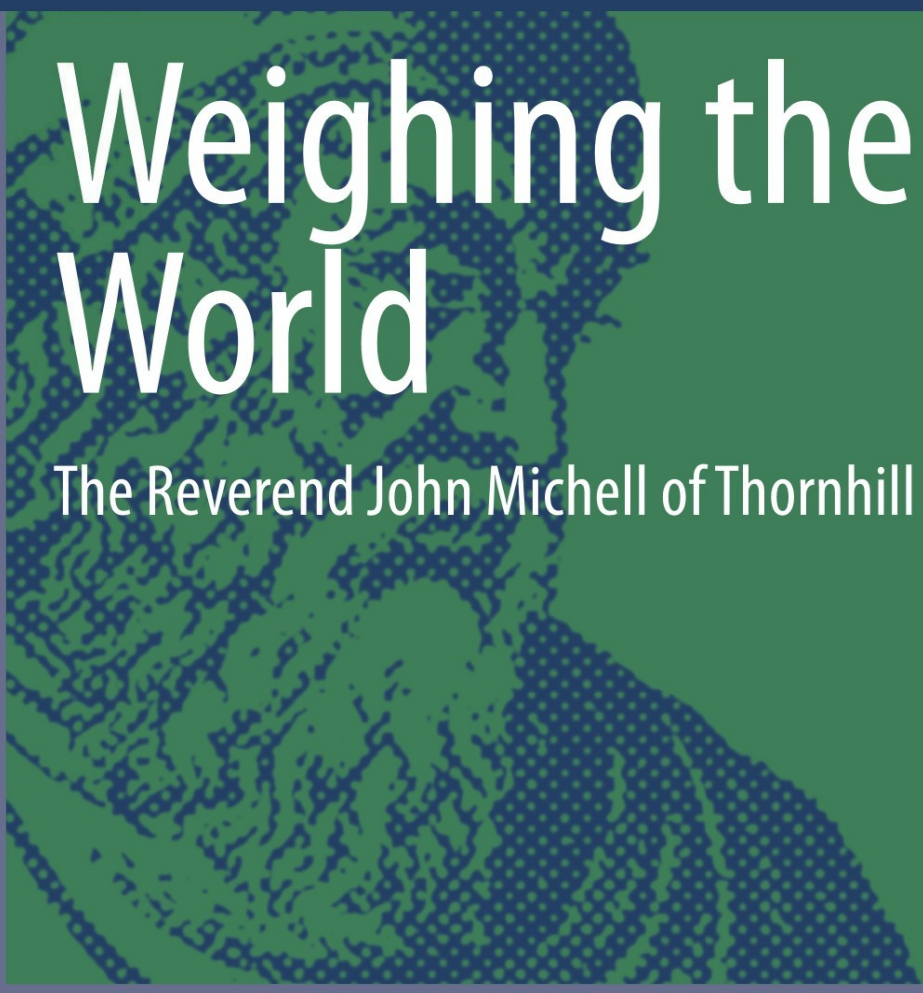
Archimedes 28 New Studies in the History and Philosophy of Science and Technology

Russell McCormmach

# Weighing the World

## The Reverend John Michell of Thornhill



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# WEIGHING THE WORLD

# *Archimedes*

## NEW STUDIES IN THE HISTORY AND PHILOSOPHY OF SCIENCE AND TECHNOLOGY

VOLUME 28



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## The Reverend John Michell of Thornhill

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*For Geoffrey Cantor*

# Preface

The Reverend John Michell's publications were few, a slim book on magnets and magnetism, one paper on geology, two papers on astronomy, and a few brief papers on incidental topics, but they were enough to leave a mark on several sciences. He has been called a geologist, an astronomer, and a physicist, which he was, though we best remember him as a natural philosopher, as one who investigated physical nature broadly. His scientific contribution is not easy to summarize. Arguably he had the broadest competence of any British natural philosopher of the eighteenth century: equally skilled in experiment and observation, mathematical theory, and instruments, his field of inquiry was the universe. From the structure of the heavens through the structure of the Earth to the forces of the elementary particles of matter, he carried out original and far-reaching researches on the workings of nature.

His was a highly civilized life. He was born at a favorable time into a relatively open society ruled under a constitution that held in check the worst abuses of tyranny. His time is known as the English Enlightenment, when reason was in favor, empiricism was honored, science was held as a model of thought, and a natural philosopher, Newton, was a national hero. He followed in his father's footsteps by acquiring a university education and a position in the Church of England, while on his own he acquired a mastery of the new science. As a fellow of his college and as a minister, his means were sufficient for him to live comfortably and in addition to buy books and scientific equipment and carry out research at a time before science was funded. Born of fortunate parentage in an enlightening age, highly intelligent, and strongly motivated, he left a memorable record of a life in science.

We of the twenty-first century recognize science as a force in our lives, in the conduct of our societies, and now even in the evolution of our species. We know what early scientists did not, what their science led to: our science, with all its power, its promise, and its problems, our Brave New World. Naturally, we are curious to know what motivated our predecessors, what they did, and how they lived. We take an interest in people like Michell.

According to a family tradition, Michell's "whole life was devoted to science."[1] That observation contains a kernel of truth, but it was made in the late nineteenth

[1] Khoda Bux, "Sir William Herschel," *English Mechanic and World of Science* 13 (1871): 309–10, on 310.

century, after science had become a profession. It overlooks Michell's actual professions, which occupied much of his attention, and in which scientific inquiry played no part. This book gives an account of his professional duties as well as of his scientific activities. It places him in his settings in the time of natural philosophy.

