it would need to match in some degree the subtle delicacy of connectedness that characterizes Nature’s syntheses; only then would it count as the longed-for “representation according to Nature” (*naturgemässe Darstellung*; ibid. 313). Rhetoric, he remarks (Goethe [1907] 1976, 120), is as careless of qualitative values as is mathematics. While he is intensely aware of the need to present his material in such a way that it will be placed in its proper historico-

rhetorical context (writing, for example, on the history of both the manuscript and the printed version of his *Metamorphosis of Plants*), he never gives the slightest indication that his undoubted mastery of (mainly spatial) rhetorical and dialectical strategy is anything other than an approximation to the reality he is seeking to communicate. Analogy, for example, he uses to considerable effect, as has often been noted. But he is under no illusion that analogy, “which, like good company, stimulates rather than gives anything” (Goethe [1907] 1976, 211-12), is symbolic, in the highest sense in which an *Urphänomen* is symbolic. All formulae derived from human evaluation, he regrets to say are “mere likenesses” (*blosse Gleichnisse*; Goethe 1982, 13:492). Like the visual aids of illustrative drawings and colour-plates, which he provides in many of his scientific texts, they are merely supportive correlatives of discourse, helpful but in no way sufficient (Goethe [1907] 1976, 47). They, like all comparisons, are the product of, and a support to, the imagination in its “circumspect” function, not in its symbolic, productive mode (Goethe to Knebel, 21 February 1821). Even the very best metaphors (he adds in the same letter) only *seem* to cover the object in hand. His criticism of Descartes’s account of colour does not turn on the regrettable “crudity” of the metaphors that he employs; Goethe’s point is more substantial:

Descartes does not seem to dwell in the objects peacefully and lovingly in order to gain something from them. He snatches at them in haste as soluble problems, and approaches them mainly from the angle of the most complicated phenomena. (Goethe 1982, 14:111)

Above all, according to Goethe, Descartes lacks the (aesthetic) imagination-at-a-distance that, in Goethe’s view, is essential. As a result he seems to lack any symbolic resource. Even the most appropriate metaphors of all, those of polarity (Goethe, 1982, 13:493), only “come close” to nature; they are “near-relatives” (*nahverwandt*); but their rhetorical effect is one of “relief” not expressive fulfillment (ibid. 316). Likewise his decision, in the face of the impossibility of articulating the “character” of a phenomenon (*Wesen*), to tell instead the “story” of its growth and development is, as he is very well aware, as much an inadequate approximation as any other discursive gambit:

For strictly speaking we try in vain to express the intrinsic character of a thing. All that we become aware of are effects,

and a complete history of these effects would at least presumably
comprise the character of that thing. (Ibid.315)

The narrative mode of exposition has certain advantages that he is keen to exploit. It places scientific investigation firmly in the socio-cultural world, and its history, leaving the laboratory with its strained artificialities behind; and, perhaps above all, it evokes the everyday world of human feeling and valuation, and brings the reader into that relationship with nature that Goethe dubs “ethical” (*sittlich*), by which he means “in terms of human values” seeing it as a prerequisite for the kind of science, indeed culture in general, for which he stands. But, the language of the theatre employed throughout the *Theory of Colours*, like the dramatic rhetoric of his account of the growth of our sense-organs, for all its evocative power, merely points to, indicates, a great experience, which itself remains off-stage and untold. Aesthetic experience can be represented only by aesthetic experience. The presence of the *Urphänomen* must be felt in its representation. Poetry is a *re*-symbolization of a primary symbolic event, and as such a “presentation according to nature”. For this reason Goethe included quite a few poems in his scientific writings, at moments when discursive language had reached its limit. A good example of these scientific-philosophical poems is the following, first published in Goethe’s journal *Zur Morphologie* in 1820:

PARABASE

1. Freudig war, vor vielen Jahren
2. Eifrig so der Geist bestrebt,
3. Zu erforschen, zu erfahren,
4. Wie Natur im Schaffen lebt.
5. Und es ist das ewig Eine,
6. Das sich vielfach offenbart;
7. Klein das Grosse, gross das Kleine,
8. Alles nach der eigen Art.
9. Immer wechselnd, fest sich haltend;
10. Nah und fern und fern und nah;
11. So gestaltend, umgestaltend –
12. Zum Erstaunen bin ich *da*. (Goethe 1982, 1:358)

