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By

Andrew Graciano

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PREFACE

As an art historian with a personal interest in philosophy, science and economics, it seemed natural for me to research and to write this book on the eighteenth-century English painter Joseph Wright (1734-97). Such interdisciplinary research seems to satisfy both the left and right sides of my brain, a pleasure I discovered as a student that has since become a necessity.

Wright of Derby, as he is popularly known, is esteemed the "painter of light," and his most familiar works are undoubtedly his "candlelights"—conversation pieces composed in dramatic *tenebroso*. It was two of these paintings that first captured my interest from a purely aesthetic point of view—*An Experiment on a Bird in an Air Pump* (National Gallery, London, 1768) and *A Philosopher Giving that Lecture on the Orrery in which a Lamp is Put in Place of the Sun* (Derby Art Gallery, 1765). Their hyper-naturalism and warm, glowing light inspired an almost religious reverence, while their scientific subjects appealed to my materialist rationalism. They are beautiful pictures of science that seemed to me at the time to be curiously spiritual and mesmerizing. I needed to know more about the artist. Several years of research later, this book is the result of my investigations.

ACKNOWLEDGEMENTS

There are so many deserving of my gratitude for their help and encouragement along the way to publication. My mentor, Christopher Johns, Professor of History of Art at Vanderbilt University, has advised and guided me through several years of graduate study and nearly a decade beyond. His time and generosity have been crucial to the formation, development and completion of this project, and for this I owe him an enormous debt of gratitude.

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Many thanks also to my students and colleagues, and the staff at the University of South Carolina's Department of Art, who have provided a cordial and stimulating place to work, as well as to Mary Anne Fitzpatrick, Dean of the College of Arts and Sciences, whose generous support ultimately made the completion and illustration of this book possible.

And on the home-front, I have been unconditionally supported and loved by my amazing wife and two beautiful children. For this, above all else, I am always grateful.

INTRODUCTION

Several of Wright's candlelights treat scientific, industrial and philosophical subjects, and for that reason Wright is sometimes perceived as a "scienceful" artist who stood on the threshold of the Industrial Revolution.[1] The fact remains, however, that such conversation pieces comprise only a small part of the artist's early oeuvre; the vast majority of his works are portraits, landscapes, literary and history paintings. Nevertheless, the major focus of scholarly discussion has been engaged with Wright's candlelight pictures from the 1760s and early 1770s, especially the two paintings previously mentioned in the Preface.[2] These works are alternately considered by scholars to be either stylistically *retardataire* with their insistently tenebrous palettes and dramatic lighting, or innovative in their modern narrative subjects.

William Bemrose wrote in 1885 the first published account of the artist's life and work.[3] Heir to his family's successful Derby printing firm Bemrose and Sons, the author had married a descendant of the painter. The familial and regional connection to the artist prompted Bemrose and other well-heeled Derbeians to pool their financial resources in order to purchase several of Wright's paintings, which were then exhibited in the local art museum as a manifestation of civic pride. Presumably Bemrose's publication served to publicize Derby's famous native son as well as his own philanthropic achievement. The book is valuable for its publication of important correspondence, including several of Wright's letters from Italy. Bemrose's descendant, H. Cheney Bemrose, in 1922 co-authored a more popular, conventional, and brief biography of the artist.[4] Although this book alludes to the importance and variety of Wright's social circles, its lack of bibliographical citations and historical documentation makes it of little scholarly value, however entertaining it may be as a romanticized anecdotal biography.

The landmark of Wright scholarship, Benedict Nicolson's two-volume monograph, *Joseph Wright of Derby, Painter of Light*, was published in 1968.[5] Wright's correspondence with patrons, friends and family; part of his account book; and documentation of his exhibitions all serve to situate the artist at the center of a regional web of patronage, the strands of which appear to radiate outward from the artist to many of the most prominent intellectuals and industrialists in the Midlands.[6] Nicolson's monograph

includes the traditional sections on the artist's life and career as well as a catalogue raisonné. What separates it from other artist's biographies is its separate discussion of Wright's patrons and friends—who they were, what their intellectual interests were, and with whom they corresponded.[7] They are shown to be the centers of their own British, colonial and continental scientific, economic, philosophical, and political webs, connected to such figures as Sir Joseph Banks, Benjamin Franklin, and Jean-Jacques Rousseau. There is, however, no sustained attempt to consider Wright or his art within this more resonant historical context.

It is only in the realm of aesthetics and artistic style that Wright is somewhat liberated from provincial subordination. The artist's trip to Italy (1773-75) has been shown to be the cause of a radical stylistic change, his paintings having been influenced by prominent British artists resident in Rome (like George Romney, Ozias Humphrey, and possibly the Swiss-born Henry Fuseli). The art of Michelangelo and the cult of antiquity were additionally of critical importance to Wright's aesthetic development. While his genre scenes of the 1760s, though depicting modern subjects, tend to lend credence to the view of Wright as a peripheral artist, his post-Italian pictures embody a progressive Neoclassical aesthetic and often anticipate full-blown Romanticism. Although elected an Associate of the Royal Academy of Arts in 1781, Wright never properly attained full academic status, much to his vexation. Historically this has caused many to view his attempts at a more modern and cosmopolitan style as falling short of the Grand Manner championed by Sir Joshua Reynolds, ironically fixing Wright's provincial position in the art-historical canon. I believe this is precisely the reason he is best known and revered today for his early candlelight paintings, which tend to be of interest as either marginal curiosities or mere scientific illustrations, while the rest of his oeuvre, for the most part, is comparatively underestimated.

