Foreword: Goethe and No End

By Herbert Rowland

The original versions of the studies contained in this volume were presented as papers at a colloquium entitled "Goethe, Chaos, and Complexity. A Symposium," which was held at Purdue University on April 9th-10th, 1999. The papers and subsequent discussions were felt to be so productive and stimulating that plans were made immediately to collect revised and expanded versions in an independent volume.[1] The present publication is the result of those plans. At this point I would like to thank Editions Rodopi, in the persons of Fred van der See and John A. McCarthy, for providing a forum for the studies in the series Internationale Forschungen zur allgemeinen und vergleichenden Literaturwissenschaft.

A similar volume appeared in the same series in the spring of 2000 under the title *Disrupted Patterns. On Chaos and Order in the Enlightenment.*[2] In their foreword, the editors, Theodore E. D. Braun and John A. McCarthy, responded to a number of recent studies which raise doubts about the validity of the enterprise represented by that volume and the present one as well, most significantly, the fundamental question of applying a paradigm originating in the natural sciences to humanistic concerns such as literature. Given the cogency of their response, the editor of the present volume proceeds on the – almost – tacit assumption that such an undertaking is indeed valid. In any event, doubts cast upon the transfer of chaos and complexity to the study of literature are not likely to be dispelled by any number of words, however compelling, least of all those of the "transgressors" themselves. C. P. Snow's "two cultures" prevail at the present time just as when he coined the expression in the 1950s.[3] During the preparations for the Purdue symposium, which included general announcements to professional organizations on both sides of the "Great Divide," for example, certain scientists responded by conducting a conversation among themselves by e-mail, coyly copying the editor, that ranged in tone from dismissive to snide. When he asked advice of an individual on the other side of the Divide at his own university, he met with

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1 Among the comments received by the editor, who also organized the symposium, are the following: "I want to thank you again for what was one of the most productive and enjoyable conferences I have attended"; "It [the symposium] ranks among the two or three best conference experiences I have had"; "It was really a very productive and congenial gathering. Its interdisciplinary format and participation was a great plus"; "The Goethe symposium was a wonderful event. I am still basking in the afterglow...[The participant and his colleagues] came back to [their university] with all kinds of ideas for cooperative efforts here...I told my colleagues here that the symposium was 'fantastic' and 'glorious.'"

2 Disrupted Patterns. On Chaos and Order in the Enlightenment. Ed. by Theodore E. D. Braun and John A. McCarthy. (= Internationale Forschungen zur allgemeinen und vergleichenden Literaturwissenschaft 43). Amsterdam and Atlanta: Editions Rodopi 2000.

3 See C. P. Snow: The Two Cultures. In: The Two Cultures and the Scientific Revolution. By Snow. New York: Cambridge University Press 1962. Snow first presented the concept in *The New Statesman* on October 6th, 1956.

poorly concealed scorn.[4] Given this state of affairs, the analogy Braun and McCarthy draw between cross-disciplinary studies and translation bears repeating:

> Anyone who has worked with languages knows that much gets lost in translation. Yet that danger of losing the preciseness of language and the richness of nuance in the original tongue should not deter us from learning other languages. To resist the challenge and the lure would impoverish us, miring us in eternal parochialism...Whoever ventures out from one's own (disciplinary) language into another brings to that endeavor (and world view) a perspective the "native" speaker lacks. An enrichment takes place, which, in turn dilutes the rigor of the original conceptual system by introducing "foreign elements" into it. A trade-off between rigor and vigor takes place.[5]

All the studies in this volume thematicize such translation, i.e., inter- and/or cross-disciplinarity, either implicitly or explicitly, and some do so radically. Like Braun and McCarthy, the editor offers them to the public despite the risk of looking silly to purists and dogmatists, confident that the latter, like the subjects of Carl L. Becker's *The Heavenly City of the Eighteenth-Century Philosophers*, are frequently theologians in spite of themselves.[6] Whether the studies themselves contribute to understanding between the two cultures, the reader must decide for himself, but such study per se offers a potentially powerful means of making the Divide less Great.

