

Scientific Discourse in John Donne's Eschatological Poetry

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By

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INTRODUCTION

The two most significant monographs about the influence of science on Donne's poetry—Charles Coffin's *John Donne and the New Philosophy*, published in 1937, and Marjorie Hope Nicolson's *The Breaking of the Circle: Studies in the Effect of the "New Science" upon Seventeenth-Century Poetry*, from 1950—happen to be the only scholarly works focused exclusively on this field of study. On a theoretical level, both of these publications are founded on a set of pre-Kuhnian assumptions about the existence of a unified knowing subject and the transparent referentiality of knowledge, so they both take possession of a reconstructionist conception of history and they both accept a positivist model of modern science, understood—in opposition to doctrinaire medieval science—as a progressive accumulation of propositional truths derived from empirical interrogation of nature. The ambit of interest in both books is limited to an overview of astronomical and cosmological references in Donne's *The Anniversaries* and his prose works, with the omission of scientific disciplines such as cartography, physics and alchemy, and little emphasis placed on the reading of the *Holy Sonnets*, supplicatory hymns and valedictory poems. The methodology adopted by Coffin and Nicolson combines a source-documentary approach with the history of ideas, which often reduces the complexity of Donne's imagery by narrowing the meaning of his literary art into a textual record of the scientific revolution. As the existing research neglects certain areas of inquiry and as it is based on presuppositions stemming from an outmoded philosophical perspective, I believe that the subject of science in Donne's poetry requires critical re-examination.

Marjorie Nicolson's critical essay combines a thematic study of literary imagination with an interdisciplinary excursion into the history of ideas in an attempt to defend Renaissance poets' choice of imagery against Johnson's famous charge of conceptual incongruity.¹ This defense is built

¹ Samuel Johnson wrote in *The Life of Cowley* (1780) that "The metaphysical poets were men of learning, and to show their learning was their whole endeavour; but, unluckily resolving to show it in rhyme instead of writing poetry, they only wrote verses...[in which] the most heterogeneous ideas are yoked by violence together; nature and art are ransacked for illustrations, comparisons, and allusions; their

on the hermeneutic ground that “many of the basic figures of speech which Johnson and some modern critics misunderstood were drawn directly and inevitably from a Nature ... long forgotten” (5). Nicolson construes those figures of speech to reflect certain conditioned beliefs (“habits of thought” [126]), forged within and retrieved from the collective mental framework of the Renaissance. Most ideas examined in the book, such as the microcosm-macrocosm analogy, the four elements, the great chain of being, the circle of perfection, numerology and the doctrine of signatures, and God as a geometer come from a pre-mechanistic worldview, assumed to be an intellectual orthodoxy which was a source of metaphors for sixteenth-century poets. Nicolson’s last chapters offer a cross-section of revolutionary theories such as Kepler’s laws, Harvey’s circulation of blood, Gilbert’s magnetism and Bruno’s infinity of space and assess their influence on seventeenth-century poetic creativity and metaphoric language. On the whole, Nicolson’s thesis exhibits hermeneutic sensitivity to scientific paradigms and cultural realities, combined with methodological assiduousness in deciphering literary allusions; nevertheless, it sometimes gives the impression of reducing the role of literature to that of a textual response to Renaissance science and, generally speaking, of a vehicle for selected historical information.

While Nicolson enrolls a heterogeneous company of poets into her critical inquiry, Charles Coffin confines his attention to an antiquarian perusal of scientific metaphors in the works of John Donne only. What comes under scrutiny in *John Donne and the New Philosophy* is mostly prose works such as *Pseudo-Martyr*, *Ignatius His Conclave*, sermons, and letters, and also poetic works, represented almost exclusively by *The Anniversaries*, which, generally speaking, attract the bulk of critical commentary traditionally arguing the importance of scientific references in illustrating Donne’s spiritual crisis or the crisis of authority in Donne’s time. The question of the poet’s personal testimony of doubt is also of great interest to Coffin since, like many digressive passages in mainstream critical literature, his research relates Donne’s science-oriented metaphors to the person of the author. The psychological framing of the books manifests itself in a romanticizing attitude to poetic expression—discernible, for example, in comments on the goal of the project. The frequent allusions to science should, in the words of Coffin, “be read as the reflection of Donne’s gloomy mind” in order to “get nearer the true center of his personality” (134). For the poet, science is said to function as

learning instructs, and their subtlety surprises; but the reader commonly thinks his improvement dearly bought, and, though he sometimes admires, is seldom pleased” (121).

an introspective tool, helpful in the dissection of feelings with the use of rational judgment, and thus engendering a literary "experience compounded of passion and deep thinking" (6).

Thus Coffin's source-documentary approach is underlain by a biographical method, visible, for instance, in the frequent use of quotes from Donne's private letters (the purpose of which in the book is to corroborate his intellectual curiosity), but also in an introductory chapter on the poet's education, which affords a cogent basis for the main argument. In that chapter, through a comprehensive study of the source materials and textbooks on natural philosophy which the young poet studied in Oxford Hall and at Cambridge University, Coffin documents Donne's familiarity with the fundamental scientific writings of the Renaissance. Despite showing in elaborate detail that Donne had been educated in disciplines such as mathematics, geometry, music, cosmography and alchemy, Coffin closes the biographical chapter with what I believe to be an unsupported premise for his analysis, which is to "consider the influence of astronomy only, because its goes deeper with Donne than that of any other science" (24). Thus, in the second part of the book, methodically marking out all the more apparent, often meta-scientific, remarks and names of eminent scientists mentioned both in Donne's prose and poetry, Coffin proceeds to demonstrate that the poet takes cognizance of the Copernican world scheme. At the same time, not only are the less obvious allusions to sciences other than astronomy overlooked, but also relatively little space is devoted to an in-depth analysis of the poetic texts themselves or to an examination of the cultural context in which they originated.