For a man of scientific interests, Michell's way of life was common for his time. What set him apart was his ability. This was evident to his colleagues, but no one anticipated our curiosity, and the record of his life is correspondingly stingy. For as long as I have studied the history of science, now some forty years, I have followed his tracks. Whenever I have come across a fact about him or his work, I have saved it. The horde of facts is not large. For now, at least, a rounded life of Michell remains a hope.

Michell's life and work have been discussed at length only once, that by the eminent geologist Archibald Geikie. His readable and informative *Memoir of John Michell* describes Michell's career and gives his evaluation of Michell's work in geology. For an evaluation of Michell's other scientific work, he relies on the physicist Sir Joseph Larmor. To produce his memoir, Geikie says, he "made researches in every direction that seemed likely to yield information regarding him"[2]; he did no less. However, in the nearly ninety years since his memoir, enough new information has come to light to justify the present book.

The account that follows has two parts. The first is biographical. The second is a complete edition of his known letters. Half of his letters have not been previously published; the other half are brought together in one place for the first time. The letters are not many, just over forty, but because they touch on all aspects of his career, and because they are in his words, they help bring the subject to life.

Because Michell's scientific work holds our primary interest, I discuss his research in some detail. In places I use mathematical symbols, but generally the level of discussion presupposes little scientific background on the part of the reader. From time to time, I compare Michell's understanding of scientific issues with ours today. This I do primarily for readers who have some scientific background, and who may find such comparisons helpful or at least interesting.

Readers will come to this book with different interests. Some will want to know only what it says about Michell's science. These readers might want to begin with Chapter 3. Other readers will want to consult the letters at the end of the book. Still others will want to know the historical setting of Michell's activities, and unless they have studied the period, they will not know what it was like to be a Cambridge don or a country parson in the eighteenth century. These readers should begin at the beginning, with Chapters 1 and 2, which describe Michell's home setting, the clerical world in which he grew up, and the university where he studied and taught. Owing to a limitation of sources, these two chapters have relatively little to say about Michell specifically, but they are important for an understanding of the course his life took.

[2] Sir Archibald Geikie, *Memoir of John Michell* (Cambridge: Cambridge University Press, 1918); "A Yorkshire Rector of the Eighteenth Century," *Naturalist*, 1 January 1918, 7–23, on 7.

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## 1.1 Historical Setting

Michell lived in England, and so far as we know he never left it, although his geological excursions could have taken him briefly into neighboring Wales and Scotland. His home belonged to a cluster of nations located on a peninsula at the western edge of the Eurasian continent. These nations exchanged social institutions, beliefs, information, and goods, tirelessly competed, and incessantly warred with one another for a place under the Sun, and otherwise interacted to form a distinct civilization, which included North America and parts of Russia: the West. By Michell's time, this civilization had achieved power and riches unmatched by any other, and it had set out on a course that in the following century would bring under its political and economic dominion much of the rest of the world. This superiority resulted in part from a deliberate combination of science and technology with practice, especially in navigation.[1] Britain was the leading maritime power, and Michell was in its service, and in its debt. As a scientific expert on navigation, he devised instruments and advised the government, and he enlisted the grand agent of Britain's imperial future the East India Company in the service of science.

Michell's course of life was shaped by this civilization roughly 200 years after its most important system of beliefs, Christianity, had split into two branches, the Catholic and Protestant, in the great upheaval known as the Reformation. England joined the Protestant nations, and although it differed from the others in that its break with Catholicism was incomplete, the great issue was decided: the Church of England emerged from the Reformation freed from the authority of the pope, as a national church under the headship of the crown and the legislative power of Parliament. Michell was educated for the Church of England, and he served it in the capacity of a parish minister for over thirty years.

From around the time of the Reformation and continuing through the seventeenth century, the West invented tools of observation and methods of thought that set it

[1] Samuel P. Huntington, *The Clash of Civilizations: Remaking of World Order* (New York: Touchstone, 1996), 50–51. William McNeil, *The Rise of the West: A History of the Human Community* (Chicago and London: University of Chicago Press, 1963), 570: 652–53.

R. McCormmach, *Weighing the World*, Archimedes 28,
DOI 10.1007/978-94-007-2022-0_1, 

apart; they constituted a scientific and philosophical movement that we have come to call the Scientific Revolution. Isaac Newton, the culminating figure of the movement in England, wrote his most influential work, the *Mathematical Principles of Natural Philosophy*, or *Principia*, while he was professor of mathematics in Cambridge University. Michell followed Newton to Cambridge, and for many years after graduation he served as a fellow of his college there, tutoring students in propositions taken from Newton's *Principia,* while carrying out researches of his own.

Throughout his life, Michell was associated with the principal learned institutions of his civilization: university, church, and science. The age he lived in was by and large one of "intellectual moderation and calm."[2] The character of his affiliations and the temper of the times lent Michell's life its outward serenity. His times are called the Georgian age in England–Michell was born in the reign of George I and died in the reign of George III–admired today for its harmonious architecture, well represented by the terraces and squares of London. A reflection of the general thought of the age, Georgian buildings give a sense of permanence, stability, and balance. These same characteristics were attributed to nature by Georgian men of science.[3] This way of thinking is evident in Michell's fascination with arches, as they occur in construction and in nature; arches reflect a balance of forces, understood alike by architects and scientists.