If the utilization of chaos and complexity theories in the study of literature in general invites explanation, then their application to Goethe does so as well, at least for non-specialists, and for more reasons than the obvious one that Goethe was a poet. Now, Goethe's stature as a literary figure itself makes him a plausible subject of such study. Despite his descent over the past few decades from the Olympian heights to which he ascended during his own lifetime, and not without considerable self-help, Goethe, even as a fallible mortal, continues to command an immense amount of interest. The celebration of the 250th anniversary of his birth in 1999, for example, gave rise to an almost incredible amount of activity all over Germany and in many other parts of the world. According to one web site, for instance, the city of Frankfurt am Main – Goethe's birthplace, to be sure – offered sixty-five symposia, lectures, readings, and the like – in April! Certainly, part of this activity may be written off as the product of an overheated culture industry – or just plain industry and business. In 1999, one could travel to any number of places with Goethe, as another web site proclaimed. One could even buy paper towels with quotations from Goethe printed on them, and here in the United States at that. Perhaps even these expressions of acknowledgment occupy a place somewhere along the scale of legitimacy, if at the lower end. Precisely the excesses of the celebration indicate in their way that Goethe is still among us. And a glance at any of the standard periodical bibliographies over any length of time demonstrates that all the meetings and publications of 1999 represent nothing more than an intensification of an already high and steady level of scholarly activity. Goethe continues to speak eloquently to many scholars all over the world on a

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4 In fairness, I should add that another scientist at my university tried to be helpful by putting me in contact with this individual. Clearly, the scientists who participated in the symposium and contributed to this volume represent a segment of the scientific community that seeks to bridge the Divide, which, I am aware, humanists have also helped to create.

5 Braun and McCarthy: Disrupted Patterns, p. vi.

6 Carl L. Becker: The Heavenly City of the Eighteenth-Century Philosophers. New Haven: Yale U P 1932.

wide range of subjects, whether they listen to him as an object of more or less dispassionate study or as an artist and thinker to be embraced.

However, Goethe was chosen as the subject of the Purdue symposium not only, or primarily, because he was a poet, and the symposium coincided with the "Goethe Year" only by fortunate circumstance. One of the subjects on which Goethe continues to speak eloquently is science. It will come as no surprise to many that Goethe worked extensively in fields ranging from anatomy, botany, and physics to geology and meteorology, indeed, that the author of *Faust* felt that his *Farbenlehre* was his major work bar none. Despite his long-term marginalization or complete disregard in mainstream science, Günther Schmid's bibliography of studies on Goethe as a scientist published through 1932 includes 4,554 titles, and Frederick Amrine estimates that a similar number appeared between that time and the compilation of his own bibliography, which came out in 1987.[7] Discussion over the nature and extent of Goethe's work and achievement continues. However, it has been asserted that Goethe, among other things, anticipated many of the most important tenets of contemporary philosophy of science, such as the impossibility of a rational reconstruction of science à la Heisenberg and the theory-ladenness of perception, the notion that there can be no neutral observation in science.[8] It has also been suggested that Goethe offers solutions to the central dilemmas of modern philosophy of science, for example, achieving true scientific progress not by accumulating more data or reducing one theory to another, but by developing new, rigorous and controlled ways of seeing.[9]

What may not be immediately apparent is Goethe's connection to chaos and complexity theories in particular. And yet there exists evidence, albeit anecdotal in nature, that he played at least a modest paternal role in the thinking of both precursors as well as theoreticians and practitioners of chaos and complexity. In his book *On Growth and Form* of 1917, the English biologist D'Arcy Thompson, who is frequently cited in relevant literature, adopts Goethe's term "morphology" and appears to subscribe to his idea of the *Urphänomen*.[10] In *Das sensible Chaos* of 1962, Theodor Schwenk, a philosopher and disciple of Rudolf Steiner, develops a concept of flow in water that also discloses an archetypal principle.[11] Albert Libchaber, a physicist working in Paris who knew and admired Schwenk's work, was reportedly fixated on Goethe, especially *Die Metamorphose der Pflanzen*.[12] Mitchell Feigenbaum, another physicist, who formerly worked at the Massachusetts Institute of Technology and is currently at Rockefeller University, was taken by the *Farbenlehre* and was convinced that Goethe's notion of

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7 Günther Schmid: Goethe und die Naturwissenschaften. Eine Bibliographie. Ed. by E. Abderhalden. Halle an der Saale: Kaiserlich Leopoldinisch-Carolinische Deutsche Akademie der Naturforscher 1940; Frederick Amrine: Goethe and the Sciences. An Annotated Bibliography. In: Goethe and the Sciences. A Reappraisal. Ed. by Frederick Amrine, Francis J. Zucker, and Harvey Wheeler. Dordrecht: Reidel 1987.

