

The Art of Discovery

Encounters in Literature and Science



Edited by Margareth Hagen,
Randi Koppen and Margery Vibe Skagen

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CONTENTS

INTRODUCTION

MAPPING, BRIDGING, QUILTING: TRACING THE RELATIONS
BETWEEN LITERATURE AND SCIENCE [9](#)

DISCOVERIES – STRUGGLE, SCANDAL AND ADAPTATION

THE LOVE-HATE RELATIONSHIP OF LITERATURE AND SCIENCE [31](#)

Andrea Battistini, University of Bologna

DARWIN'S "FILTHY HERALDRIES" [45](#)

Gillan Beer, University of Cambridge

SCANDAL AND OBLIVION: SOME THOUGHTS ON
DARWIN, OEDIPUS AND ADAPTATION [61](#)

Holly Henry, California State University, San Bernardino

ENCOUNTERS – BORDERS AND CROSSINGS

GOETHE'S THEORY OF COLOUR: PREMODERN OR POSTMODERN? [79](#)

Ragnar Fjelland, University of Bergen

BAUDELAIRE AND THE POETICS OF MAGNETISM [95](#)

Margery Vibe Skagen, University of Bergen

FROM HEREDITY OF ACQUIRED TRAITS TO ATAVISM: [115](#)

THE IMPACT OF DARWIN ON SCANDINAVIAN LITERATURE

Eivind Tjønneland, University of Bergen

THE MATERNAL BODY IN SIGRID UNDSET'S WRITINGS: [123](#)

BETWEEN SCIENTIFIC OBJECT AND SOCIAL CONSTRUCTION

Christine Hamm, University of Bergen

MODERNISM'S EINSTEIN: [139](#)

WYNDHAM LEWIS AND THE POLITICS OF SCIENCE POPULARISATION

Randi Koppen, University of Bergen

THE RIDDLE OF THE ROBOTS [153](#)

Jon Bing, University of Oslo

LEO SZILARD: IMMORAL SCIENCE – MORAL FICTION? [171](#)

Roger Strand, University of Bergen

PRIMO LEVI'S MOON [181](#)

Margareth Hagen, University of Bergen

THE BIG BANG OF THE NEOBAROQUE: FRAGMENTS
OF RELATION OR OF UNITY? [199](#)

Hans Jacob Ohldieck, University of Bergen

THE RIGORS OF SUN, THE CLEMENCY OF THE SHADOW:
FROM EAKINS TO BUFFON – WITH LOVE? [217](#)

Željka Švrljuga, University of Bergen

ECOPOETRY'S QUANDARY [233](#)

Charles I. Armstrong, University of Bergen

METAPHOR AND COGNITION IN SCIENCE, POETRY AND THEOLOGY [245](#)

Jostein Børtnes, University of Bergen

THE ART OF SELECTION: LESSONS FOR RESEARCH
POLICY IN *HEDDA GABLER* [259](#)

Rasmus T. Slaattelid, University of Bergen

LIST OF ILLUSTRATIONS [271](#)

CONTRIBUTORS [273](#)

INTRODUCTION

MAPPING, BRIDGING, QUILTING: TRACING THE RELATIONS BETWEEN LITERATURE AND SCIENCE

Among the metaphors used to describe the complex and sometimes difficult relationship between literature and science, we find the topographical images of the abyss, the cleft, the labyrinth, all of which call out for building bridges, finding Ariadne's thread, drawing maps. Shortly before his death in 2002, the paleontologist and evolutionary biologist Stephen Jay Gould proposed a new, feminine metaphor to designate a potentially more productive stage in this fraught relationship, drawn from the art of quilting: "In our increasingly complex and confusing world, we need all the help we can get from each distinct domain of our emotional and intellectual being", Gould insists. Confronted by such a challenge, "*quilting* a diverse collection of separate patches into a beautiful and integrated coat of many colors, a garment called wisdom", offers itself as an appropriate metaphor for a new collaborative relation between the two (Gould 19).

Gould's image possesses a resonance that becomes all the more pronounced in its relation to other well-known invocations of the quilt metaphor, not least that made by the philosophers Gilles Deleuze and Félix Guattari in their book *Mille Plateaux* (1980). Here the quilt figures among the duo's "technological models" used to differentiate between two fundamentally opposed spaces, known as "smooth" and "striated", or, alternatively, "nomadic" and "sedentary"; "deterritorialised" and "territorialised". Where the striated space of *fabric* is constituted by intertwining opposed elements (the warp and the woof), the smooth space of the patchwork *quilt* "distributes a continuous variation", "in principle infinite, open, and unlimited in every direction" (Deleuze and Guattari 524-25):

The striated is that which intertwines fixed and variable elements, produces an order and succession of distinct forms, and organizes horizontal melodic lines and vertical harmonic planes. The smooth is the continuous variation, continuous development of form; it is the fusion of harmony and melody in favour of

the production of properly rhythmic values, the pure act of the drawing of a diagonal across the vertical and the horizontal. (Deleuze and Guattari 528)

Significantly, in view of Gould's usage above, for Deleuze and Guattari the smooth space of the quilt serves to demonstrate that "'smooth' does not mean homogenous, quite the contrary: it is an *amorphous*, nonformal space (...) an amorphous collection of juxtaposed pieces that can be joined together in an infinite number of ways" (526).

Deleuze and Guattari's spatial typology brings into focus the idealism that marks Gould's rhetoric, but also helps to illuminate important principles behind the present book. Gould's "integrated coat of many colors" points us towards a project of unification rooted in the ideals of American democracy, the space of the sedentary rather than the migrant: a "joining of differences in a common goal"; "a diverse but common enterprise of unity and power", based on "goodwill and significant self-restraint on [all] sides" (Gould 8; 5). To the extent that the present collection of original essays attempts the quilting that Gould envisages, it identifies itself equally as an examination and unpicking of seams that neither promotes nor sets out to effect any homogenous intertwining of forms. Though inevitably mixed, the space it attempts to create tends towards the smooth rather than the striated.