The Tate Gallery's traveling exhibition *Wright of Derby* in 1990 helped bring the artist and his work to public attention in an attempt to rescue him from near oblivion.[8] The show received almost unanimous critical acclaim and was reviewed in numerous artistic, art-historical, scientific, and other academic and popular periodicals. The Derby Museum and Art Gallery lent many of the paintings in its collection, allowing many to see them for the first time. Several paintings had been cleaned for the occasion, and others were temporarily disinterred from private collections. The exhibition and its catalogue, edited by Judy Egerton, were a vast visual improvement over Nicolson's monograph, allowing one to view the works in good color illustrations.[9]

Although the Tate catalogue features new and important essays on

Wright's painting techniques, frames, and prints after his work, its individual entries offer very few post-Nicolson bibliographical references.[10] One of the essays in particular inspired the work at hand: David Fraser's brief essay, "Joseph Wright of Derby and the Lunar Society," touches on Wright's relations with members of that scientific club, particularly John Whitehurst and Erasmus Darwin, but artistically concentrates (typically) on the artist's early work, *The Orrery*, *An Experiment on a Bird in an Air Pump*, and *Iron Forge*.[11] Fraser does much to situate these paintings in the appropriate histories of science (natural philosophy), from Sir Isaac Newton to Joseph Addison, and industry, from Sir Richard Arkwright to Josiah Wedgwood and his essay does much to advance our knowledge of the artist. For the present discussion, however, he neither develops the artist's link with a larger Enlightenment culture *vis-à-vis* his later works nor does he speculate about any subsequent social or political ramifications such connections may have had. Fraser hinted at the possibility of scientific and industrial influences in Wright's later landscapes in an earlier article, but seems to have abandoned this tack by 1990.[12]

The renowned historian of science, Robert Schofield, published in 1963 the most thorough scholarly account of the Lunar Society, which is considered by many art historians to have been the social hub of Wright's friends and patrons.[13] This magisterial study explains in great detail the origins of this enlightened club—how its members came to meet one another—their intellectual, commercial and social pursuits, the group's apogee, and the reasons for its decline. The footnotes indicate the depth of Schofield's research and provide valuable references to primary documents, particularly correspondence among the society's members—both published and unpublished.[14] Although his focus is on the Lunar Society's scientific, industrial, and philosophical achievements and innovations, Schofield inevitably wanders into the larger cultural, economic, and political ramifications of Lunar Society accomplishments. It is a bit surprising, however, that Wright is only cursorily mentioned in a few sentences as the producer of their ultimate signifiers of newly-discovered wealth and social status—their portraits—and not considered in greater depth at least as a painter of aesthetically appealing conversation pieces embodying the members' common worldview, if not as a social and creative equal who shared their interests. Unfortunately, Wright suffers essentially the same treatment in Jenny Uglow's more recent and easily readable account of the same group, *The Lunar Men*.[15]

In 1997, to commemorate the bicentenary of Wright's death, the Derby Museum and Art Gallery mounted a special exhibition of the artist's work,

including finished and preparatory drawings, figure studies, and letters with marginalia in gouache, pen, ink wash, charcoal, pencil, and chalk. Many of these are published for the first time in the exhibition catalogue, *Joseph Wright of Derby, 1734-1797*.[16] Also of particular importance are the published transcriptions of certain letters from the museum's collection that are featured in some of the catalogue entries. While many of the letters concern the diurnal business of payment and delivery, several are valuable for their insight into the artist's working methods, choice of subjects and compositions, and impressions of Rome and Naples.

Historical attitudes about Wright of Derby and his work have helped shape recent scholarly opinion about the artist. Although he frequently exhibited his work with the Society of Artists and at the Royal Academy of Arts in London, Wright lived most of his life in the town of Derby in the East Midlands, the nation's industrial heartland. Moreover, the perceived taint of a lingering Baroque aesthetic kept his paintings (and Wright) on the art historical periphery of the Reynoldsian ideal upheld by the Royal Academy of Arts, suggesting that, along with distinguishing Wright from other artists with the same name, the "of Derby" moniker was meant to justify and to express such prejudicial attitudes arising from his provincial origins.

Wright was not only *from* Derby, but also for various reasons—friends, family, patrons, and, possibly obstinacy—maintained permanent residence there, as will soon be described, painting until the last years of his life. The tendency, as I have already shown, is still to focus on his pictures from the 1760s as hallmarks of the painter's oeuvre, which, more often than not, does the artist an art-historical injustice. In such narratives Wright remains a provincial oddity, either damned for his Dutch-dependent style or begrudgingly admired for his intriguing (or "quaint") bourgeois subject matter. Moreover, although he is known to have been friends with such *illuminati* as William Hayley (poet), Erasmus Darwin (botanist, poet, physician), and John Whitehurst (geologist, clockmaker), Wright is rarely considered for his own intellectual capacity and personal connections to many of the luminaries of Enlightenment Britain. In addition, scholarly perceptions of eighteenth-century Derbyshire and the Midlands region in general are sometimes colored by nineteenth-century anti-industrial, romantic prejudices; by mid-twentieth-century Marxist tendencies to heroicize the working classes of the past;[17] and by the present state of post-industrial affairs in these economically depressed, largely working-class areas due in great part to Thatcher/Reagan era economic reforms like the privatization and deregulation of major industries. Wright's art cannot be properly contextualized if our perception of his

historical moment is informed by our own postmodern disillusionment with the Industrial Revolution, its environmentally destructive aftermath, and the social breakdown caused by downsizing as privatized industry struggles to survive in a global marketplace. It is for this reason that I have undertaken to (re)contextualize Wright's later paintings of the 1770s and 80s within the histories of science (natural philosophy), industry, economics, and art.