8 Frederick Amrine: The Metamorphosis of the Scientist. In: Goethe Yearbook 5 (1990), pp. 187-188.

9 Amrine: The Metamorphosis of the Scientist, p. 193.

10 D'Arcy Wentworth Thompson: On Growth and Form. Cambridge: Cambridge University Press 1942.

11 Theodor Schwenk: Sensitive Chaos. The Creation of Flowing Forms in Water and Air. Trans. by Olive Whicher and Johanna Wrigley. New York: Schocken 1976. Unfortunately, I had access only to the English translation.

12 James Gleick: Chaos. Making a New Science. New York: Viking 1987, pp. 197 and 202-206.

color was right.[13] In an early, major book on chaos, Friedrich Cramer, a biologist at the University of Göttingen, creates a *Geistergespräch* between Goethe and Charles Darwin in which he allows his countryman to express ideas central to his own thought and adumbrative of chaos theory.[14] Ilya Prigogine, perhaps the most familiar name in chaos and complexity, could think of no more suggestive a way to open his book *From Being to Becoming. Time and Complexity in the Physical Sciences* of 1980 than to quote from *Faust II*.[15] It has recently been asserted outright that Goethe anticipated modern thought on development and self-organization, which figures significantly in chaos and complexity.[16]

Attempts to draw parallels between Goethe's scientific and aesthetic thought and his scientific and literary work within the context of chaos and complexity are of relatively recent vintage. As early as 1984, Arlene Akiko Teraoka discussed related phenomena with reference to *Götz von Berlichingen*, but she did not establish an explicit connection to relevant theory.[17] The first to take this step was Julie A. Reahard in her dissertation, "From an Unknown Center to an Unknowable Boundary. Chaos Theory, Hermeneutics, and Goethe's *Die Wahlverwandtschaften*," of 1991.[18] Reahard's dissertation had no echo for several years, but around the mid-nineties a small but promising number of studies began to appear.[19] In 1996, to highlight only one example, Gregor Pongratz's book *Evolutionäre Selbstorganisation und Goethes ästhetische Anschauung* clearly linked Goethe's forward-looking scientific thought with his notion of art.[20] A number of conferences have included papers in this vein, and the editor knows of at least two books on the subject that are currently in progress.

The Purdue symposium was conceived as a means of sustaining and furthering the general discussion on the interrelationship between Goethe's scientific thought and

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13 See Gleick: Chaos, pp. 164-166.

14 Friedrich Cramer: Chaos and Order. The Complex Structure of Living Systems. Trans. by D. I. Loewus. New York: VCH 1993, pp. 50-56. I had access only to the English translation.

15 Ilya Prigogine: From Being to Becoming. Time and Complexity in the Physical Sciences. San Francisco: W. H. Freeman 1980.

16 See John Erpenbeck: "Werden und Sein zugleich [...]." Goethe, Schelling, Jacobi und die Selbstorganisation in wissenschaftshistorischer Perspektive. In: Goethe-Jahrbuch 111 (1994), pp. 187-201.

17 Arlene Akiko Teraoka: Submerged Symmetry and Surface Chaos. The Structure of Goethe's *Götz von Berlichingen*. In: Goethe Yearbook 2 (1984), pp. 13-41.

18 Julie A. Reahard: From an Unknown Center to an Unknowable Boundary. Chaos Theory, Hermeneutics, and Goethe's *Die Wahlverwandtschaften*." Diss. U of Colorado 1991. The dissertation later appeared as "Aus einem unbekannten Zentrum, zu einer nicht erkennbaren Grenze." Chaos Theory, Hermeneutics, and Goethe's *Die Wahlverwandtschaften*. (= Internationale Forschungen zur allgemeinen und vergleichenden Literaturwissenschaft 25). Amsterdam and Atlanta: Editions Rodopi 1997.

19 See, for example, Nicolas Vazsonyi: Searching for "The Order of Things." Does Goethe's *Faust II* Suffer from the "Fatal Conceit?" In: Monatshefte 88 (1996), pp. 83-94; Herbert Rowland: Chaos and Art in Goethe's *Novelle*. In: Goethe Yearbook 8 (1996), pp. 93-119; Julie Reahard: Motion in Form. Goethe's Force of Nature. In: Braun and McCarthy: Disrupted Patterns, pp. 161-173; Herbert Rowland: Goethe's *Hermann und Dorothea* and the Chaotic and Complex Order of History. In: Braun and McCarthy: Disrupted Patterns, pp. 175-189; and James M. van der Laan: Essayistic Orders of Chaos. In: Braun and McCarthy: Disrupted Patterns, pp. 191-202.