It was also, as mentioned above, the age of the Enlightenment. The English had their own version, a pragmatic Enlightenment, one less given to extremes than their Continental counterpart. They had no need for the militant secularism and anti-monarchism of the French, for in principle the English Constitution already embodied the ideals of the Enlightenment: liberty for the individual, representative government for the commons, religious toleration, and protection of private property. Michell's friend Joseph Priestley characterized the English attitude well: "it is most advisable to leave every man at perfect liberty to serve himself, till some actual inconvenience be found to result from it." The English were an optimistic people in the balance: as they saw things, their rule was civil, God was benevolent, nature was orderly and accessible to reason, and progress was everywhere evident, in human nature, society, science, and techniques.[4]

Georgian life was settled. The religious strife of previous centuries–the struggles of the Reformation and the Civil War and Commonwealth, when the survival of the Church of England was in question–had quieted. English society began to show the strains of industrialism only toward the end of Michell's life, and the great reform movements lay in the future, though Michell was politically engaged in a movement that foreshadowed them. Michell lived after the wars of Marlborough and before those of Napoleon, and the wars in between–the Jacobite uprisings, the Seven Years

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[2] "English History," *Encyclopaedia Britannica*, 23 vols. (Chicago, London, Toronto: William Benton, 1962) 8:481–555, on 524.

[3] John C. Greene, *Science, Ideology, and World View: Essays in the History of Evolutionary Ideas* (Berkeley, CA and London: University of California Press, 1981), 12.

[4] Roy Porter, "The Enlightenment in England," in *The Enlightenment in National Context*, ed. R. Porter and M. Teich (Cambridge, London, and New York: Cambridge University Press, 1981), 1–18; Priestley quotation on 9.

War, and the War of American Independence–did not seriously interrupt his life. The British Constitution underwent some changes in his lifetime, but it was generally a stabilizing force in the political affairs of the nation and a bulwark against the worst oppression. The economy went through its usual trading cycles, and while there was poverty among sectors of the population, English society was becoming wealthier overall.

English society was, and remained, hierarchical during Michell's lifetime, with nobility at the top, common people at the bottom, and various levels of artisans, merchants, and professionals falling in between; Michell's level was the learned professions. Conspicuous for its inequalities of wealth and privilege, the social structure was accepted by the government, by the Universities and the Church of England, and by organizations such as the Royal Society of London, of which Michell was a member. For the time being, the order was unchanging, although individuals could rise within it by acquiring property or other wealth or by advantageous marriages.

As much as any institution, the family contributed to the stability and continuity of life in eighteenth-century England. Kinship, with its web of obligations and rewards, was ever-active in English society.[5] Until about 1670 and after about 1790, the English family of the middle and upper classes was characterized by rigid discipline and patriarchal authority, a domestic response to a pervasive sense of a breakdown in the social order, of a political and religious crisis. In the years between–and Michell's and his parents' lives fell in the years between–fear of a social collapse was less prevalent, and the institution of the family was correspondingly less repressive, though there was no weakening of family bonds. There was greater equality between husband and wife at this time; ties between parents and children were more affectionate; child rearing tended to be more permissive; and there was greater acceptance of individual differences.[6] We begin this biography with Michell's family and the professional example and educational support he received from home.

## 1.2 A Family in Nottinghamshire

The name Michell originated with the Hebrew Michael, "Who is like the Lord." It acquired its popular pronunciation from the French "Michel," and its spelling as Michell, or in more common spellings, Mitchel or Mitchell, as it evolved from a Christian to a surname.[7]

Gilbert Michell, John's father, was the fifth of six children of William Michell and Mary Taylor of Kenwyn, Cornwall. The Michell men of Cornwall traditionally studied at Exeter College, Oxford University, and went on to become clerics. In

[5] Asa Briggs, *The Making of Modern England, 1783–1867: The Age of Improvement* (New York: Harper & Row, 1965), 9.

[6] Lawrence Stone, *The Family, Sex and Marriage in England 1500–1800*, abr. ed. (Harmondsworth: Penguin Books, 1979), 254, 412–13, 422.

[7] P.H. Reaney, *The Origin of English Surnames* (New York: Barnes & Noble, 1967), 145.

1705/6, at age eighteen, Gilbert duly entered Exeter College, where he studied for four years, leaving with a bachelor of arts degree, the standard preparation for his intended career in the Church of England; upon graduation, in 1710 he became a deacon, and in 1712 a priest. He was not yet finished with his education; having disapproved of Oxford, he entered St. John's College, Cambridge University, where in 1715 he received a second degree, a master of arts.[8]

Plural Church benefices, commonly called "livings," were customary at that time, and from 1722 until his death, Gilbert held benefices in two parishes simultaneously. He was rector of South Mediety of Claypole in Lincolnshire, but he does not seem to have presided at the church, not routinely anyway.[9] His other parish was Eakring in Nottinghamshire, where he did preside, and where John Michell's life begins (Fig. 1.1).[10]

**Fig. 1.1** St. Andrews, Eakring Parish Church. This picture of the church of which Gilbert Michell was rector for thirty-eight years is from a watercolor by J. Weightman in 1832. Courtesy of Mrs. A. M. Parsons

[8] *Alumni Oxonienses: The Members of the University of Oxford, 1500–1714: Their Parentage, Birthplace, and Year of Birth, with a Record of Their Degrees*, compiled by J. Foster; early ser., *1500–1715*, 4 vols.; late ser., *1715–1886*, 4 vols. (Oxford, 1887–92; Nendeln: Kraus Reprint, 1968), early ser. 3:1007–8. On 29 June 1712, Gilbert Michell was ordained priest. Institution Act Book 10, Borthwick Institute of Historical Research.