An important assumption in Coffin's work is that there is a chasm between Renaissance science and theology, which Donne purportedly moralizes in his poetry. In fact, Coffin, after declaring that the scientific revolution brought about a split between the physical and the metaphysical realities, expresses Donne's theological creed in the following words: "reason teaches truths that have nothing to do with divinity" (288). This assumption persists in a majority of Donnean criticism, directing it either towards views about the poet's linguistic incongruity or his Christian skepticism. If the commentators do not treat scientific metaphors in Donne as secular disruptions in metaphysical discourse, they often diminish their role to haphazardly arranged and purely ornamental devices. According to James Leishman, such is the essence of metaphysical wit: to play around with Copernican or Galilean theories in the same way as previous poets had experimented with language (146). Many critics, like Michael Moloney, say that Donne adopts scientific concepts only for "rhetorical effect" (59), be it out of Gongorine voracity for fresh invention, anti-

conventional backlash against Petrarchan idealism, or the pursuit of a linguistic equivalent to the mystical unity in multiplicity. Accusations of inconsistency have been lodged against “the Donne who will say anything if the poem seems to need it” (Scherer-Hertz 5), the Donne who “does not really know what he wants or rather wants everything and cannot harmonize his wants” (Tillyard 304), and the Donne whose “mind is not grooved to any one way of thinking” (Coffin 20). The presupposition behind such criticism is often that a metaphor reduced to rhetorical decoration or arbitrary word choice does not threaten the Christian integrity of the poem’s religious vision.

On the other hand, a large group of scholars admit that scientific language is a philosophical aberration in devotional poetics: an intrusive voice pointing to a conflict between God and science. Herbert Grierson believes that Donne’s collection of disparate themes—sacred and profane—attests to the poet’s skepticism about the relativity of human knowledge pitted against the absolute nature of religious truth (2, XXVII). Applying a similar dichotomy between natural law and fideistic certitude, Frank Kermode also emphasizes that Donne’s “rejection of the learning that depends on unaided human sense is essential to his religion” (117). Other commentators, for example, Steven Bethel and Masood Ul-Hasan, observe that, when Donne shows doubts in the possibility of earthly knowledge through what they understand to be incoherent metaphors, he fortifies the virtue of faith (87, 21). Continuing this train of thought, Silvio Policardi invokes Ecclesiastes 1.18 (“increaseth knowledge, increaseth sorrow” [80]) as a source of Donne’s skepticism about the scientific quest for truth. In John Demaray’s opinion, Donne, in his mature works, rejects all meaningless pursuits of the intellect to establish religion as the only genuine source of knowledge (85). This eulogy of suspended judgment, a forceful quality of Donne poetics, creates a conscience-stricken dilemma between faith and reason, asserts Thomas Sloane (*passim*). Likewise, Charles Coffin’s claim that “scientific traditions by no means escaped the sting of Donne’s skepticism” (156) places the poet’s writings within the philosophical current represented by Sextus Empiricus and Montaigne. While there can be no doubt about Donne’s inclination towards skepticism, the dichotomy between science and religion is, in my opinion, neither the source nor the conclusion of his poetry.

Another assumption that constitutes an overarching backdrop to Coffin’s approach, and to many other critical works on Donne, is a contrast between medieval and Renaissance science. Many commentators follow the path set out by Mary Ramsay’s *Les Doctrines Medievaes chez Donne* (1917) in believing that Donne’s imagination was shaped entirely

by medieval scholasticism, while others declare themselves on the side of T.S. Eliot and William Empson who envision a Donne steeped in sixteenth-century science. The first thesis has gained more currency among literary scholars. Melissa Wanamaker, who analyzes metaphysical wit in terms of *discordia concors*, proves that Donne's metaphors are typically medieval since, by discovering similitude between phenomena, they reflect the unifying cosmic order. In *John Donne: His Flight from Medievalism*, Michael Moloney (1944) defends Donne's intrinsic medievalism against modernistic readings which tend to focus more on post-Galilean influences than on the scholastic backdrop of his poetry. James Winny also stresses Donne's reliance on medieval concepts; in fact, he insists that all the poetic images are drawn "entirely from the old philosophy" (87). William Keast voices a similar confidence in the poet's susceptibility to scholastic doctrine; on those grounds, he even contrasts Donne with Cowley, who supposedly draws his store of images only from the new science (4). Donne's anachronistic interest in medieval thought has been explained by an increasing demand for "old lessons from moral theology" (6) that, according to Arnold Stein, characterized modern secular culture. On a more aesthetic plane, David Norbrook considers Donne's interest in old science and metaphysics an element within his anti-classical style. Opposed to these interpretations are the less numerous voices which proclaim that Donne puts sixteenth-century science before the old world order. Anthony Low, for instance, understands the poet's attraction to modern philosophy and his alleged rejection of medieval authority in the context of the Burkhartian narrative of Renaissance individualism. Maria Salenius, on the other hand, connects Donne's interest in the new learning with his Reformation poetics, presuming scientific imagery to be an adequate means of expressing the relevance of the Protestant religion to the modern reader (323).