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In the eighteenth century the English Midlands was home to such enlightened, culturally progressive groups as the Derby Philosophical Society, the Lunar Society of Birmingham, the Lichfield Literary Society, and the Lichfield Botanical Society, among others.[18] The members of these philosophical congregations, many with personal and professional links to Wright, corresponded frequently with Enlightenment bigwigs in Britain, on the Continent, and in the Americas—e.g., Sir Joseph Banks, Jean-Jacques Rousseau, and Benjamin Franklin, respectively. Therefore, though they may have been provincial by birth and residence, these men were wealthy, well-educated, well-connected, and in many cases politically radical intellectuals who participated in the larger Republic of Letters that served to propagate Enlightenment ideas about science, art, politics, and social progress.[19]

Previous scholars have made much of the Lunar Society and its ties to renowned Enlightenment figures. The history of science celebrates the group as the heart of the truly progressive, dissenting English Enlightenment, but always seems to leave Wright out of the picture. Historians of art, on the other hand, too often try to force the closeness of the artist to the Lunar Society, sometimes erroneously proclaiming his membership. My own research, however, shows that he may have been acquainted with only a couple of members, while he seems to have been much more intimately tied to those who eventually formed the Derby Philosophical Society.

It was Wright's friend and Lunar Society member Erasmus Darwin who officially founded the Derby Philosophical Society in 1783 after moving to that town from Lichfield, becoming the group's first president. Where the Lunar Society was a loose network of men who tried their best to meet regularly for dinner on nights of the full moon and kept no formal records, its Derby counterpart and successor was very structured from the outset. A consensual set of bylaws was established in 1784 outlining the purpose of the group. The members met regularly on the first Saturday of

each month at the King's Head Inn in Derby. Fines were charged for absenteeism and most members were from out of town. At the core of the group's function was its scheme for a circulating library in which membership dues would contribute to a fund used to purchase books on various subjects that fell under the heading of natural philosophy: medicine, geology, botany, ethics, economics, politics, chemistry, natural history, and travel. By 1795 the society had collected over three hundred volumes of texts in English, French, German, and Latin, plus subscriptions to several journals, such as the *Transactions* of the Royal Societies of London, Edinburgh, and Ireland.

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This book explores the extent to which many of the artist's later landscapes, portraits, and historical scenes are also rooted in contemporary science, industry, and Physiocratic economics in an attempt to underscore the view of Wright as an intellectual painter, whose art tells of his connections and shared interests with many of the members of the Derby Philosophical Society and their acquaintances.[20] The five following chapters have taken the form of individual case studies, each of which deals with an aspect of Wright's post-Italian oeuvre. The first considers the artist's landscape paintings of Derbyshire in light of contemporaneous geological debates and mining practices. Specifically, I argue that John Whitehurst's treatise, *An Inquiry into the Original State and Formation of the Earth* (1778), was a major factor in Wright's choice of Derbyshire locations. Arguing that Derbyshire toadstone was, like basalt, of igneous origin, the geologist linked the county's geology and topography to that of other volcanic regions of Europe. He further explains that an understanding of the 'subterraneous geography' of Derbyshire would aid miners in their endeavors. Moreover, British miners had a long tradition of intuiting subterranean mineral fertility by observing the topographical lay of the land, a practice that was codified by William Hooson in an eighteenth-century mining handbook. Having traveled to Italy in 1774-75, Wright witnessed some seismic similarities first hand in Naples and his obsession thereafter with painting Mt. Vesuvius is well known. I argue that it is no coincidence that many of the artist's Derbyshire viewpoints correspond with the text and illustrations found in Whitehurst's important book, or that his landscapes emphasize topographical description and depict locations known to have been minerally rich, artistically joining two modes of seeing—surface observation and penetrating vision. I argue further that his subsequent pairing of an Italian and English landscape for

the Rev. Thomas Gisborne was an eloquent statement about a universal natural history that paralleled a human history common to both places viz. both the Biblical Flood and the Roman Empire.

Chapter Two begins by demonstrating that Wright was, like his patrons, a prosperous landowning gentleman. The artist owned and let property to tenants for agricultural purposes, collected rent and mortgage payments, and made loans of considerable sums to various friends and acquaintances. I argue that, for the most part, after about 1767 he did not need to paint for a living, since the income from rents, loan payments, and a modest inherited annuity was quite adequate. This disproves the common notion that Wright remained in Derby for most of his life simply because he was unable to achieve success as an artist in London. It shows to the contrary that the artist had other concerns and obligations that kept him rooted in Derby as a member of the local land-owning class. Pursuant to this idea, I also examine three of Wright's Hurt family portraits in relation to property ownership: *Francis Hurt* (c. 1782), *Charles Hurt* (c. 1789-90), and *Susannah Hurt* (c. 1789-90). Property is in some fashion depicted in each of these portraits to indicate the sitters' sources of wealth—industrial and inherited—as well as to highlight their connections to powerful familial lineages. The Hurts were landed gentry who made a vast fortune in lead mining. Lead mining was a prosperous Physiocratic pursuit in the greater Matlock area during the eighteenth century, with mines even located specifically in Wright's favorite High Tor. The discovery in Cromford in the late 1770s of a large ingot of lead with an ancient Latin inscription confirmed Pliny's account of the importance and productivity of Roman-British lead mines in the region. This highlights the ancient historical significance of Wright's *Matlock High Tor* paintings of the 1780s, underscoring the parallels of natural and human histories, and elevating Wright's Derbyshire landscapes nearer the genre of History.