[9] Curates signed the registers in 1722–32, and Daniel Hardying, rector of North Mediety, signed them after 1732. Letter from Lincolnshire County Council Archivist.

[10] On 16 October 1722, he was admitted and instituted rector of Eakring after the death of its last incumbent. Institution Act Book 10, pt. 2, 119. His entries in *Alumni Oxonienses* and *Alumni Cantabrigienses* state that he was also rector of Breadsall, Derbyshire in 1722. This is a confusion of names. A Gilbert Mitchell was rector of Breadsall 1700–38, but in 1700 our Gilbert Michell was only twelve years old. Charles J. Cox, *Notes on the Churches of Derbyshire*, 4 vols. (Chesterfield:

Gilbert married a woman the same age as he, Obedience Gerrard. Her parents were Ralph and Hannah Gerrard, of London; and London was where she was baptized.[11] Soon after Gilbert took up his duties at Eakring, he and Obedience began their family. Three children appeared in close order, two sons and a daughter: the first, John, was born on Christmas day, 25 December 1724; his brother, Gilbert, in 1726; his sister, Mary, in 1727/28.[12] John, known within the family as "Jack," and his brother, Gilbert, were close, and according to their father Mary was "very fond" of her oldest brother. From what we know of it, the family was harmonious.

The parsonage house was the family home (Fig. 1.2). The parish of Eakring was located near the center of the county. To the southeast lay Newark, to the southwest Nottingham, major towns connected by the River Trent, and to the west lay

**Fig. 1.2** Eaking Rectory. This is the parsonage in which John Michell was born and grew up. The etching is from the 1860s, executed by the then rector Theophilus Sampson. It gives a correct impression of the house as it was in Michell's time; in 1884, the house was pulled down and replaced by the present Queen Anne building. Courtesy of Mr. J. White

Palmer and Edmunds, 1875–79) 3:57. Stephen Glover, *The History of the County of Derby* . . ., ed. T. Noble, vol. 2 (Derby, 1829), 153.

[11] Obedience Gerrard was baptized on 25 May 1688 at the Parish Church of London St. Mary Abchurch. Her parents, Ralph and Hannah Gerrard, were married on 11 December 1683 at London All Hallows. International Genealogical Index.

[12] Eakring Parish Register, Nottinghamshire Archives, PR 14258, CMB 1701–1766; hereafter cited as NA. John Michell was baptized on 21 January 1724/25. His father was the presiding minister, as he was at the christenings of his other two children, Gilbert on 22 September 1726, and Mary on 24 January 1727/8.

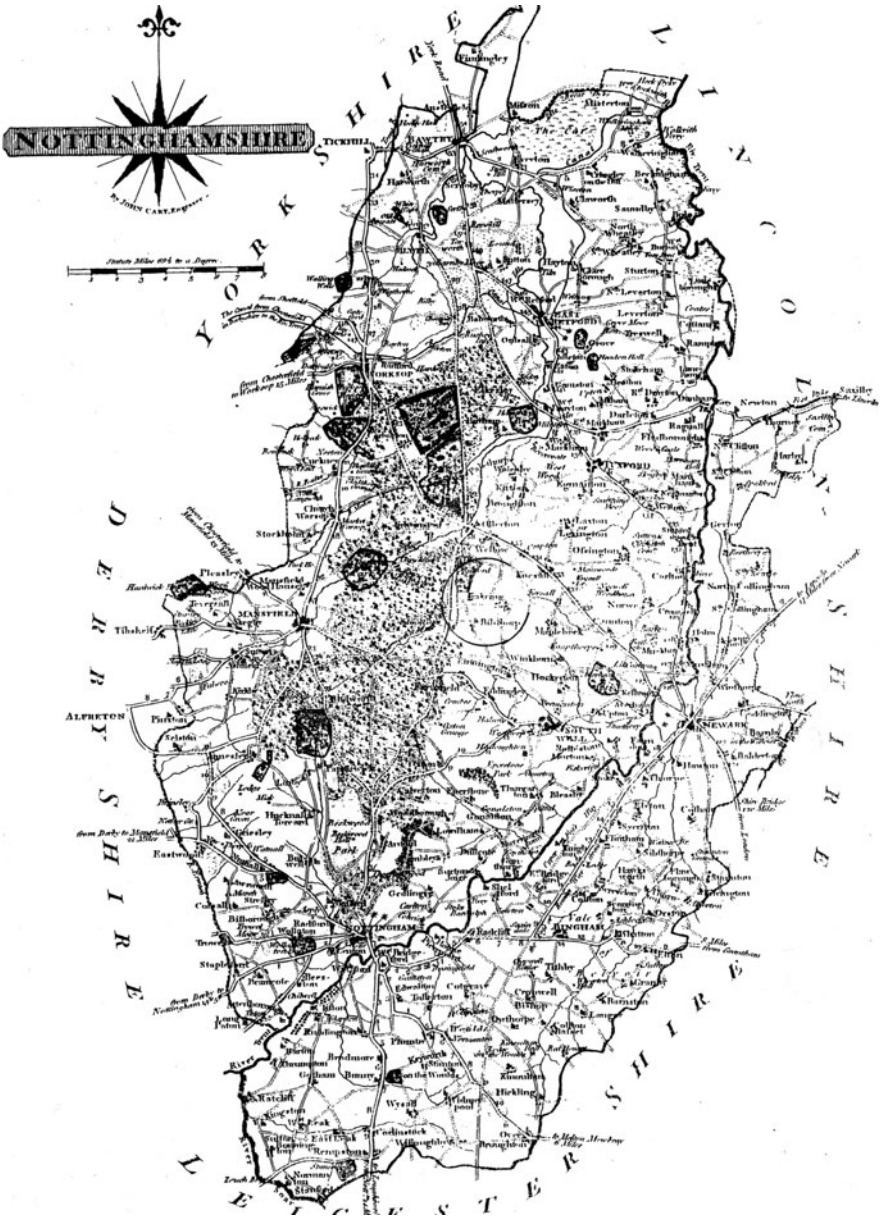


**Fig. 1.3** Map of Nottinghamshire. Eakring, circled, is in the center of the county, just east of Sherwood Forest. Published in 1787 by J. Cary