Another widespread dichotomy customarily applied to Donne's work, the conflict between reason and emotion, proceeds from T.S. Eliot's influential attempt to define Donne's poetic originality in terms of the unresolved tension between immediate experience and absolute truth. On the one hand, in his Clark lectures, Eliot defines the incongruities of metaphysical poetry in the light of the "conscious irony of conflict between feeling and the intellectual interpretation" (36). On the other hand, the use of intellectual statements in Donne is valorized as an unconscious alienation from the wholeness of life underlying discursive fragmentation. Unlike Dante, whose feeling and intellect, according to Eliot, affords the full apprehension of the world's continuity, Donne's "chaotic intellectual background [results in] ... a contraction of the field of

experience" (75). Hence, although appreciated for "sensualising thought" and "closing the abstract with all the painful delight of flesh," (55) Donne's scientific imagery, said to bear the traces of "mental disjunction" and "lack of unity," is also accused of shattering the world into a plurality of fragmentary experiences. The impact of Eliot's definition of metaphysical poetry has lingered in the following decades of criticism which have perpetuated the dichotomy between thought and feeling. Although theoretical contexts for the later studies are not necessarily steeped in the modernist distrust of Enlightenment reason and in mythopoeic presuppositions about suspending literature between ideality and objectivity, these modernistic overtones often determine the general philosophical spirit of the works from successive decades.

The emphasis on the synthesis of emotion and intellect in Donne acquired a new critical perspective after the publication of Louis Martz's *The Poetry of Meditation* (1954) which revealed the influences of Ignatius Loyola's meditative practices on the structure of metaphysical poetry. Ignatian exercises intrinsically combine intense passion with analytical reflection, especially that the tripartite division of meditation into composition of place, analysis, and colloquy—stages which Martz also discerns in two quatrains and the sestet of Donne's sonnets—nominally reflects the three Augustinian faculties of the soul: memory, understanding and will. Even though Martz's thesis has been challenged by revisionist monographs, for example, by Barbara Kiefer-Lewalski's *Protestant Poetics and the Poetry of Praise*, his influence has remained so considerable that many twentieth-century critics² stayed entangled either in reformatory polemics with or in supplementary reaffirmation of Martz. The legitimization of the antithesis between reason and emotion in the two salient critical frameworks—Eliot's and Martz's—is of great weight for the discussion of scientific discourse in Donne because it seems that, due to this wide-spread binarism, the complex cultural and textual implications of Donne's inter-disciplinary allusions have escaped the notice of many scholars who often conservatively or perfunctorily interpret traces of scientific thinking in his poems to signify a wholeness of selfhood seen either through Eliot's or Martz's model.

The concept of the unity of human experience—presupposed in both models—has a particular significance for the reading of Donne's devotional poetry. Arno Esch's research into the *Divine Poems* shows that Donne is peerless in his balanced conflation of feeling and intellect,

² For example: Gardner 1952, Kermode 1957, Peterson 1959, Halewood 1970, Parini 1977, Milward 1979, Stein, Broadbent 1974, Carey 1981, Sherwood 1984, Alves 1985 and Davies 1994.

incorporating a wide circle of human experience into the economical structure of the sonnet (53). Patrick Grant believes that the interplay of love and intellect in Donne's expression of faith "continuously reasserts tensions inherent in human condition" ("Augustinian Spirituality and the Holy Sonnets of John Donne" 84). The fusion of intellect and feeling in Donne's religious verse has also been noted by Herbert Grierson, who defines metaphysical poetry as "the peculiar blend of passion and thought, feeling and ratiocination" (XVI). As Theodore Spencer argues, Donne taught Eliot the poetic sensibility that grasping the mythological sense of science, raises emotion from the obscure shadows of passion to the precision of detached judgment (175). For Steven Bethel, the inclusion of rational style into devout sonnets combines all levels of experience into "multiple worlds of human disclosure" (67). Robert Ellrodt, in turn, mentions thought and emotion in Donne to emphasize the role of introspection in consolidating a totality of the emerging selfhood (112).

The aim of this book is to examine the role of scientific discourse in John Donne's selected eschatological poems from the *Songs and Sonnets* and the *Divine Poems. The Anniversaries* will be excluded from this discussion because they have already received ample critical attention and because their genre and subject predetermines a specific use of scientific references. Similarly, the choice of scientific disciplines will not include allusions to astronomy, which were thoroughly investigated by Coffin. Instead I will focus my attention on the more neglected areas of inquiry, such as geography and cartography (chapter 1), physics (chapter 2), and chemistry and alchemy (chapter 3). Whereas to date there have been no publications documenting Donne's references to physics, geographic metaphors in Donne's poetry have been a subject of discussion in a few articles, namely in Lisa Gorton's "John Donne's Use of Space," published in 1998 in a special issue of *Early Modern Literary Studies*, and in Ladan Niayesh's "In All flat maps, and I am one: Cartographic References in the Poems of John Donne," from a recent (2006) issue of *Jussieu*, and also in the chapter, "The Frame of the New Geography" of John Gillies's *Shakespeare and the Geography of Difference* (1994). Alchemy in Donne was studied in an article by Edgar Hill Duncan from a 1942 edition of *The Journal of English Literary History* under the title "Donne's Alchemical Figures," also in 1957 Joseph Anthony Mazzeo published an article entitled "John Donne's Alchemical Imagery." In 1996, Stanton J. Linden devoted a chapter of his book *Darke Hieroglyphics: Alchemy in English Literature from Chaucer to the Restoration* to the poetry of Donne and Herbert ("A True Religious Alchemy"), while Eluned Crawshaw contributed to Smith's *John Donne: Essays in Celebration* from 1972 the

essay “Hermetic Elements in Donne’s Poetic Vision.” My analysis will not overlap research presented in these authors’ works; nevertheless, their articles will provide a valuable point of reference for this book.