A full reading of this poem is not called for in the present context. What is of importance here is the way in which a scientific “idea” – better, an aesthetic insight into an *Urphänomen* – is re-enacted in the body of language. What is made manifest

to our senses and our mind (our imagination, in the productive, aesthetic sense that Goethe employs) is a tension between, on the one hand, the neat symmetry of intellection operating through linear time and, on the other hand, the awe-inspiring asymmetry of the ever-changing, yet recurring, patterns of nature.¹¹ What is at work in the German text is that “style” Goethe held could be learned, like any technique or skill, in intercourse with nature: the co-ordination of semantic values with the very bodiliness of language, its sound and look and shape. In the first four lines, intellectual experience, for example, is made to look and feel like a linear process by means of the perceptible parallel of line three: “to research, to experience” (*zu erforschen, zu erfahren*). Here the two phrases in German are almost identical in sound-look structure; it is this, not any association of discursive meaning, that makes them seem to be (almost) equal stages in the process of natural investigation. This apparent symmetry of time-bound intellectual activity then gives way to the asymmetrical dynamism of Nature. The chiasmus of the seventh line is, in its sensuous linguistic shape, defective: each leg of the figure, “small, small, big, big” (*klein, Kleine, Grosse, gross*) is marred by one element’s having an ‘e’ that its partner lacks: the perfect mirroring effect of the chiasmus is thereby blurred. In the penultimate line, the polyptoton, “shaping-reshaping” (*gestaltend, umgestaltend*), again links antithetical terms in a way which, because of the intrusive particle “*um*” in the heavily stressed position after the caesura, feels (sounds and looks) out of balance. But, if this is all that there is to “presentation according to nature”, the problem remains acute. For the space at the centre of Goethe’s didactic exposition would remain empty, except for a few magnificent philosophical poems which he could, and did, publish in quite unscientific contexts. His scientific writings thus might well seem to fail his own test of adequate testimony – if it were not for the evidence, in the prose itself, of a definite aesthetic stylization. In order to reconcile literary intention with his clear communicative purpose, it is necessary, as I have argued elsewhere, to adduce the theory of “aesthetic discourse” (*schöner Vortrag*) that Schiller developed during his collaboration with Goethe.¹² Two distinct modes of language are combined into one in what Schiller calls *schöner Vortrag*. There is the conceptual structure, in

¹¹ A prose translation here of Goethe’s poetic writing may help bring out some of the significant points: “Many years ago, my mind was exercised, joyfully and eagerly, in researching and experiencing how Nature lives by its own creativity. And it is the eternal One that reveals itself in manifold forms: small is the great, and great is the small, everything according to its own character. Ever-changing, preserving itself; near and far and far and near; thus shaping, reshaping: I am here to marvel.”

¹² See Stephenson 1983, 157-208, and Stephenson 2002, 34-35.

which other, non-conceptual, features are subordinated to the logical relations (“logical” here in the Kantian sense of having reference to intellectual knowledge); and, on the other hand, there is the poetic in which conceptual relations are co-ordinate with all others. These two modes – the logical and the aesthetic – themselves co-exist in a relation of reciprocal subordination, so that the reader may take the piece of discourse as either communicative or expressive depending on need and capacity. It is this reciprocally subordinative relation of logical and aesthetic that constitutes “aesthetic discourse” proper for Schiller (and Goethe), and that firmly distinguishes it from the complete fusion that occurs in poetry, where a purely co-ordinative relation is at work. This theory implies that the bodiliness of language (such as the inscape examined above in respect of the poem “Parabase”) has in aesthetic discourse a double function. It both establishes perceptible, sensuous links between terms (as in poetry) *and* serves to emphasise conceptual relations already established (as it traditionally functions in rhetoric). In the first case, the sensuous medium is co-ordinate with the discursive meaning; in the second, subordinate to it. A sampling of Goethe’s literary and scientific texts will illustrate the point that, rather than the full assimilation to medium which the poems introduced into his scientific works represent, the only partial assimilation that constitutes *schöner Vortrag* is much more characteristic of his style in scientific and scholarly writing alike.