20 Gregor Pongratz: Evolutionäre Selbstorganisation und Goethes ästhetische Anschauung. Ein systemtheoretischer Beitrag zur interdisziplinären Begründung ästhetischer Bildung in Theorie und Praxis. Münster and New York: Waxmann 1996.

work, his ideas on art and literary œuvre, and recent thought on chaos and complexity. Not all of the studies try to do everything at once. However, each treats at least one or more significant elements or dimensions of this interrelationship, ranging from basic concepts all the way to a model of a Goethean aesthetic-scientific methodology. In between and in addition, writers speak of chaos and complexity as motif and motor of literary works and nature within various historical and present-day contexts. The studies present a number of, in part, contradictory points of view and tread to some extent on each other's territory. In a new field, however, there is room for disagreement and repetition, which, more often than not, reflect a richness, rather than a paucity, of perspective. It is the editor's hope that the studies, individually and in aggregate, will make a significant contribution to the theme of the symposium and offer the reader food for thought.

The contributions to this volume are divided into three sections, the first of which is entitled "Conceptual and Historical Parameters." As the heading suggests, the two studies in this section create a framework for those that follow and thus serve as an introduction. The first was written by the noted semiotician Floyd Merrell, who, while discussing Goethe per se only peripherally, evokes the whole modern scientific and philosophical context within which Goethe has become so relevant in recent years. Merrell draws on Goethe's experiment with the prism and critique of Newton in the *Farbenlehre* to support his own criticism of the assumption of classical science that controlled conditions will yield undeniable answers to the questions posed, said assumption resting on the fallacy of a split between observer and observed. Proceeding from works by Italo Calvino, he censures the attempt of present-day heritors of classical science to understand nature by isolating the part and extrapolating the whole from it, that is, their failure to recognize the continuity of all parts with each other in constituting the whole, which is tantamount to continuity between observer and observed and signifies the impossibility of true objectivity. For Merrell, there are no "things" as such, but only events that are defined in terms of interrelations of interdependency that form processes – a notion reminiscent of Goethe's understanding of life as "um einen Richttrieb gesammelte Tätigkeit."[21] The dynamic continuity that is nature and that is characterized by the interpenetration of all things represents a sphere of unactualized possibilities much like the realm of the *Mütter* in *Faust II.* Chaos is the catalyst for the realization, or emergence, of these possibilities and the complexity of nature. In Merrell's essay, and in modern garb, in short, we find much that reminds us of Goethean holism.

In the second essay, John A. McCarthy, perhaps the prime mover in chaos and complexity studies in *Germanistik*, focuses squarely on Goethe in an attempt to locate the relationship of Goethe's scientific and literary thought to modern thinking on complexity within the context of emergence, or evolution. He proceeds from the controversy over the modeling of nature in the *Teutscher Merkur* in 1789, where Goethe parted ways with Karl Ludwig von Knebel and the progressive pyramid model of nature, in which the three kingdoms of nature were unified by ubiquitous fractal structures. Concerned only with phenomena observable by the unaided eye and with differentiation rather than continuity, Goethe saw the three kingdoms as being distinct rather than

21 Herbert von Einem and Hans Joachim Schrimpf: Anmerkungen. In: Goethes Werke (Hamburger Ausgabe). Ed. by Erich Trunz. Munich: C. H. Beck 1981, vol. 12, p. 745.

continuous, although he did reject any further reduction. Indeed, he rejected the mathematical method of scientific inquiry in favor of what McCarthy calls an "aphoristic" or "essayistic" approach in which observations are recorded without reference to a rigid system and which presupposes a holistic view of nature that includes the observer as an integral part. Far from being detached and omnipotent, the observer employs the experiment to understand the interrelationships among experiments and between observer and observed. McCarthy emphasizes that Goethe criticized mathematics in important part as a sign of the contemporary trend away from his own preferred holistic, or interdisciplinary, method toward the self-referentiality of the autonomous discipline. This criticism, in turn, reflects a polyperspectivism that anticipates the concepts of positionality and indeterminacy that are fundamental to measurement in the quantum and micro worlds. Finally, McCarthy underscores the relationship between Goethe's notion of mimesis in art and his views of man and nature. For Goethe, according to McCarthy, the artist possesses creative powers that are linked by feedback loops to the creative forces of nature. He overcomes the supposed gulf between man and nature by situating man as artist firmly in an intermediate position in nature, at the site of emergence on the boundaries of autopoietic systems.