Methodologically speaking, this research can be inscribed into the tradition of cross-disciplinary practice incepted by the postmodern shift from the scientific hegemony of logical positivism and the essentialist bias of Leavisian criticism to a predominantly aesthetizing approach taken towards epistemology.³ The renewed interest (after the hermeneutic turn in the 1950s) in the interdisciplinarity between science and literature followed the publication of Kuhn’s theory of “paradigm shifts”⁴ which makes the case for a theory-laden character to all explanatory frameworks in science, and ultimately for the cultural and ideological relativity of scientific claims. A broader perspective on the unverifiable status of any truth-telling discourse was adopted in Lyotard’s *Postmodern Condition* and Foucault’s *Order of Things: An Archeology of the Human Sciences* (1970), both of which, in arguing the linguistic constructedness and historical fortuity of privileged metanarratives or epistemes, challenge the traditional boundaries between academic disciplines. What has also paved the way for new readings across literature and science is philosophical works on the significance of metaphor as a figure of thought in scientific analysis. Take as examples Derrida’s “White Mythology: Metaphor in the Text of Philosophy” (1972), which shows that metaphor precedes and inhabits all philosophical discourse, Richard Rorty’s *Consequences of Pragmatism* (1982), which defines scientific progress as a history of changing metaphors, and Gaston Bachelard’s *The Formation of the Scientific Mind* (first published 1934, but appropriated by poststructuralist literary theory in the 1970s), which demonstrates that scientific concepts are metaphors naturalized in language. As it aligns with critical epistemologies in philosophy, the examination of the intersecting vocabularies between science and poetics has become a prominent trend in postmodern literary studies.

This cross-disciplinary tendency seems to be most marked in the criticism of the nineteenth-century novel and twentieth-century fiction, but it can also be observed in the study of early modern literature. The influence of Darwin’s theory of evolution on positivist imagery⁵ and the

³ Cf. Knellwolf and Norris 1-17.

⁴ The theory was propounded in *The Structure of Scientific Revolutions*, first published in 1964.

⁵ For example, organicist metaphors, taxonomic descriptions, the image of the web of affinities.

narrative structure⁶ of the Victorian novel has been explored, for example, by Gillian Beer in *Darwin's Plot: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction* (1983) and George Levine in *Darwin and the Novelists: Patterns of Science in Victorian Fiction* (1988). Such titles as *Strange Attractors: Literature, Culture and Chaos Theory* (1995) by Harriett Hawkins, *The Cosmic Web: Scientific Field Models and Narrative Strategies in the Twentieth Century* by Katherine Hayles and *The Place of Fiction in the Time of Science: Towards a Disciplinary Intellectual History* by John Limon, employ notions from quantum mechanics, biophysics, quantum field theory and chaos theory as parts of a critical approach to postmodern fiction.

As far as Renaissance studies are concerned, the interest in scientific imagery often constitutes a part of a Foucauldian cultural-materialistic critique. Juliet Cummins and David Burchell in *Science, Literature and Rhetoric in Early Modern England* and Elizabeth Spiller in *Science, Reading and Renaissance Literature: The Art of Making Knowledge*, for example, analyze seventeenth-century literary production in relation to scientific inquiry to show how Renaissance knowledge was institutionalized through social practices. A special field of research into the early modern embodiments of knowledge is the science of anatomy and its various textualities. Such books as *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture* by Jonathan Sawday and *The Body in Parts: Fantasies of Corporeality in Early Modern Europe* by David Hillman and Carla Mazzio, focus on anatomic discourse in search of corporeal articulations of subjectivity and the aesthetics of dismemberment in the textual spaces of the Renaissance. Other critical works on early modern scientific discourses view the cultural histories of knowledge-power structures through a postcolonial optic: John Gillies's survey of geographic references in Shakespeare in *Shakespeare and the Geography of Difference* links cultural methodology with an ethico-political consideration of otherness, while Stephanie Moss and Kaara Peterson in *Disease, Diagnosis and Cure on the Early Modern Stage*, which decodes textual allusions to Galenian and Paracelsian medicine, discuss the politics of estrangement and the taxonomies of racial difference in Renaissance drama. An interesting application of science studies to the revaluation of early modern theatre is undertaken in Henry S. Turner's *The English Renaissance Space: Geometry, Poetics, and the Practical Spatial Arts 1580-1630* and Angus Fletcher's *Time, Space and Motion in the Age of Shakespeare*. Turner extends his scope of analysis beyond the institutional

⁶ For example, plot advancing according to the rules of categorization, divergence and variability.

realities of the theatre into the conventions and technologies of performance, which he investigates through such scientific theories as applied mathematics, Albertian perspective and cartographic projection, on the assumption that the adaptation of optical and geometrical sciences to stage production enabled the cultural expansion of Elizabethan and Jacobean drama as a spatial mode of art. Fletcher explores action and movement on the Renaissance stage through the then contemporary kinetic theories of chaos, inwardness and discontinuity.