The capacity of the German language to express, “in prose or poetry”, not only any object of discourse but also the felt life of the subject, had, Goethe remarked, reached in his lifetime the point where such articulation could be attained with ease (Goethe 1963, 14:400). We should not, then, be surprised to find the combination of masterly evocative rhetoric and poetic co-ordination in his prose writings in general. For example, in commenting in 1816 on Ruysdael’s painting, *The Convent*, Goethe highlights the painting’s import as the representation of the Past in the Present, a thought which he embeds in the detail of his prose style: “The second picture”, he writes, “which has become famous under the title of *The Convent*, has a similar intention in a richer, more attractive composition: to present the Past in the Present; and this is achieved most admirably, establishing the most vivid connexion between the dead and the living” (Goethe 1982, 12:139).¹³ The alliteration and homeoteleuton

¹³ “Das zweite Bild, unter dem Namen des Klosters berühmt, hat bei einer reichern, mehr anziehenden Komposition die ähnliche Absicht: im Gegenwärtigen das Vergangene darzustellen, und dies ist auf das

in the original German, however, do more than underline the rhetorical chiasmus of Present (*Gegenwärtigen*)/Past (*Vergangene*)/Past (*Abgestorbene*)/Present (*Lebendigen*); they also fuse the apparently opposite elements into a perceptual nexus, into an aesthetic articulation of that “Eternal Moment” to which the fifth stanza of the poem “Vermächtnis” of 1829 (using similar techniques) gives classic expression:

Genieße mäßig Füll und Segen;
 Vernunft sei überall zugegen,
 Wo Leben sich des Lebens freut.
 Dann ist Vergangenheit beständig,
 Das Künftige voraus lebendig,
 Der Augenblick ist Ewigkeit. (Goethe 1982, 1:370)¹⁴

In the next passage, taken from the Introduction to his journal, *Die Propyläen* of 1798, it is likewise aesthetic interplay between the linguistic surface and the allusive rhetoric that fully articulates the nuances of Goethe’s thought:

One of the most striking characteristics of the decline of Art is the mixing-up of its different genres. The arts, like their genres, are related to one another, and have a certain inclination to unite, indeed to lose themselves in each other. But the duty, merit, and dignity of a genuine artist consists precisely in keeping the branch of art in which s/he works separate from others, in understanding how to establish each art, and every genre, in itself, and how to isolate it as far as possible. (Goethe 1982, 12:49)¹⁵

Working with a Kantian-Schillerian rhetoric of associated antitheses – “inclination” (*Neigung*), “duty” (*Pflicht*), “dignity” (*Würde*) – Goethe is out to make the point that, though they are related, the different kinds of art should not be confused. He concedes as fact that the arts and their sub-genres “incline” to coalesce (in that *Verschmelzung* Friedrich Schlegel famously championed in his 116th *Fragment*), while insisting on the Artist’s “duty” to keep them as distinct as possible. What is of particular interest here, from the stylistic point of view, is the way in which an intense

bewundernswürdigste erreicht, das Abgestorbene mit dem Lebendigen in die anschaulichste Verbindung gebracht.”

¹⁴ “Enjoy with moderation the fullness and blessings of this world; let reason be present wherever life enjoys life. Then the past is stable, the future alive in anticipation, and the moment is eternal.”

¹⁵ “Eines der vorzüglichsten Kennzeichen des Verfalles der Kunst ist die Vermischung der verschiedenen Arten derselben. Die Künste selbst, so wie ihre Arten, sind untereinander verwandt, sie haben eine gewisse Neigung, sich zu vereinigen, ja sich ineinander zu verlieren; aber eben darin besteht die Pflicht, das Verdienst, die Würde des echten Künstlers, daß er das Kunstfach, in welchem er arbeitet, von andern abzusondern, jede Kunst und Kunstart auf sich selbst zu stellen und sie aufs möglichste zu isolieren wisse.”

impression is created, in the body of language, of this tendency to coalesce: anaphora links “connection” (*verwandt*), “unity” (*vereinigen*), and “loss” (*verlieren*), while homeoteleuton connects “relation-amongst” (*untereinander*) and “interrelation-in” (*ineinander*), and jingle on the little particle *ei[n]* brings “unity” (*vereinigen*), “inclination” (*Neigung*), “interrelation” (*ineinander*) and “relation-amongst” (*untereinander*) together. Unity is thus made to feel like entanglement. On the other hand, the participation (by virtue of its initial syllable in German) of “merit” (*Verdienst*) in this tangled web expresses the otherwise difficult-to-articulate idea, that an Artist’s merit consists in sustaining the tension of entering into the inclination of her/his chosen art-form to unite with others, while “as far as possible” sustaining its maximum autonomy.