Mansfield and to the northwest Yorksop. Within the area defined roughly by these four towns lay Sherwood Forest, an ancient Crown property twenty miles long and four to eight miles wide. The land there was sandstone, too poor to support agriculture, but the forest served a variety of uses: as a source of ship masts, as a hunting ground for deer, and as a retreat for the legendary, popular outlaw Robin Hood. Large parks, the Dukeries, were laid out in the forest in the eighteenth century. Situated only a couple of miles west of Eakring, with its haunts, legends, parks, and natural wonders, Sherwood Forest would have stimulated the imagination of young John Michell (Fig. 1.3).

Eakring is known today as the site of England's first productive oilfield. It had no comparable notoriety in the eighteenth century; it was simply another village in Nottinghamshire. Nottinghamshire was then home to the famed hosiery trade, based on the stocking-frame, carried out in the cottages of Nottingham. There were as yet no factories in the county, and the transformation of the hosiery trade associated with Richard Arkwright's spinning frame did not occur until after Michell had left home. In the neighborhood of Sherwood Forest, coal mining had long been underway, and coal was Nottinghamshire's major export around the time Michell left home for the university.[13] Later, in his geological studies, Michell would make use of coal mines as a laboratory of the Earth.

## 1.3 Pastoral Life in Early Georgian England

Apart from his family, the Church of England was the most important influence on John Michell's upbringing and direction in life. The Church of England occupied the middle ground between religious oppositions: between predestination and salvation, revelation and reason, enthusiasm and sobriety, and exclusion and toleration. The same was true of its place among the great Christian churches: it was reformed, but it was still partly Catholic; detached from Rome, it was distinguished from other Protestant churches by its episcopate and other medieval vestiges. As the century progressed, the Church's fear of popish plots, Jacobites, and Dissenting creeds receded; John Michell's Church was a confident church. This was the time of the Whig ascendancy in politics, and Michell shared this faction's wide latitude in religious belief, in keeping with the Enlightenment ideal of proportion and harmony. Secure in its apostolic descent, assured alike of its social and political base, in an age of relative peace and prosperity, the Church of England offered an attractive career to a well-connected, studious young man like Michell.[14]

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[13] *The Victoria History of the Country of Nottinghamshire*, vol. 2, ed. W. Page (London: Constable 1910), 296–98.

[14] John Walsh and Stephen Taylor, "Introduction: The Church and Anglicanism in the 'Long' Eighteenth Century," in *The Church of England c.1689-c.1833: From Toleration to Tracterianism*, ed. John Walsh, Colin Haydon, and Stephen Taylor (Cambridge and Melbourne: Cambridge University Press, 1993), 1–66, on 55–61.

Except for an extended period in the university, Michell spent his life in country parishes. It was the life a Georgian parson expected to lead, since most parishes lay in the country, not in town; a major reason for this was that most English towns were small, often with only a single parish, and in the growing towns the incumbent parsons resisted new parishes.[15] The boundaries of a country parish were settled by ancient custom, and there were likely to be at most a few hundred inhabitants; Eakring, Gilbert Michell's parish, had around seventy families.[16] A country parish might have a few aristocrats, gentry, and big farmers, perhaps a few professionals such as a physician and usually a minister, a good number of servants, but mostly it was made up of small yeoman freeholders, landless laborers and peasants working in open fields, artisans such as blacksmiths, cottage weavers and spinners, and workers in trades specific to the locality. Over the century, the composition of a country parish might change; this happened to parishes in Michell's Nottinghamshire, where the enclosure movement was in high tide; as farms became larger and fewer, yeomen vanished, and peasants lost their land and their common rights of pasture.[17] Michell's father had to contend with the consequences of enclosure, as we will see.

A country parson visited his parishioners by foot or by horse. Gilbert Michell had a mare for the purpose; upon losing it, he had an acceptable excuse for his absences.[18] We have no likeness of Gilbert, no drawing or painting, but from our knowledge of the time, we can form an idea of how he probably appeared to his parishioners while on his circuit. He wore a three-cornered hat, sometimes a scarf, invariably a cassock, gown, bands, knee-britches, and buckled shoes. He may well have worn a powdered wig, too, since that was common among the better class of parsons to which he belonged.[19]

We have a fair idea of Gilbert Michell's practice as a country pastor, from which his son John's would have differed little. Throughout the kingdom, other than for their frequency, Church of England services were uniform. Sunday morning services consisted of matins, perhaps ante-communion and communion, and usually a sermon; in the afternoon, evening prayers were offered, ordinarily without a repetition of the sermon, and at Lent the catechism, an explanation of the thirty-nine Articles of the Church of England, was included. Prayers were taken from the Book of Common Prayer. Sermons were not required, the choice left up to the minister, but they were hardly optional, for demand was high, and they encouraged attendance. Sermons could be freely composed, although ministers who read their own could be suspected of enthusiasm; it was considered better form to read published

[15] Peter Virgin, *The Church in an Age of Negligence: Ecclesiastical Structure and Problems of Church Reform, 1700–1840* (Cambridge: James Clarke, 1989), 142.