The third chapter focuses primarily on one painting: Wright's *Portrait of Brooke Boothby* (1781). I demonstrate that the portrait is not merely a straightforward commemoration of Boothby's publication of Jean-Jacques Rousseau's *Rousseau, Juge de Jean-Jacques* (1780), but is also rather subtly ironic when seen through the lenses of eighteenth-century botany and medicine. I argue that the lynchpin of the irony is the tension between the utility and the pleasure of botanical study—pharmacology and leisured connoisseurship—that seems to have preoccupied Rousseau and polarized Boothby and Erasmus Darwin. By identifying the prominent plants in the painting and discovering their contemporary medicinal value in the treatment of melancholy, the irony is made plain. Wright's own basic

knowledge of medicine and possibly botany makes such a purposeful twist plausible.

Taking David Solkin's ideas as a point of departure, I argue in Chapter Four that the conflation of moral and natural philosophy in Wright's oeuvre did not arise solely from the aesthetic theories of the third earl of Shaftesbury or those of George Turnbull.[21] I demonstrate that the literature of natural philosophy provided, in theories about sensibility and sympathy, a philosophical basis for such conflation—particularly from among Scottish Enlightenment thinkers, like Turnbull's student Thomas Reid as well as Adam Smith. Feeling sympathy for another living creature was to realize one's own possession of a soul, a pleasurable experience that simultaneously improved one's morality. Wright was certainly aware of these philosophical currents, either directly or from his friends who would soon make up the Derby Philosophical Society, whose library later contained the appropriate sources (likely from pre-existing private collections). Capitalizing on these notions, though not entirely in a commercial sense, the artist organized a solo exhibition in London that showcased two pairs of companion pieces that were, I believe, to affect viewers' sensibilities in such a way as to elicit sympathy and the elevation of their moral consciousness. This exhibition and its didactic purpose are the subject of Chapter Five.

Although the five chapters treat such varied subjects as geology, lead-mining, property ownership, botany, and sensibility, they are not mutually exclusive. Taken together, they form a panoramic picture of Wright's intellectual interests—a subject never before considered in depth and in context, presumably because the artist neither attended university nor truly attained full status as a Royal Academician. By connecting the artist in the following chapters to the intellectual concerns common to the later Derby Philosophical Society, I shall begin to extricate his historical reputation from the mire of perceived failure and provincial bias in order to situate his work in the larger historical context of the international Enlightenment.

Notes

[1] The term "scienceful artist" owes a great debt to Barbara Stafford, *Artful Science: Enlightenment Entertainment and the Eclipse of Visual Education* (Cambridge: MIT Press, 1994).

[2] The landmark work in Wright studies is Benedict Nicolson, *Joseph Wright of Derby, Painter of Light* (New York: Pantheon Books for the Paul Mellon Foundation for British Art, 1968). See also: David Fraser, *Joseph Wright of Derby* (Derby: English Life Publications, 1979); Idem., "Joseph Wright of Derby and the Lunar Society: An Essay on the Artist's Connections with Science and Industry,"

Wright of Derby, ed. Judy Egerton (London: Tate Gallery Publications, 1990): 15-23; Egerton, ed., *Wright of Derby* (London: Tate Gallery Publications, 1990); David Solkin, "Joseph Wright of Derby and the Power of the Aesthetic," in *Painting for Money: The Visual Arts and the Public Sphere in Eighteenth-Century England* (New Haven: Yale University Press, 1992): 214-246; and Idem., "ReWrighting Shaftesbury: The Air Pump and the Limits of Commercial Humanism," in *Painting and the Politics of Culture: New Essays on British Art, 1700-1850*, ed. John Barrell. (New York: Oxford University Press, 1992): 73-99.

[3] William Bemrose, *The Life and Works of Joseph Wright, A.R.A., Commonly Called Wright of Derby* (London: Bemrose and Sons, 1885).

[4] S.C. Kaines Smith and H. Cheney Bemrose, *Wright of Derby* (London: Philip Allan and Co., 1922).

[5] Nicolson, *Joseph Wright of Derby*.

[6] The one exhibition that is poorly documented, however, is perhaps his most interesting—Wright's one-man show at Mr. Robins' Rooms at Covent Garden, London, of 1785, in which the artist seems to have brought together pairs of didactic companion pieces that had otherwise been dispersed into different collections, some halves remaining unsold.

[7] Nicolson, 95-173, except 150-157.

[8] The show traveled from the Tate Gallery to the Grand Palais, Paris, and finally to the Metropolitan Museum of Art, New York. Ironically, the Derby Art Gallery found itself out of its museological league in the bid for the exhibit.

[9] Egerton, *Wright of Derby*. The color plates of the catalogue are of high quality and large size (2/5 page).

[10] Rica Jones, "Wright of Derby's Techniques of Painting," in Ibid., 263-272; Paul Mitchell, "Wright's Picture Frames," in Ibid., 273-288; and Tim Clayton, "The Engraving and Publication of Prints of Joseph Wright's Paintings," in Ibid., 25-30.