Like the aforementioned works, this book uses the methodological concepts that underwrite the critical ideologies of cultural materialism and the New Historicism. My objective is to delineate contexts of the negotiation and the circulation of meaning between the discursive fields of literature and science in accordance with the more general critical tendency to relocate the study of poetry in a broader field of cultural processes. In contrast to those commentaries on Donne which, like John Coffin's monograph, rely on the binarism between literary truth and scientific fact, this study does not presuppose a correspondence model of truth, but rather describes areas of semiotic exchange between different modes of writing and cultural forces. For that purpose, I will read Donne's eschatological poetry alongside Renaissance textual and visual scientific cultures represented by scientific treatises, textbooks on natural philosophy, emblematic engravings and woodcuts, paintings, atlases and maps and alchemical illustrations. Because such an interpretative model historicizes its perspective on poetic meaning it circumvents the universalistic dichotomy of emotion and reason which undergirds Eliotean criticism, and it reaches beyond the closed circuit of linguistic referentiality within which critics such as Rugoff evaluate Donne's metaphors. In the spirit of the New Historicism, this analysis is meant to employ its theoretical motivations and historical contingencies to establish itself as a strategic reconstruction of the past translated through the post-Kuhnian model. The aim of my work is to interpret Donne through the lens of the new histories of science, challenging the boundaries between the mechanistic worldview and medieval thought, on the one hand, and theological orthodoxy and epistemic naturalism, on the other.

Despite the inspiration I seek from new historicist approaches, my analysis is not a fundamentalist cultural materialist inquiry. The focus of the book is on the master tropes and cultural artifacts embedded in early modern narratives, but not the economic conditions of literary production and consumption or political practices of cultural institutions. Nor is this work a strong descriptivist pursuit of radical indeterminacies and anti-metaphysical stipulations. I deploy some elements of close reading and

post-structural analysis in pursuit of the sensitive juncture between the shifting forms of literariness and the textual crystallizations of the past recreated in the language of Renaissance poetry, thereby discarding all the psychological motivation that so captivates the interest of critics from Coffin to Carey. To some extent, this book also draws on the outdated methodologies of archivistic historicism and the history of ideas, so the use of source materials and of a comparative standpoint (still, without the trans-historical perspective) will try to bring into view some philosophical and scientific concepts recorded in literature. At the same time, I will endeavor not to lose sight of the literary content of Donne's verses, so each text will be analyzed as an independent whole in which the scientific allusion forms part of a rhetorically intricate and intellectually premeditated lyrical construction.

Owing to my interest in the elusive value of literariness and its interplay with scientific knowledge, I will concentrate on the subject of death, the intermediate state which Saint Augustine, the philosophical patron of the Donnean religious sensitivity and tropological resourcefulness, deems a point unidentifiable in time and space, something that does not exist (*Confessions*, 85). My emphasis will not be on metaphors derived from science, but on the role of these metaphors in representing death, a state which resists human cognition and opposes the laws of logic. Taking on this perspective, this analysis will focus on the meeting of two seemingly antonymic discourses—the scientific revolution and the Christian theology—in the space of Donne's eschatological poetry. I think the problem so formulated will allow me to trace the convergences that emerge between scientific theorems and religious truths on conceptual and linguistic levels. This study will be mainly concerned with the role that rational or even mechanistic science plays in conveying eschatological paradoxes and in describing the unspeakable experience of dying. I am also interested in ascertaining to what extent the opposition between the Old and the New Science may be relevant to the analysis of Donne's representation of death and mortality. Lastly, the aim of this book will be to evaluate the play of heterogeneous discourses and the cooperation of irreconcilable paradigms in Donne with respect to the question of rhetorical congruence.

CHAPTER ONE

GEOGRAPHY AND CARTOGRAPHY

INTRODUCTION

Geography developed in the sixteenth century from the more general cosmography into an autonomous scientific discipline, being subdivided in the seventeenth century into three separate sciences: mathematical geography, descriptive geography and chorography. As Lesley Cormack shows, at that time a knowledge of geography constituted both a significant component of the Arts Curriculum at Oxford and Cambridge and an important requirement for a cultured gentleman embarking on a public career. Cormack attributes the increasing value placed on geography in the sixteenth and seventeenth centuries to multifaceted social and political transformations: the nascent ideology of colonial imperialism thriving among the governing elite, the nationalistic understructure of the expanding institutions of patronage and governorship, and the empowerment of the gentry along with a subsequent propagation of the philosophies of rationalism and mercantilism (14-15). With Western Europe replacing Jerusalem as the centre of the world, and with the blank continents of the two Americas offering themselves as potential colonies, the early modern geographical representation of the world was appropriated as a tool of political and educational control to reinforce the English sense of nationhood and co-create the narrative of unchallenged British supremacy.

Although the rational narrative that governed early modern cartography was dictated by empirical plausibility and imperialistic ambitions, the most widely published maps in the sixteenth century were still very much immersed in theological concerns. Despite the scientific meticulousness that brought Gerardus Mercator such esteem, in a 30-page treatise entitled “The Book of the Creation and Fabric of the World,” opening his famous *Atlas* (1590), he declared that the central aim of his work was to reveal the splendour of God’s creation and to guide “the way to more high and eternal matters” (qtd. in Cosgrove 156). Mercator was not alone among Renaissance mapmakers in that goal. As Frank Lestringant argues, “cosmographical meditations from Vadianus to Mercator made the

contemplation of the atlas one of the privileged means of access to an understanding of the Scriptures” (7). Sebastian Münster, like Mercator, conceived his *Cosmographia* (1544) as a spiritual exercise; he even promoted the use of mnemonic devices to commit world maps to memory for use in meditation on the moral order of the world. Thus mimicking the formal structure of meditational practices, Münster employed in his atlas the compositional method of *periegesis* in order to take the reader on a vicarious pilgrimage through the mapped lands and encourage a devout contemplation of the planisphere (McLean 194).