In the second section of the volume, which bears the heading "Goethe's Science and a Goethean (Philosophy of) Science," a number of humanists and scientists explore various theoretical and practical aspects of Goethe's writing on science. Gabrielle Bersier's examination of Goethe's thinking on Vulcanism and Neptunism touches on chaos and complexity in the modern sense only indirectly. However, it deals with issues crucial to this thought in a familiar context and may thus serve a further introductory function for those unfamiliar with the more recent conceptual framework. Above all, Bersier demonstrates the problematic, shifting relationship between order and disorder in Goethe's geological and other scientific thought, indicating that his public, in part political, support of Neptunism concealed a usually private, deeply rooted fascination with Vulcanism.

On the question of Goethe's participation in evolutionary thought, Astrida Orle Tantillo comes down on the side of those who answer in the affirmative. Discussing Goethe's review of two works by the anatomist Eduard Joseph d'Alton at one point, indeed, she uses the term "revolutionary" to describe Goethe's depiction of life emerging from the sea and evolving into a new creature – a generation before Darwin. She finds Goethe's organisms potentially more "creative" than Darwin's because they play a much more active role in their own development than do the Englishman's. For her, the crucial difference between the two men lies precisely in Goethe's belief that new forms emerge not by spontaneous change, by accident, or in response to the environment but rather through an innate Faustian will and striving. That is to say, nature is capable of both self-regulation and self-liberation from established laws by means of an inherent desire to come into being and to flourish. It is most creative precisely when breaking free from such laws, since new organic formations or even new organisms emerge during such – chaotic – moments of deviation and transition. The result may be something new and vital or something superfluous and ill fated, something useful or "merely" beautiful.

The physicist Richard F. Haglund opens his study by contradicting a notion he finds common in cultural studies, namely, the idea that science has in recent years grown less reductionist and more holistic owing to increased interest in nonlinear dynamics

and the uncertainty attendant upon measurement in quantum mechanics. He finds on the contrary that science is presently about as reductionist and determinist in character as ever. The legitimation of Goethe's holism for modern science, so conceived, he locates in the impact of visualization and emergence on the study of complex systems, which has created a climate that he feels Goethe would find far more congenial than that of the Newtonian science of his own day. Presupposing an emergent, or holistic, view of nature, visual imagery made possible by modern scientific instruments offers a kind of natural extension of vision and is capable of "shap[ing] scientific discourse even prior to mathematical modeling" (p. 58), which, he is careful to point out, nonetheless continues to play an essential role in understanding nature. After contextualizing these recent developments in the history of science, Haglund provides concrete examples of the heightened interest in visualization in connection with surface and interface physics, an area of nature, as Haglund knows, that was central to Goethe's thinking.

Tom Mellett approaches the topic of the volume from the viewpoint of both a scientist, namely, a physicist, and a humanist, one trained in Classical Studies. He asks why not consider the drama *Faust* to be the culmination of Goethe's scientific writings, in which case the subtitle should read "The Metamorphosis of the Single Human Being." He also draws a parallel between Mephistopheles' appearance to Faust and the challenge presented by chaos and complexity to modern science. Mellett foregrounds the epistemology of Goethean science as interpreted by Rudolf Steiner, who saw in Goethe a congenial rejection of Kantian subjectivism and who, according to the author, clears the way for a science of organics that can immediately apprehend the chaotic and complex life force of nature, thereby closing the gap between subject and object. Goethe overcame Kantian solipsism by giving observer and observed equal ontological status and viewing the scientific experiment as the mediator between the two. To Mellett's mind we live in a deterministic, predictable universe, the only question being *who* determines it. He proposes that we lend our subjectivity to the external world and thereby overcome the dualism which man created in the first place.

Like Richard Haglund, the biologist Bruce K. Kirchoff sets his accents differently than his colleagues in the volume but nonetheless comes to similar conclusions. He points out that chaos and complexity theories as well as systems theory approach the study of complex dynamics by means of mathematical or computationally based, reductionist methodologies and that all stress part over whole and the quantitative over the qualitative. Goethe, however, was able to see system-wide, qualitative aspects of phenomena. While he is presently often viewed as holistic, due to classical science's overemphasis on reduction, he in fact gave both part and whole their due and, indeed, united the two. In his thinking, analytic and holistic approaches complement each other, allowing different aspects of phenomena to manifest themselves. The two approaches are part of a larger whole that Kirchoff says is neither analytic nor holistic but rather Goethean. He writes that Goethe's method cannot be analyzed without losing its integrity but that it can be experienced and utilized in science. He then demonstrates how Goethean science can be used to overcome the either-or – either part or whole – mode of thought and perception, drawing examples from both art and nature.