[16] From Gilbert Michell's answer to the Archbishop of York's questions in 1743. S. L. Ollard and P. C. Walker, ed., *Archbishop Herring's Visitation Returns, 1743*, 5 vols. (n.p.: Yorkshire Archaeological Society, 1928–31) 3:47.

[17] A. Tindal Hart, *The Eighteenth Century Country Parson (Circa 1689 to 1830)* (Shrewsbury: Wilding & Son, 1955), 2–3.

[18] Gilbert Michell to Gertude Savile, 9 June 1749, NA, DDSR 221/87.

[19] Hart, *Country Parson*, 2.

sermons by well-known churchmen. If not every Sunday, communion was given at least three or four times a year, certainly at the great holidays. Churches in the South of England customarily gave fewer communions than did their counterparts in the North.[20]

Gilbert Michell followed the southern pattern, a course more imposed than chosen. Four times a year, he administered communion: on Christmas and the Sunday following, and on Easter and the Sunday following. On Easter he had as many as fifteen communicants each day. He was conscientious; parishioners who attended his church had all been baptized, and those who were old enough had all been confirmed. Without fail, every Sunday morning, he read prayers and gave a sermon, and in the afternoon he read prayers again unless he was called to assist a neighboring minister, as seldom happened. To counter a familiar apathy in his parish, early on he tried to bring his parishioners to prayers on holidays, but "they neither will nor indeed can come." He tried catechizing on Sunday afternoons during Lent, and "at first, whilst the Thing was new, a pretty many Children came (but no Servants) and several grown Persons attended," but "by Degrees both one and the other dwindled away, till I was quite discouraged from proceeding," and after a time, no one any longer came to him to be instructed.[21] The foregoing quotations, taken from Gilbert's responses to questions on the occasion of a visitation by the Archbishop of York, convey a decided note of resignation. Michell was then in his forties, in the middle of his life tenure as rector, and he had settled into his routine; in measured and predictable ways, the years passed for the incumbent of Eakring.

If the primary duty of the pastor was to mediate between God and man, to offer services and communions, to officiate at ceremonies marking the passages of life, its christenings, marriages, and burials, he had other, hardly less essential duties as well. In countless ways, he intervened in the daily life of his parishioners. It was his responsibility to discourage vices and otherwise uplift the cultural and moral plane of his parishioners, described by one historian as an "almost inevitably boorish and frequently savage village community." He dispensed sympathy, relief, and advice to the ill and the impoverished. He promoted civil law and order and mediated between quarreling neighbors. He provided friendly services such as writing letters for those who could not write, and stood in as lawyer and physician for those who could not pay. He made social rounds in the parish, on which occasions he strove for edifying and entertaining conversation. He gave feasts. He often ran a school. His activities found a place in the routine of parish life, and his earnings and expenditures formed a welcome staple of the local economy.[22] If his duties were not onerous, they filled his days and brought him satisfaction, knowing that his work had meaning. As the official representative of the national church, the pastor gathered the

[20] Walsh and Taylor, "Church and Anglicanism," 11–12. Virgin, *Church in an Age of Negligence*, 144.

[21] *Visitation Returns, 1743*, 47.

[22] Walsh and Taylor, "Church and Anglicanism," 14. Hart, *Country Parson*, 25. Virgin, *Church in an Age of Negligence*, 43.

people of his parish–rich and poor, Tory and Whig, young and old–into a patriotic, religious communion. A good pastor was a parish treasure.

The locus of the spiritual and social life of the village was the church building, which was conspicuous; its tower rose above other structures of the village, and its architecture and its furnishings reflected a long religious history (Fig. 1.4). Most ornamentation and pictures had long since been stripped from the interior of the church, a casualty of religious zealotry; the eighteenth-century interior usually was whitewashed, bathed, as it were, in the prevailing light of reason. In the sanctuary at the east end stood the communion table, which when in use was spread with a green cloth with two unlighted candles and no cross; before it stood a rail where parishioners knelt to receive the sacrament. Inscribed on the wall over the table were the Ten Commandments, texts from Scriptures, and possibly the royal arms. The frontal, the moveable cover at the head of the altar, might carry the arms of the local squire. The nave held the pulpit and the pews for notables, while ordinary parishioners sat on hard benches at the west end, where a gallery might provide them with additional space.[23] Organs were largely unknown in country churches, although John Michell would install one in his.

The village church often came with a sturdy house for the rector and his family, the rectory or parsonage, which could be relatively grand. That was so in Eakring; built in Tudor times, the parsonage in which John grew up was the largest house in the village. The Eakring parsonage also came with a large tithe barn and other

**Fig. 1.4** St. Andrews, Eakring Parish Church. This is the church as it looks today. Courtesy of Mrs. J. Bartle

[23] Hart, *Country Parson*, 36–37.

outbuildings, a fold for animals, and a neighboring orchard and two fish ponds described as "pleasure grounds" for the house; Gilbert Michell leased the orchard and ponds, continuing a tradition of Eakring rectors.[24]