Another sixteenth-century cartographer, Richard Hakluyt, shared Münster’s goal of re-Christianizing geography, which was becoming gradually detached from metaphysical underpinnings. Hakluyt, simultaneously an Anglican chaplain and a propagandist for England’s imperial expansion, supplemented his *Principall Navigations, Voiages and Discoveries of the English Nation* (1600) with a world map that combined the pious goal of depicting the universality of Christendom with the colonial intention of bringing “Christian religion to such people as yet live in darkness” (qtd. in Mancall 260). Münster, Hakluyt, and many other Protestant mapmakers who endeavoured to safeguard the geopolitics of the Christian empire often decorated the niches of stereographic space with religious marginalia, yet possibly no one used Christian iconography as copiously as Jodocus Hondius. The bottom frame of Hondius’s “Christian Knight Map of the World” (c. 1596) was populated with allegorical figures rendered in the tradition of a morality play: Death, World, Devil, Flesh; and glossed with a passage from the Bible: “what does it profit a man to gain the whole world if he lose his own soul?” (Matt. 16:26). Through this gallery of religious symbols, Hondius emphasised that the world, incidentally portrayed with the greatest scientific accuracy, remained a site of spiritual struggle and of satanic temptation.

Lastly, Abraham Ortelius, the author of the first modern atlas, *Theatrum Orbis Terrarum* (1570), alerted the reader to the emblematic meaning of the world through references to Christian Neo-Stoicism (Delano-Smith 58). Ortelius’s cartouche carried inscriptions from Seneca (“O how ridiculous are the boundaries of mortals”) and Cicero (“For what can seem of moment in human affairs for him who keeps all eternity before his eyes and knows the scale of the universal world?”), which laid bare the significance of the global vision of the world. The moral reflection on cosmic magnitude contained in that geographic *theatrum mundi* integrated the humanist idea of tolerance with the Stoic postulate of *ataraxia*. This casts light on why Erasmus, from whom Ortelius adopted a humanistic view on Christian beliefs (Kruyfhooft 18), deemed geography

a necessary prologue to apprehending the religious “coordinates of humanism” (Crane 432). That Ortelius’s world map was assigned spiritual responsibilities, probably beyond original intent, is seen, for example, in its selection to illustrate Genesis in the Haarlem Bible of 1598. In general, such harmonious coexistence of rational measurement and metaphysical thought in all the aforementioned early modern world maps and atlases corroborates John Short’s thesis that in the sixteenth century “there was no rift between the new spatial discourses and religious beliefs” (155).

Another reason why transcendental values became inscribed in the science of cartography and geography was the appropriation of Ptolemy’s *Geographia* by the Pythagorean-Platonic tradition. The ancient manuscript was recaptured from Constantinople and brought to Florence at the beginning of the fifteenth century, when, in the words of Heninger, “mathematical studies were generally taking on a new significance” (341). Soon the book proved to be equally attractive for the both the Christian Church and Platonic philosophers. At approximately the same time that Pope Pius II, having given the Ptolemaic atlas the official stamp of approval of the Roman Church, was seeding a *Cosmographia* (1477) of his own authorship with abundant references to Ptolemy (Scafi 245), Berlinghieri in 1482 was adapting the *Geographia* into Dantean verse and incorporating into that Alexandrian treatise mystical topics related to Ficinian philosophy and humanistic commentaries on moral themes (Skelton 1-14). Especially important to Neoplatonic cosmography was the rediscovery of the Ptolemaic grid. In the view of Platonizing philosophers, geometry, the tool of the cartographic projection, was the means by which God had created the universe. Therefore a perfection of invisible geometrical relations was said to inhere in this world, itself a reflection of the archetypal idea in the mind of God, the geometer. Cartographic projection reveals that incorruptible geometric order, not the material imperfection of the cosmos. Moreover, the Ptolemaic grid sanctioned a mode of vision parallel to the celestial vision of a soul in heaven. The motif of the Neoplatonic ascent of the soul through the terrestrial, celestial, and supercelestial spheres of the Ptolemaic cosmos¹ and of the soul’s beatific vision of the cosmic harmony from the highest sphere, *caelestis mundus*, involves the same positioning of the spectator as is presupposed by the cartographer’s gaze.

The Ptolemaic perspective creates a union between the subcelestial and the celestial realm not only because it renders the heavens to the human eye, “fixing the abstract grid to the spherical earth by the same

¹ This motif appears in the works of Mirandola, Reuchlin, and Fludd, among others.

mathematics of longitude and latitude by which the ancient Greeks located the stars in the sky,” (Edgerton 12) but also because the logic of ocular vision it uses harkens back to those medieval opticians who trusted that a spiritual relationship existed between the perpendicular visual axis and the grace of God.² Explaining the cartographer’s projection from a fixed eyepoint, Ptolemy established a point of sight which marks the center of the viewer’s visual field and the center of the *oikumene*, and in so doing he connected the spheres of earth, heaven and eye by a vertical visual ray. The spiritual meaning of this ocular axis becomes apparent in those cartographic works that were openly inspired by Pythagorean metaphysics, for example, Mercator’s *Typus vel Symbolum Universitatis*, wherein, according to Cosgrove, “resolving different modes of vision through the mathematics of spherical projection was as much a geopolitical as a spiritual act” (113).