In his cultural commentaries, as in his writings on colour and on metamorphosis, Goethe on occasion draws attention to the aesthetic dimension of his prose by playfully juxtaposing poetry to it. In his “Well-Intentioned Reply” (*Wohlgemeinte Erwiderung*) of 1832, for instance, the (untranslatable) delicacy with which the advice is given to young writers, that the Muse is glad to accompany but unable to direct life, is contained in the enhancement of this antithesis by the polyptoton-play on the element, *leite*: “how difficult it is to get across to talent of every kind and every level that the Muses are glad to accompany, but do not know how to guide, life” (Goethe 1963, 14:401).¹⁶ And, just in case, as it were, this “heartfelt” sub-text has not been registered (namely, that though direct intervention is not to be expected of the Muses, guidance may be hoped for), Goethe ironically closes the prose piece with a little verse (*Reimwort*) in which the same aesthetic figure, and the same import, is emphatically repeated: “Young person! Remember at times when your mind and senses are elevated, that the Muses know how to accompany but not how to lead” (*ibid*:402).¹⁷

The case for Goethe’s awareness of the inherent instability of discursive language – because of its intrinsic abstraction, even on its most (illusorily) “concrete” levels – is very well

¹⁶ “Wie schwer ist es ... dem Talente jeder Art und jeden Grades begreiflich zu machen: daß die Muse das Leben zwar gern *begleitet*, aber es keineswegs zu *leiten* versteht”(my emphasis).

¹⁷ “Jüngling, merke dir in Zeiten,
Wo sich Geist und Sinn erhöht:
Daß die Muse zu begleiten,
Doch zu leiten nicht versteht.”

founded¹⁸. Goethe's rhetoric deconstructs itself blatantly – indeed, shamelessly. His masterly deployment of evocative rhetoric serves to expose the unreality of the abstractions of conceptual thought: they appear crude and imprecise against the foil of perceptual vividness conjured up before the reader's inner eye by the 'poetic' force of his simultaneously deployed aesthetic language. But, while it is true that the opening sentence of Goethe's aphorism below does precisely articulate the self-referential, deconstructive, aspect of Goethe's conception of "symbolic form" in the way Barbara Naumann in citing it suggests (Naumann 1998, 137), the aphorism as a whole also gives aesthetic expression to the nodal point of Goethe's science:

Everything factual is already theory: to understand this would be the greatest possible achievement. The blueness of the sky reveals to us the basic law of chromatics. But don't go looking for anything behind phenomena: they are themselves what they teach, the theory. (Goethe[1907] 1976, 116)¹⁹

Naumann is surely right to see the seemingly paradoxical play between the "fact" and "theory" here as paradigmatic of both Goethe's deconstructive tendency in general and in particular of the ludic semantics of his novel, *Wilhelm Meisters Wanderjahre* (from which the aphorism is taken) – as the history of the scholarly controversy about the aphorism indicates.²⁰ On the other hand, the sensuous contrast here between German words that seem indigenous and *Fremdwörter* (words borrowed from other languages, that continue to make a foreign impression) is exploited to aesthetic effect. Within the two distinct series of synonyms – those denoting the real world: "everything factual" (*alles Faktische*) / "the blue of the sky" (*die Bläue des Himmels*) / "the phenomena" (*die Phänomene*); and a complementary group denoting the world of ideas: "theory" (*Theorie*) / "the basic law of chromatics" (*das Grundgesetz der Chromatik*) / "what they teach" (*die Lehre*) – there is a perceptible contrast of sound

¹⁸ See Stephenson. 1994, 69-71, and 80-81; Cf. Naumann, 1998, 101 and Naumann, 1999, 576-78.

¹⁹ "Das Höchste wäre zu begreifen, daß alles Faktische schon Theorie ist. Die Bläue des Himmels offenbart uns das Grundgesetz der Chromatik. Man suche nur nichts hinter den Phänomenen: sie selbst sind die Lehre."