Beneficed clergy received a living through an endowment from land and through tithes on crops, timber, and animals. With these means, a parson could be quite comfortable; without them, his condition was likely to be middling or constrained and even desperate. Roughly corresponding to these outcomes were three varieties of church livings: a rectory, which Gilbert Michell had; a vicarage, which was less well-paying; and least worthy, a perpetual curacy. The principal difference between a rectory and a vicarage was that a rectory received full tithes, "great" and "small," and a vicarage received only small tithes. Great tithes were one tenth the value of corn, wood, and other major crops grown in the parish; small tithes were one tenth the value of lesser crops and livestock and wool. The difference between the two incomes could be substantial; Michell called the small tithes at Eakring a "Trifle." Perpetual curates received a fixed income and sometimes tithes. Many curates had no living at all, but were paid by beneficed clergy to assist them, and subsisted on a bare £20 to £40 a year. A good half of the Anglican clergy received under £50 a year, classifying them as poor. To carry out his duties, the minister of a church ideally needed at least £100, preferably around £150. In the middle of Michell's tenure at Eakring, the average ecclesiastical income in England was £275 pounds, the most fortunate clergy, often gentlemen by birth, receiving £300 or £400, possibly more; John Michell's living at Thornhill was worth the latter figure.[25] We do not know the value of the Eakring living in Gilbert Michell's time, but in 1835 it was £480.[26] Gilbert Michell was sufficiently well off that he did not need to do double duty as a curate in a neighboring parish, as ministers often did, but it may be significant that he did not regularly pay for a curate or assistant either.[27]

Because the church owned land and received income from tithes, a rector had to combine spiritual offices with business, as Gilbert Michell's letters attest. Michell disputed the ownership of a piece of land, claiming it for the church on the grounds of "Immemorial Possession." The enclosure of land complicated the business of tithes. In the past, farmers of an open-field village like Eakring held strips of land distributed over the entire field, a mix of the good and the poor. Under enclosure, farmers' lands were brought together as much as possible and were marked off by hedges. In Eakring in 1744, a field was totally enclosed, converting over 600 strips of grassland into 35 enclosures, divided between the owners of the two Eakring manors and the freeholders. This major enclosure may have been on Michell's mind when he expressed his forebodings the following year. He rented tithes to his parishioners,

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[24] Derek Walker, *Eakring's Thousand Years* (n.p.: n.p., 2000), 15.

[25] Walsh and Taylor, "Church and Anglicanism," 6–7. Virgin, *Church in an Age of Negligence*, 35. Hart, *Country Parson*, 15, 19–20, 25. *Visitation Returns, 1743*, 47. Walker, *Eakring's Thousand Years*, 7. Gilbert Michell to Earl Manners, 12 May 1745, Department of Manuscripts and Special Collections, University of Nottingham.

[26] *A Topographical Directory of England*, ed. S. Lewis (London, 1835).

[27] *Visitation Returns, 1743*, 47.

and when their value was increased by enclosure, he thought his rents should be increased proportionately, but for the time being he agreed to accept their present value, that being "what my Tenants at present may fairly be supposed to make of these Tithes." He saw problems ahead: "We talk of proceeding in Enclosure, & in Exchanges to that End. But what will come of this at last when some Lands shall be improved and others impoverished? Your People have already begun to shew us the Melancholy Prospect."[28] The reform of agriculture had a human cost, and it upset the close calculations of ministers like Michell who were affected by it.

The crucial element in a clerical career was a patron, who usually had an advowson, the right to choose the incumbent of a church living in perpetuity. The role of the patron was absolute; he was more important even than the bishop in the life of a rector. Half of the advowsons of England were owned by lay persons and public bodies. Colleges bought up livings for fellows who wished to marry or for fellows they wished to be rid of, or if the churches were nearby for fellows who wanted the experience and income; John Michell would hold a college living in Cambridge. Treated like any other kind of property, they were handed down together with hereditary estates, and bought and sold in the open market, with a value of five to seven times the annual living. From his investment in advowsons, the patron received rents from pews he owned, and he acquired influence in the parish.[29] Eakring was unusual in that the advowson was shared by two families, whose seats were separated by two miles, the Saviles of Rufford and the Pierreponts of Thoresby. When in 1722 a new minister was selected for the parish, Sir George Savile, whose turn it was, appointed Gilbert Michell.[30] Later the patron of Gilbert's son John was Sir George's son, who bore the same name. Gilbert's and John's lives were bound by the unquestioned institution of patronage. Because of the Savile family patronage, John began his life in Nottinghamshire, and for the same reason he ended it in Yorkshire.

During and after their education, Anglican clergy lived within a decidedly clerical society and world view. Educated by clergy in school or at home, educated by ordained fellows in their college, befriended by clerics, they became clergy themselves, as much by tradition as by conscious decision. Patrons usually made their selections from among Oxford and Cambridge graduates, as the Saviles did when they presented Gilbert and John Michell.[31]

In the population at large, members of the Church of England predominated, but they were by no means the only Christians in the kingdom. Many parishes had Roman Catholic congregations, which despite harsh penal laws were normally left in peace. The dislike that the country pastor bore Catholics in the previous century had been replaced by a discomfort with Dissenters, especially Methodists,

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[28] Gilbert Michell to Earl Manners, 22 June 1739, 12 May 1745, and 24 December 1743, Department of Manuscripts and Special Collections, University of Nottingham. Walker, *Eakring's Thousand Years*, 6, 16–17.

[29] Virgin, *Church in an Age of Negligence*, 139, 172–73, 181.

[30] Richard Crossley, "Mystery at the Rectory: Some Light on John Michell," in Yorkshire Philosophical Society, *Annual Report for the Year 2003* (York: Yorkshire Philosophical Society, 2004), 61–69, on 64. Walker, *Eakring's Thousand Years*, 12.