GOOD FRIDAY, 1613, RIDING WESTWARD

Let man’s soul be a sphere, and then, in this,
 Th’ intelligence that moves, devotion is ;
 And as the other spheres, by being grown
 Subject to foreign motion, lose their own,
 And being by others hurried every day,
 Scarce in a year their natural form obey ;
 Pleasure or business, so, our souls admit
 For their first mover, and are whirl’d by it.
 Hence is’t, that I am carried towards the west,
 This day, when my soul’s form bends to the East.
 There I should see a Sun by rising set,
 And by that setting endless day beget.
 But that Christ on His cross did rise and fall,
 Sin had eternally benighted all.
 Yet dare I almost be glad, I do not see
 That spectacle of too much weight for me.
 Who sees Gods face, that is self-life, must die ;
 What a death were it then to see God die?
 It made His own lieutenant, Nature, shrink,
 It made His footstool crack, and the sun wink.
 Could I behold those hands, which span the poles
 And tune all spheres at once, pierced with those holes ?
 Could I behold that endless height, which is

² For example, according to Roger Bacon, God’s grace reaches devout men perpendicularly like light enters glass; sinners’ souls, however, refract the light of God’s grace.

Zenith to us and our antipodes,
 Humbled below us ? or that blood, which is
 The seat of all our soul's, if not of His,
 Made dirt of dust, or that flesh which was worn
 By God for His apparel, ragg'd and torn ?
 If on these things I durst not look, durst I
 On His distressed Mother cast mine eye,
 Who was God's partner here, and furnish'd thus
 Half of that sacrifice which ransom'd us ?
 Though these things as I ride be from mine eye,
 They're present yet unto my memory,
 For that looks towards them ; and Thou look'st towards me,
 O Saviour, as Thou hang'st upon the tree.
 I turn my back to thee but to receive
 Corrections till Thy mercies bid Thee leave.
 O think me worth Thine anger, punish me,
 Burn off my rust, and my deformity ;
 Restore Thine image, so much, by Thy grace,
 That Thou mayst know me, and I'll turn my face.

In the ninth book of *Timaeus*, Plato puts forward an imperative to observe the intelligences governing the cosmos in an epistemological pursuit of self knowledge: "God invented and gave us sight to the end that we might behold the courses of intelligence in the heaven, and apply them to the courses of our own intelligence which are akin to them" (76). When the westward rider from Donne's "Good Friday, 1613, Riding Westward" embarks on a gnoseological quest, he also starts from a meditation on the structure of the heavens. It seems to be not the Copernican cosmos of the early seventeenth century that he conjures up, however, but the universe imagined as an old-fashioned scientific construct. In the first sentence of the poem: "Let man's soul be a sphere, and then, in this, Th' intelligence that moves, devotion is," presuming the linguistic and logical form of a geometrical theorem (evidenced by the use of words: "let ... be"), Donne establishes a reference to the geocentric, Neo-Platonized cosmology of Aristotle and Ptolemy, and he concurrently suspends this reference within the conjectural structure of a scientific hypothesis. Such equivocal reliance on scientific knowledge persists in the subsequent part of the meditation, which dramatizes the scene of the Crucifixion at the intersection of physical, geometrical and transcendental spatialities. Throughout the poem, the ambiguous relationship between the opening vision of the Ptolemaic universe and the Renaissance cartography of western expansion, global cosmographic scale, and the optics of perspectival projection, enframes the theological mystery of Christ's death on the Cross.

The first section of “Good Friday, 1613, Riding Westward” figured in astronomical imagery, addresses the Neoplatonic theme of the doctrine of correspondences, wherein the “intelligence” or the controlling angel which sets each of the eight heavenly spheres in motion is analogized with religious devotion as an external agent which animates the human soul. The traveller’s soul, nevertheless, reverses from east to west as it becomes subject to the influences of “pleasure” and “business,” surpassing the attractive force of faith. In the Ptolemaic world system, an equivalent change of motion occurs when the sphere’s trajectory is altered by the movement of other spheres, asserts Donne, who by 1613 must have known that this theory had been introduced by Ptolemy only to camouflage ostensible mistakes in his all-encompassing paradigm, which had not accounted for the observable retrograde motion of the planets along the epicycle:

And as the other spheres, by being grown
 Subject to foreign motion, lose their own,
 And being by others hurried every day,
 Scarce in a year their natural form obey;
 Pleasure or business, so, our souls admit
 For their first mover, and are whirl’d by it.

Still, it is not astronomical accuracy but the philosophical background of Ptolemaic cosmology and its interpretations that the rider contemplates in his retrograde journey. The moral significance of the “spherical analogy” (334) has been comprehensively explained by Alexander Chambers. The point of origin for Donne’s conceit, he writes, is Timaeus’s description of the genesis of the world, in which lesser demiurges create man in the image of the universe endowing his soul with twofold motion: the circle of the Same rules the rational soul, while the circle of the Other—the sensible soul. Chambers establishes by numerous examples from the works of Plotinus, Chalcidius, Pseudo-Aquinas, Bonaventura and Avicenna, through Ficino, Agrippa and Bruno, to Kepler and Hall that the theme of the revolutions of the soul’s *duos orbis* was commonplace in philosophical discussions on the conflict between passion and reason and on the supremacy of moral virtue (334-340). Such is also the moral context of Donne’s analogy, as his rider is torn by opposing impulses: the sensuous appetite to set off on a secular journey on Good Friday, on the one hand, and the voice of the rational soul ordering him to follow the Christian path of salvation and turn his eyes toward the scene at Golgotha, on the other.