[11] David Fraser, "Joseph Wright of Derby and the Lunar Society," in Ibid., 15-23.

[12] Fraser, "'Fields of Radiance': The Scientific and Industrial Scenes of Joseph Wright," in *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environs*, ed. Dennis Cosgrove and Steven Daniels (New York: Cambridge University Press, 1988), 119-141.

[13] Robert Schofield, *The Lunar Society of Birmingham: A Social History of Provincial Science and Industry in Eighteenth-Century England* (Oxford: Clarendon Press, 1963).

[14] Correspondence provides the only documentary record of the topics of discussion among members in and outside meetings because apparently no minutes were ever taken.

[15] Jenny Uglow, *The Lunar Men: Five Friends Whose Curiosity Changed the World* (New York: Farrar, Straus and Giroux, 2003).

[16] Jane Wallis, *Joseph Wright of Derby, 1734-1797* (Derby: Derby Museum and Art Gallery, 1997).

[17] This is particularly the case with Francis Klingender's enthusiastically Marxist interpretation and celebration of Wright's *Iron Forge* and *Blacksmith's Shop*.

[18] Schofield's is the definitive study of the Lunar Society. He also discusses the Lichfield Literary Society, the Lichfield Botanical Society, and the Derby Philsophical Society. See also Maxwell Craven, *John Whitehurst of Derby: Clockmaker and Scientist, 1713-88* (Derby: Breedon Books, 1996); Desmond King-Hele, *Doctor of Revolution: The Life and Genius of Erasmus Darwin* (London: Faber and Faber, 1977); Roy Porter, *The Making of Geology: Earth Science in Britain, 1660-1815* (New York: Cambridge University Press, 1977); and Anna Seward, *Memoirs of the Life of Dr. Darwin, Chiefly During His Residence in Lichfield, With Anecdotes of His Friends and Criticisms on His Writings* (Philadelphia: Classic Press, 1804).

[19] For information about the Republic of Letters in general see Dena Goodman, *The Republic of Letters: A Cultural History of the French Enlightenment* (Ithaca: Cornell University Press, 1994) and John Barrell, *The Political Theory of Painting from Reynolds to Hazlitt* (New Haven: Yale University Press, 1986), 1-68 passim. See the following for specifics about how the Republic of Letters functioned among the scientific communities in Britain and on the Continent: John Gascoigne, *Joseph Banks and the English Enlightenment: Useful Knowledge and Polite Culture* (New York: Cambridge University Press, 1994); Idem., *Science in the Service of Empire: Joseph Banks, the British State and the Uses of Science in the Age of Revolution* (New York: Cambridge University Press, 1998); Rhoda Rappaport, *When Geologists Were Historians, 1665-1750* (Ithaca: Cornell University Press, 1997); Ann B. Shteir, *Cultivating Women, Cultivating Science* (Baltimore: The Johns Hopkins University Press, 1996); David Spadafora, *The Idea of Progress in Eighteenth-Century Britain* (New Haven: Yale University Press, 1990); and L. Pearce Williams and Henry John Steffens, eds., *The History of Science in Western Civilization: Volume II: The Scientific Revolution* (Washington, DC: University Press of America, 1978).

[20] Much attention has been paid to Wright's connections to the Lunar Society of Birmingham; however, my research indicates that the group that would become the Derby Philosophical Society in 1783 was, for some time before, a more directly relevant and local resource for the artist. For further information about the Lunar Society of Birmingham and its overlapping membership in other societies, including the Philosophical Society of Derby, the Royal Society of London, the Linnean Society, Anna Seward's literary circle at Lichfield, and the Lichfield Botanic Society, etc., see Robert Schofield, *The Lunar Society*; Henry Carrington Bolton, ed., *Scientific Correspondence of Joseph Priestley* (New York, 1892), Appendix II; and Gascoigne, *Joseph Banks*.

[21] Solkin, *Painting for Money*, chapter 6, passim, and Ibid., "ReWrighting Shaftesbury," pp. 73-99.

CHAPTER ONE

SURFACE AND DEPTH

The larger cultural context of geological theory and its industrial applications in late eighteenth-century Britain raise questions about the roles and meanings of Joseph Wright's landscape paintings from this period. As scientific theories about the origins of the Earth came to have economic and cultural significance, the artist's portraits and landscape depictions also embodied the otherwise unseen social status and intellectual interests of the painter and his patrons. This chapter will discuss Wright's landscape paintings in light of John Whitehurst's geological theory and its application to the mining industry, raising the point that the epistemological difference between (artistically) visualizing the surface and (scientifically) penetrating the subterraneous depths did not adhere to such clearly defined distinctions at the time. Such a reevaluation of the visual relationship between surface and depth in this context forces a reassessment of the relationship of landscape painting to real property ownership, industry and national wealth.