[31] Virgin, *Church in an Age of Negligence*, 137.

whose emotionalism conflicted with the Anglican preference for reason and morality. Subject to tithes and Church rates, and excluded from the Universities and Parliament, Dissenters nonetheless flourished, and in many parishes they gave the Church stiff competition. They were definitely a threat, for although members of the established Church were required by statute to attend services, in practice attendance was voluntary, and pastors had to persuade rather than coerce. Nottinghamshire had its share of Dissenting ministers, and during Gilbert Michell's life, the great itinerant evangelist John Wesley preached in Nottinghamshire. But in Eakring itself, the Church was sheltered, as Michell informed the Archbishop of York: in his parish, there was no meeting house for Dissenters, there was only one Dissenting family, who were Quakers, and there was a lone Roman Catholic laborer.[32] John Michell grew up in a world in which religion was, for all intents and purposes, represented by the Church of England.

In his day, the Georgian pastor was often seen as a complacent, somnolent time-server. Some of the criticism was deserved, but much of it was not. Country parishes were isolated, and pastoral motivation could be a problem, but the Church did not condone laxity; the pastor who preached on Sunday and was not seen again until next Sunday was considered derelict in his duties.[33] At the same time, if a pastor was assiduous, he was not faulted for spending his leisure hours in worldly ways: at hunts, races, cards, and balls; in entertaining, eating well, drinking, and enjoying family pleasures; or in following an absorbing intellectual pursuit such as science.

Much of the criticism was directed at the pastor's sermons. His frequent use of Greek and Latin was considered ostentatious, and his metaphors ponderous. A pastor who knew a smattering of chemistry is a case in point: "The Blots and Blurs of your sins must be taken out of the Aqua-fortis of your Tears: to which Aqua-fortis, if you put a fifth part of Sal-Ammoniak, and set them in a gentle heat, it makes Aqua-Regia, which dissolves Gold." Oliver Goldsmith, author of *Vicar of Wakefield*, caustically observed that "discourses from the Pulpit are generally dry, methodical, and unaffecting; delivered with the most insipid calmness." Looked at another way, criticism of sermons was a backhand compliment, for published sermons were the most popular literary form of the time.[34] Historians today generally reject the stereotype of the Georgian pastor as a figure of fun and of the Church as contemptible; instead they emphasize the reasonably good accommodation of the Church to Georgian society.

Of the content of Gilbert Michell's sermons, we know nothing, but we have his opinion on the standards of sermons. In a letter to him, Gertrude Savile, sister of Gilbert's late patron, made a comparison between some excellent sermons given by his new patron, the next Sir George Savile, still a minor, and bad sermons she was accustomed to hearing from the pulpit. Since she had "made free with a Body of Men, of which I am a Member," Michell wrote back with a spirited "Apology for

[32] Hart, *Country Parson*, 72. *Visitation Returns, 1743,* 47. Walsh and Taylor, "Church and Anglicanism," 17.

[33] Walsh and Taylor, "Church and Anglicanism," 13–14.

[34] Hart, *Country Parson*, 41.

my Brethren." He began by acknowledging the faults of pastors and their sermons, but this was to be expected, since "there are the Contemptible & the deserving, the Good and the bad of all Professions."

> Many of us carry into the Pulpit with us false Notions & narrow Sentiments instill'd by our Parents, our Schoolmasters, our Tutors, or the modish Opinions of College or Church. Notions however, which we look upon as Sacred, & which we think ourselves bound to support. Hence it is, that we are frequently found inconsistent with the Truth, & even with ourselves . . . Instead of studying to convince the Head by sound Reason, & to move the Heart by the most natural & affecting Eloquence, we dress up our Sermons with false Ornaments, & aim more at Applause from our Hearers than Instruction to them . . . We are often forced to exert our Voice beyond our Command; we talk of Subjects, which perhaps once pleas'd us, but are now become familiar & indifferent to us; we fall into an unnatural Eloqution thro' Affectation or Negligence; & we have generally too great or too little Concern for our Audience.

Most clergy were not men of "genius," unlike Gertrude Savile's nephew, Michell said, and they did not have "like Advantages in their Education." Michell excused the "Clergy (as far as they may justly be excused) from the Misfortunes of their Birth, their natural Endowments, & their Education"[35] on the grounds of "Education and Capacities," a reasonable defense. Without question, the young Savile squire had been given the best education money could buy, and he did have a genius for public speaking, as his subsequent parliamentary career would bear out; when the Whig leader Henry Fox, himself a renowned speaker, was asked who was the best speaker of his time who had not held office, he named two, one of whom was Savile.[36] Gilbert Michell did not exactly say that Gertrude Savile held ministers to an unfair standard, but he came close, and Gilbert and Gertrude did not correspond for a half year after their disagreement. When she complained about him to his son John, Gilbert took the occasion to renew their correspondence; in a conciliatory letter, he clarified his defense, which he made clear was not a "vindication," of the clergy.

Gilbert conceived of his work as pastor at least partly in educational terms. In the quotation above, he referred to sermons as "Instruction," and he related the performance of ministers to their "Education." His eldest son John Michell's early education is our next subject.

## 1.4 Education at Home

Eakring had no charity or public school. Parents who lacked either the capacity or the time to teach their children at home, occasionally, "at Wide Intervals of Time," sent them to the two or three persons in town who taught them, "poorly," it seems,

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[35] Gilbert Michell to Gertrude Savile, 18 April and 3 November 1747, NA DDSR 221/87.

[36] "Savile, Sir George," *Dictionary of National Biography*, 22 vols., ed. L. Stephen and S. Lee (New York: Macmillan, 1908–9), 17:853–56, on 855; John Cannon, ibid., new ed., 49:107–9; hereafter cited as *DNB*.