Astronomical imagery, on which Chambers focuses his analysis, dominates in the introductory passage of the poem, but the middle lines and the main fabric of the text are steeped in geographic and cartographic imagery, which structures the moral premises and the organization of space in the text. In the next line, “I am carried toward the West this day, when my souls form bends towards the East the I-speaker envisions the conflict between his allegiance to religious piety and his faithfulness to world duties in terms of the tension between two cardinal points of the compass: east and west. The rider is torn between these two vectors of space: his body is riding towards the west, which symbolizes the sphere of earthly ambitions, while his soul is bending towards the east, which symbolizes the sphere of pious devotion. Thus, this peregrination occurs within conflicting orders of spatiality and, I believe, incongruous cartographical modes. The attribution of moral value to eastward movement can be explained in terms of the symbolic space of a medieval map, which, subordinating chorographical accuracy to moral didacticism, privileges the east as the location of Jerusalem and of Earthly Paradise. As in medieval pilgrimage guides and travel narratives, the sacred destination of the I-speaker’s journey is situated in the east of the world, where the holy land intersects with the promised city at the *axis mundi*.

Joan Hartwig notices that the depiction of the rider in Donne’s poem recalls the pictorial convention of representing the conversion of St. Paul, who, while riding horseback to Damascus, saw the vision of Christ. Caravaggio, Michelangelo and Cranach (see fig. 1) use the stock association of the rider as the soul and the horse as the body in their renderings of St. Paul; Hartwig believes that the same symbolism can be found in Donne’s poem (270). Indeed, as the rider (his soul) wishes to be carried towards the east, the horse (the rider’s body) travels towards the west. The western direction has an ambiguous cartographic meaning; it is disparaged in old maps as the direction of spiritual decay (the sin that “eternally benighted all”), but favoured in modern atlases as a site of financial enterprises and colonial desires (“pleasure or business”). The projection of the traveller’s moral dilemma onto disparate cartographical surfaces highlights his sense of disorientation: not only is the *peregrinus* drawn in two morally opposite directions but the cartographic space he relates to also undergoes constant transformation.

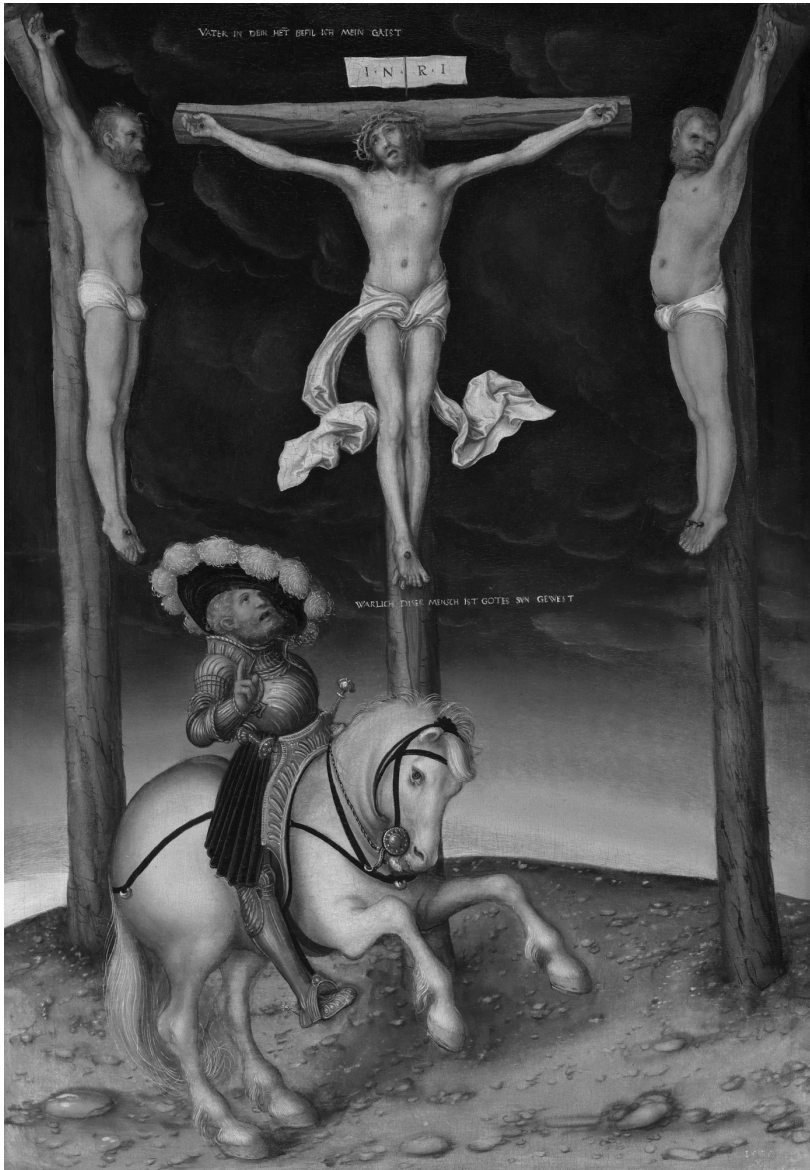


Fig. 1. Lucas Cranach The Elder, *The Crucifixion with the Converted Centurion*, 1536, National Gallery of Art, Washington DC.