Scientific Society

Both the Lunar Society of Birmingham and especially the Derby Philosophical Society are of particular importance in Wright studies because many of their participants were the artist's patrons and personal friends. For example, Brooke Boothby, Dr. John Beridge, Rev. Thomas Gisborne, Jedediah Strutt, Rev. Charles Hope, Rev. D'Ewes Coke, Charles Hurt and Josiah Wedgwood were all members of the latter group. Indeed, several others were members of both societies. Among them was Dr. Erasmus Darwin, who founded the Derby Philosophical Society and was its first President. Darwin's court of philosophers met regularly each month. The group's importance lay in its scheme for a private circulating library, which gives the historian insight into the philosophical culture of the organization.[1]

As a group the Lunar Society was less formal than its later Derby counterpart, meeting at a member's house on nights with a full moon to discuss over supper any number of scientific and/or industrial issues.[2] Unfortunately, no minutes were ever kept, owing more to the informality of the proceedings than to a desire for secrecy. The topics of conversation have occasionally been disclosed in surviving correspondence, which freely include mentioning of and discussion about points made at table. Many of the Lunar men were industrial entrepreneurs who represented that relatively new segment of British society usually designated the "rising middle class." Their scientific discussions were often in the service of business ventures, which they would bring up at the meetings in an effort to solicit advice from one another.[3] For example, Josiah Wedgwood, a frequent guest of the Lunar Society and eventual member of the DPS, wished to construct a canal connecting the Trent and Mersey rivers to aid transport of his pottery product, which tended to break when carried over land. Suggestions about the logistics of canal building as well as lobbying support in parliamentary hearings on the subject came from his friends in the Lunar Society. In turn, as a bonus, the digging of the canal provided Wedgwood and John Whitehurst with geological, mineralogical, and fossil specimens for their uses. From as early as 1767 the two men had struck a deal to that effect: "[Whitehurst] hath set his miners to work to put by for me various samples of Earths and Clays, & I am to furnish him with all the curious productions, or *facts* I can pick up from the cuting [sic] of our Canal."[4] The potter had a fossil collection and used different minerals and rock substances in chemical experiments related to his earthenware pottery—for utilitarian and decorative glazes, coloristic effects in the clay itself, and as emulsifiers to add strength and durability to the final product.

Whitehurst, however, was interested in empirical fact-gathering for his theory of the origins of the earth—a treatise published in 1778 and added to the library catalogue of the Derby Philosophical Society by 1789.[5] Not merely an abstract, philosophical theory, the book includes a very practical component; the appendix deals specifically with the subterraneous geography of Derbyshire, including engraved, cross-sectional illustrations made by the author showing the layers of rock strata in specific locations. His purpose was not only "to excite philosophers to exert themselves in researches of so much importance," but also to aid all those industries dependent on mineral yields—particularly mining (lead, copper, iron, and coal)—and their metallic products.[6] In the appended, taxonomic discussion of the subterraneous geography of Derbyshire, Whitehurst highlights the economic importance of his work:

> I am fully persuaded in my own mind, that if the strata in all mineral countries were faithfully represented by section, it would furnish the miners with superior ideas of their respective works, and enable them to proceed in their works with more propriety [and efficiency]. It would also be of peculiar satisfaction to the proprietors of mines, to see sections of the strata, with the nature and quality of each bed. To render these observations of more general utility to Subterraneous Geography, it would contribute much to register all strata cut through [i.e., stratigraphically], and their productions, whether in digging for copper, coals, lead, iron or water; for the more general the observations, the more certain the inferences deduced from them.[7]

Many landowners in Derbyshire had some financial interest in the mining industry, especially lead.[8] For instance, before unexpectedly inheriting his family's estate at Alderwasley, Francis Hurt, Esq. had already made his fortune in the lead industry—owning mines and smelting facilities in the Wapentake of Wirksworth and Liberty of Crich (both in Derbyshire)—which he bequeathed to his sons Charles and Francis. While Wright's *Portrait of Francis Hurt* [Fig. 2-2] shows the elder industrialist seated at a table on which sits a raw piece of galena,[9] his later painting of son Charles (private collection, c. 1789) is often described as a picture of a gentleman of leisure, showing him as a young member of the landed gentry. Whitehurst's friends were among those industrialists dependent on the metals produced from the mined ore. Matthew Boulton's factory at Soho, which was engaged in the business of making metal buttons, buckles and decorative ormolu pieces, is a case in point. Boulton, too, in partnership with James Watt, owned significant shares in Cornish copper mines, as did Mrs. Ashton of Liverpool, whose portrait Wright also painted. Whitehurst was himself a shareholder in Anthony Tissington's very successful mining company, which owned coal, copper and lead mines in Derbyshire, Yorkshire, Durham, and Scotland.[10]

What clearly separated the members of the Lunar Society from natural philosophers of previous periods was that their brand of empirical, scientific rationalism was unabashedly in the service of their private economic and political agendas. However, I argue there were also broader issues of an economic nature embedded in these geological concerns and since by 1778 the Lunar Society was pretty much defunct, the nebulous group that would later become the DPS is of more critical importance viz. understanding the role of Wright and his art within this nexus. The true measure of a nation's wealth was believed by French physiocrats to lie in the value of its natural resources.[11] But Adam Smith, the father of British Classical economics, disagreed with the French economists who believed

that agricultural production was the only true source of wealth, positing the notion that the definition of agriculture should extend to the 'farming' of minerals, and that of production to include manufacture. He described the role of metal in the national economy in terms of international trade:

> The value of a coal-mine to the proprietor depends frequently as much upon its situation as upon its fertility. That of a metallick mine depends more upon its fertility, and less upon its situation. The coarse, and still more the precious metals, when separated from the ore, are so valuable that they can generally bear the expence of a very long land, and of the most distant sea-carriage. Their market is not confined to the countries in the neighbourhood of the mine, but extends to the whole world.[12]