²⁰ For Willoughby. 1973, 108-09, the dictum is a formulation of the characteristic Kantian insistence that one must distinguish between things-in-themselves and the world of appearances. Willoughby points out that "it seems unlikely in view of Schiller's prompt, and never shaken, recognition of the 'rightness' of Kant's epistemology, that he should have been unaware of the historian's 'construing' activity vis-à-vis the recorded events of the past", reinforcing his reading by pointing to Kant's influence on Goethe as reflected in the opening sentence of the aphorism cited. By contrast, for Müller. 1943, LXVIII, the maxim is an emphatic statement, not of Kant's influence on Goethe, as Willoughby has it, but – on the contrary – of the "deep-seated divergence" between their respective epistemological positions.

and structure. The conceptual relations of intrinsicality, identity, priority, and reciprocity, articulated on the propositional level, undergo, on the aesthetic level, a subtle but profound change. The “foreignness” of ideas stands in marked contrast to the familiarity of actual experience. And then in the last term of each series there is a reversal of this pattern: a *Fremdwort (Phänomene)* designates the real world, while a German word (*Lehre*) designates the world of ideas. The aesthetic effect of all this is that a felt-thought is given expression, namely that “foreignness” of ideas is as much a part of experience as experience is a part of thought: what in propositional discourse is reduced to logical relations is here presented as the felt admixture that Goethe attempted to point to in the much-quoted paradox, “experience is but the half of experience” (*nur die Hälfte der Erfahrung*; *ibid*: 187).

Here, *in nuce*, is the principle uniting Goethe’s science with his art: that of “binary synthesis”, in which the name of one element in a pair of antitheses can fairly be applied to their synthesis, since it represents a richer concept, tending towards one of the original antitheses in an ascending hierarchy. For what is being expressed is the *idée maîtresse* that animates his whole scientific-cum-literary project, namely that “experience” is entirely compatible with “idea”; indeed, that their co-operative interrelation, without the one ever being confused with the other, is productive of ever-ascending (binary) syntheses, which we may name, indifferently, “EXPERIENCE” or “IDEA”, depending on whether we wish to stress one or other of the related elements in such *higher* synthesis (which the upper case here is meant to indicate). One of Goethe’s fundamental contributions to his collaboration with Schiller consisted in the subtle modes of thought and presentation that he had developed over many years since he first became fascinated with hermeticism and “mystical-cabalistic chemistry” (Goethe 1982, 9:414) and that he went on to apply in his scientific work. Of particular relevance here is Goethe’s (and later Schiller’s) adoption and adaptation of a variation of the principle of *coniunctio oppositorum*, known as “binary synthesis” (see Cirlot 1962, 26, and 145-47.), of which William James offered a precise analysis in a discussion of mystical modes of writing:

The keynote [of this dark saying] is invariably a reconciliation. It is as if the opposites of the world ... were melted into unity. Not only do they, as contrasted species, belong to one and the same genus, but *one the species*, the nobler and better one, *is itself the*

genus and so soaks up and absorbs its opposite into itself. (James [1903] 1963, 374)²¹

The presenting-symptom of this habit of mind is Goethe's Janus-faced, scientific-literary, style, now communicative, now expressive, depending on his reader's momentary needs. "The melody of the style" that Novalis praised so highly in *Wilhelm Meister's Apprenticeship Years* may, then, also be "the true soul" (Novalis [1802] 1924, no. 1975), not just, say, of *The Elective Affinities* and *Wilhelm Meister's Journeyman Years*, but of Goethe's prose writing in general. The abnormal vigour that marks Goethe's prose writing derives from exploiting his linguistic medium to the utmost. It is this deliberate preoccupation with the margins of discourse which recommends anew Goethe's writing, both "literary" and "scientific," to the attention of a generation of readers trained in the deconstructionist delights of postmodernist cultural liminality.²²

²¹ Although James wrote that such synthesis was "something like what the Hegelian philosophy means," and ultimately assigned it a mystical status ("to me the living sense of its reality only comes in the artificial mystic state of mind"), his description applies more accurately to Weimar Classicism's "binary synthesis", and is not necessarily *mystical* at all.

²² For a lucid account of "deconstruction" as the elaboration of the inherent logical instability of the apparently stable rhetorical distinctions marking conceptual "borders" ("limen"), see Naumann 1998, 12, 20, 101, 124, & 137.

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