Bringing together scholars from literature, natural sciences, the philosophy of science and information technology, while drawing on literatures spanning two centuries (the 19th and the 20th), as well as two continents (Europe and the Americas), the essays assembled here present diverse perspectives on the cultural and historical shifts, the continuities and discontinuities, the bridges and gaps that define the relations between literary and scientific communities at different times and in different places. The various contributors examine how science and scientists have been imagined from the perspective of literature over time – as challenge or opportunity, promise or scandal. The disturbance of science emanates perhaps from its association with a frightening future or its ability to change the appearance of the past; the scandal occurs as it recalls us to thresholds and hybrids: human and non-human, animal and machine. Science, however, also emerges as a source of metaphor and imaginative modelling; as myth and mythology. Less prominent, but no less important, is the view on how scientific cultures perceive literature or the literary academic, how science reflects on itself.

The range of perspectives presented in this book does not amount to a comprehensive history, perhaps not even a usable map of more than the outlines of a changing landscape viewed now close up, now from a distance.

The topography that does appear through this nomadic, quilt-like mapping offers several vantage points from which to view the conflicting lines of convergence and separation that seem to define the present moment in the relations between literature and science: the convergence identified by some in a postmodern “humanisation” of science; the separation opening up with the neo-positivist (biological or “evolutionary”) turn in recent debates.

Though “science”, as discussed in the essays of this volume, is chiefly invoked in its restricted contemporary sense, with reference to natural and physical science, the history and etymology of the term bear witness to its complex infiltration with other domains and methods of knowledge and inquiry – including that of literature. Gould’s book, tellingly subtitled “Mending and minding the misconceived gap between science and the humanities”, lists four stages of the modern antagonistic relationship: first, the dispute between ancient wisdom and the cult of scientific observation during the 17th and 18th centuries; second, the age-old struggle between religion and science, given new impetus by the claims of evolution in the 19th century and still surviving in today’s Intelligent Design Movement; third, the “Two Cultures” debates during the years of the Cold War; and fourth and last, the challenges posed to science by postmodernism. While the Galileo case is often used to symbolise the conflict of science with religion, the 1996 Sokal affair stands out among the incidents in the controversy between postmodernist philosophy and the natural sciences. Despite the antagonism demonstrated by this infamous case, however, it may equally be observed that postmodernist theory (especially its notions of language, truth and subjectivity) has contributed, if not to Gould’s quilting of knowledge, then at least to a degree of convergence between disparate discourses.

The questions surrounding the nature and status of language have been fundamental to the discussion about the two cultures since the mid to late 20th century. It is hardly surprising that in 1967 we find two French intellectuals at the centre of the controversy, as the debate between Roland Barthes and Raymond Queneau on the nature of scientific as compared to poetic language reached the pages of the *Times Literary Supplement*. Surprisingly, for a poststructuralist like Barthes, his essay, “Science versus Literature”, takes a conservative view on the relationship between the two languages, maintaining that for science, language is merely an instrument; functioning at its best when presumably transparent and neutral. In opposition, Queneau’s essay, “Science and Literature”, disposes of the old dichotomy with a proposal for a new poetical rhetoric, based on the methods and languages of science (TLS September 1967). In subsequent years, as is well documented,

positivist views on the language of science as rhetorically neutral, objective, constative, literal and so on have increasingly been losing ground. Gillian Beer, one of the authors in this book, was among the first to explore (and indeed to initiate a “wave” of studies into) the many ways in which scientific writing is embedded in culture and a shared language. Professor Andrea Battistini, another distinguished contributor to this volume, has likewise published incisive studies of the rhetorical and metaphorical features of writing in the sciences. In his contribution to the present collection, professor Battistini revisits the debate of the Victorian era as well as that of the 1950s and 1960s, concluding that it is no longer possible to contrast science and literature by means of the classic dichotomies between, for instance, subjective versus objective, or the world of values and that of facts. Science is indeed part of history, subjected to languages and instruments that are far from objective. Intuition and imagination, the use of metaphors and rhetoric, are the prerogative of the creative scientist as much as the poet. In the Italian literary tradition, to which Battistini turns, the work of Galileo demonstrates the grounding of science in aesthetic and rhetorical categories, while that of Primo Levi suggests how science may be put at the service of literature.

At the beginning of what may seem at times a post-humanist era, it may also be argued that postmodernism has contributed to a “humanisation” of science. If the death of the author has been a dream of literary theory since the 1960s, the subject seems to some extent to have been resuscitated in science – not simply as a scientist and a historical figure, but also as an instance whose influence on the object (his science) is undeniable. The figure of the scientist is present in some of the contributions in this book – a figure that literature has traditionally connected with hubris and madness, but which in our time (as Rasmus Slaattelid’s essay reminds us) is as often embroiled in bureaucracy and questions of politically correct ethics. The broader historical perspective on the return of the subject in science is explored in Ragnar Fjelland’s chapter on Goethe’s theory of colours as distinct from that of Newton. Himself a physicist and philosopher of science, Fjelland opens up to renewed consideration and appreciation of Goethe’s much-disputed theory, arguing – with the distinguished philosopher of science Stephen Toulmin – for the connections between premodern and postmodern science. If Toulmin was right in pointing to modern science as somewhat paradoxically founded on a refusal of the subject-perspective of Renaissance humanism, the implication for our reading of Goethe would be that what used to be considered a romantic, pre-modern theory, based