This sentiment was echoed by Wright's close friend, sketching partner, and patron, the Reverend Thomas Gisborne, in 1794:

> Enlarged and liberal principles of commerce are those which promise to a state, in proportion as they are observed in its intercourse with others, the greatest national advantages; and hold out a prospect no less flattering, of accelerating the improvement and augmenting the happiness of the whole earth…. [These] properly fall under the investigation of writers on subjects of political oeconomy. And they have been investigated by Dr. Adam Smith, in his celebrated work On the Causes of the Wealth of Nations….[13]

The facts that the Derby Philosophical Society library by 1789 included Adam Smith's *Wealth of Nations*, and that Gisborne (a member) makes explicit mention of it in 1794, indicate that such modern, progressive economic ideas were common currency among Wright's circle of friends and patrons.[14] Moreover, the artist's "Account Book" (in the collection of the National Portrait Gallery Heinz Archive and Library) shows the artist's own revenues from enclosed property he owned and leased to tenant farmers. The economic advantages and instructions on how to proceed with acuity in this business were featured in both Smith's and Gisborne's books. It is, therefore, not much of a stretch to believe the painter shared many of these physiocratic interests with his friends and patrons.

Seeing Rock as Visible History

While it may be said that Whitehurst's *Inquiry* responded to the Lunar Society's scientific and entrepreneurial concerns, its timely publication allowed it to participate in a developing vogue for geological study in late

eighteenth-century Britain. The general interest was inspired by myriad cultural and natural phenomena, including a growing concern with landscape aesthetics, both painted and real; the rediscovery of Herculaneum and Pompeii, which had been buried by volcanic eruption; the Lisbon earthquake of 1755; the numerous eruptions of Mounts Aetna and Vesuvius in modern times; and other seismic phenomena. Britons abroad became particularly fascinated with the sublimity of volcanic activity. Distinguished Grand Tourists often extended their itinerary to southern Italy in hopes that the British Envoy to the King of Naples, Sir William Hamilton, would take them on expeditions up the cone of Vesuvius and to the excavations at Pompeii. At home, they satisfied their curiosity by subscribing to numerous books on natural philosophy.[15]

Roy Porter has contextualized the popularization of geology in Britain by examining evidence in eighteenth-century literature. Popular scientific writing served to bring geological knowledge to a wider, less specialized audience, summarizing and reviewing the latest theories and publications for the educated amateur. *The Monthly Review*, published since 1749, is one example to which internationally renowned geologists like Jean-André de Luc were occasional contributors.[16] Topographical studies and the larger genre of travel literature also served to rouse interest in the geological wonders of Nature, particularly in the local British landscape. Of these investigations Porter wrote:

> [G]eographical works, local natural history, antiquarian studies, guide-books, maps, scenic prints, landscape painting, and above all, the gigantic literature of travel… [were] deeply rooted in contemporary society. Travelling for pleasure expanded greatly throughout the century, both within Britain, on the Continent and on voyages of exploration throughout the globe, facilitated by (and reciprocally creating) improvements in roads, transport, [and] inns…. Resorts sprang up in scenically spectacular mountain areas, especially near curative springs [e.g., Matlock Bath]. In mid-century the Peak District was the major centre. Guided tours of Derbyshire caves were offered to musical accompaniment. Souvenir shops sold mineral items, from pieces of Blue John to systematic mineral and fossil collections…. In addition, regional improvements, local pride and provincial economic promotions also sustained interest in local landscape…. Popularization did not in itself directly create a new science, 'geology'. Rather, it helped create a taste for external Nature—both as an aesthetic experience and as rational exploration and local pride. Landscape had lost its terrors, and was becoming a kind of scientific playground, open to all.[17]

Porter goes on to examine the growing popularity of Derbyshire natural history evidenced in such publications as James Pilkington's *A View of the Present State of Derbyshire* (1789).[18]

Whitehurst's book is also included among them, but it is different from the rest. *An Inquiry into the Original State and Formation of the Earth*, as the full title indicates, ambitiously concerns itself with the origin of the planet. The author's field research, data, and observations developed into a theory of Earth's evolutionary history from God's creation to the present—Genesis to Enlightenment. The theory hinges on Whitehurst's belief in a primary volcanic cause to explain the planet's present appearance. In proposing such a theoretical model the author entered into an already existing debate between two scientific camps—the Neptunists and the Vulcanists. The former were followers of Abraham Werner, professor of natural philosophy at the Bergakademie in Freiburg, who explained that rocks and continents originated from a series of sedimentary deposits that had precipitated from a universal ocean over the vast course of time.[19] The latter, led on the Continent by French scientist Barthelémie Faujas de Saint-Fond, thought volcanic eruptions and quakes caused dramatic planetary upheaval, leaving water-filled chasms (oceans, lakes, etc.) separated by igneous and sedimental rock formations (islands, continents, etc.). Whitehurst sympathized with the Vulcanists.