The studies in the third section of the volume, entitled "Goethe's Scientific Thought and His Art," focus on both Goethe's science in the context of chaos and complexity and one or more of his literary works. Karl J. Fink characterizes Goethe's concept of natural development, much in the sense of chaotics, as a complex process in which an

organism is defined by images of random, self-similar structures conditioned by varying environments; like nature as a whole, the organism emerges through stochastic patterns of self-similar progression over time. What chaos scientists chart by means of mathematics, Goethe articulated through literary and pictorial narratives, specifically graphics. Drawing on his considerable experience in the computerization of Goethe's graphics, Fink uses the illustrations from *Die Metamorphose der Pflanzen* to demonstrate how Goethe extrapolated forms in motion from still images to create a holistic representation of the organism's relationships to its environment.[22] He then scrutinizes the novel *Die Wahlverwandtschaften*, this "poetics of human nature" (p. 99), in an attempt to understand how Goethe's notion of universal flux translates into human behavior.

James M. van der Laan introduces his discussion of *Faust* by likening the critical, emergent character of language and literature to that of natural life, both originating and developing at the threshold of either cognitive or chemical diversity. Literary texts proceed from, reflect, and enact the random, self-organizing processes of thought qua brain activity, and *Faust* is no exception. Indeed, as van der Laan tells us, the oscillation between creativity and destruction which represents the main theme of Goethe's drama is the primary concern of chaos and complexity theories. Beneath the great and varied complexity of the work, which has led to a split between fragmentarian and unitarian views of it, there lies for van der Laan a fundamental order created by the recurrence of various patterns and connections on different scales.

Countering the familiar idea of Goethe's distaste for chance, as suggested by the "Prolog im Himmel" in *Faust*, Nicholas Rennie argues that the play remains preoccupied with the question of chance and that the concept of chance developed in the work problematizes Goethe's semiotic ideal of the symbol. To make his point, Rennie plays Goethe off against two "poet-theorists of chance" (p. 119), Pascal and Mallarmé. Whereas Pascal denigrates the present in favor of eternity, the present nonetheless retaining great importance as the locus of "wager" qua theological decision, Faust elevates the present vis-à-vis eternity yet never commits to the *Augenblick*, which remains pure possibility, a "speculative moment" that symbolizes the semiotic contingency evinced by the play. Mallarmé's poem "Un coup de dés jamais n'abolira le hasard" and *Faust* both enact a conflict between necessity and chance through their structures. In different ways, both works appear to offer a fictional "refuge" from the influence of chance – in *Faust*, the "Prolog" and "Bergschluchten" – , but in truth they reveal a fundamental participation in chance – with Goethe, Faust's "partnership" with the son of chaos. In recent times, Rennie concludes, it is precisely chaos theory that has become the province of unstable referentiality within the context of probability.

Finally, Steven D. Martinson asserts that German writers from Leibniz to Goethe accounted for the emergence of order from chaos through the concept of organization, supporting his claim on the basis of Herder's *Ideen zur Philosophie der Geschichte der Menschheit* and Goethe's *Die Leiden des jungen Werther* and *Faust*. For Herder, *Bildung*, the higher development or cultivation of things, occurs by a process of organization and further *Bildung* that perpetually shapes and reshapes nature and man. Language organizes conceptual chaos to yield meaning. Werther's life represents an ultimately failed attempt to self-organize to a state of social viability and a return to

22 Karl J. Fink: Goethe's Morphology of Motion. CD-ROM. Northfield: Fink 1999.

the chaos of the void. In the scenes "Walpurgisnacht" and "Klassische Walpurgisnacht" in *Faust*, the *Irrlicht* and Homunculus guide Faust through the respective realms of experience by modeling the simultaneity of chaos and order that is the fertile soil of organization.

In general, quotations used in the contributions to this volume are drawn from the original texts, be they in German, English, or French. In a few rare cases, where the original was unavailable, English translations were used. Tom Mellett, in his study, includes a passage from his English-language adaptation of *Faust I.*

The Purdue symposium concluded with a roundtable discussion by participants and members of the Purdue community of questions raised in or elicited by the presentations and subsequent reactions. A transcription of that discussion appears at the end of the present volume. My sincere thanks go to Peter Boerner, Professor Emeritus of German at Indiana University, for leading the discussion.

Purdue University, February 2001