On a microcosmic level the debate centered on the crucial, absorbing question of whether basalt was of volcanic or aqueous origin. The issue, known as "the basalt controversy," was often raised in scientific travel accounts, which provided the reading public with information and illustrations of places of geological interest.[20] For example, Sir Joseph Banks published an account of his 1772 voyage to the Isle of Staffa (off the coast of Scotland) in Thomas Pennant's *A Tour in Scotland, and Voyage to the Hebrides* in 1776 that combined "picturesque scene-painting with considerable precision of mineral description."[21] When writing about the hexagonal, crystalline, basalt columns that make up the subterraneous foundation of the island, forming the celebrated 'Fingal's Cave', Banks did not take sides on the issue of their possible volcanic origin. In 1784, however, the famed French naturalist Saint-Fond visited Staffa, publishing his findings in favor of the volcanic origin of basalt in *Voyages en Angleterre, en Ecosse, et aux Iles Hebrides* in 1797. His views were already familiar in Britain among his correspondents in both the Lunar and Royal Societies. Interestingly enough, Saint-Fond visited Whitehurst in London on his way to Staffa, disputing the Derby scientist's theory of the volcanic origin of toadstone—a brownish-green igneous rock found among layers of mineral-bearing strata throughout Derbyshire—

maintaining instead that it was formed by aqueous sedimentary deposits, and thus taking a strong Neptunist position.[22] Another Vulcanist, Sir William Hamilton, published an account of an eruption of Mount Vesuvius in the *Philosophical Transactions* of the Royal Society of London in 1775 that was later used to argue for the volcanic origin of basalt, particularly when Saint-Fond convincingly demonstrated how the basalt columns of Staffa were not unlike basalt outcroppings found on the Continent.

Concerning the macrocosmic ramifications of such arguments, both Charlotte Klonk and Porter point out that neither Vulcanism nor Neptunism were considered inconsistent with Christian theology. Volcanic and seismic activities, including the eighteenth-century eruptions of Vesuvius and Aetna and the Lisbon earthquake, were often cited as evidence of God's presence and as warnings of an approaching day of judgment. Neptunism, on the other hand, fit easily into the Old Testament account of the Noachian Flood. But this was not the case for the theory introduced by Scottish geologist James Hutton, whose approach caused a scientific schism. Having been a friend of both Darwin and Whitehurst and well acquainted with the Lunar and Derby Philosophical Societies, his work deserves some explanation and comparison to that of Whitehurst.

Although Hutton's *Theory of the Earth* was not fully published until 1795, his ideas were already in circulation in the form of essays that appeared in the *Transactions of the Royal Society of Edinburgh* as early as 1788, not to mention his 1785 dissertation from the University of Edinburgh on the same subject, a copy of which was acquired by the Derby Philosophical Society before 1793.[23] Hutton argued that natural history, not human records, would evidence the true history of Earth, disregarding the biblical account of Creation as a source of scientific/historical information. As a Deist, he believed the perfection of God's creation—Earth—was manifested in its ever-changing, continuing, and self-sufficient existence. Earth was a living planet in a constant state of cyclical (de/re)generation. Klonk writes, quoting Hutton: "New continents were forever being naturally created out of the debris of former ones, [Hutton] thought, and the earth might wheel on indefinitely with 'no vestige of a beginning, no prospect of an end.'"[24] For Hutton there was a perfect economy of Nature in which the Earth was able to recover its losses naturally by means of regeneration and change.[25]

As one might expect Hutton and his followers came under theological fire for their disregard of biblical history and were accused of the worst kind of heresy—atheism—although the Scot claimed to be a Deist.[26] Huttonianism met not only with accusations of religious impiety, but also

after 1789 political suspicion. The idea of a godless planet in a constant state of geological flux (read Revolution) was too radical for those Britons who were genuinely frightened by the atheistic Republicanism then underway across the Channel. For them Huttonianism dangerously justified the French Revolution as a natural inevitability, as global progress. Among those 'Scriptural' geologists who opposed Huttonianism were Richard Kirwan and Jean-André de Luc, who supported a traditional view in their later geological publications—what Porter calls 'directionalist, catastrophist, Biblical theories of the Earth.'[27]

Barbara Maria Stafford argues that with the development of scientific geology in the eighteenth century, the real landscape came to be understood as an open book that could be read without cultural bias. Indeed, Whitehurst himself wrote, "the book of Nature is open to all men, and perhaps in no part of the world more so than in Derbyshire."[28] Reading the book of Nature in this case is different from the chiromancy of Paracelsus, who advised his followers to read from two books: Nature and the Bible. While he believed that natural forms hid the mystical relationship between the microcosmic earth and the macrocosmic heavens, which was only revealed to alchemists who possessed the secrets of hermetic knowledge, eighteenth-century geologists like Whitehurst and Hutton began to 'read' the landscape as a self-contained historical text made up of natural 'hieroglyphs'. The strata and decay of rock formations told the story of their history: natural history. Only Hutton, taking his cue from Buffon, achieved what Whitehurst advocated in theory: to look at the data at hand (the book of nature), make general observations, and deduce cogent principles about its history and operations.[29]

Whitehurst attempted to explain the analogical origins of toadstone and the earth as a whole by the appearance of rocky outcroppings and stratigraphy by means of what is now called comparative petrology. At the same time, he also projected the story of Creation onto the book of Nature, forcing them together. As a result, the bulk of his text is an imperfectly harmonized, macrocosmic theory that turns on the microcosmic, practical appendix. Thus, the book begins with the macrocosm and ends with the microcosm, while the logic of the argument works in the other direction; the similarity of toadstone to other igneous rock led to the author's belief that the local Derbyshire stone was likewise volcanic and further supported larger arguments about the origins of the planet already in circulation. Whitehurst, in a sense, wrote his book backwards; however, Stafford points out that it was the 'visual archaeology of penetration' that made the voyage *into* substance possible, and thus for singular truths to be