

# Ward, Seth

(1617–1689)

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## Seth Ward (1617–1689)

by John Greenhill, 1673

Ward, Seth (1617–1689), astronomer and bishop of Exeter and Salisbury, was born in Buntingford, Hertfordshire, and was baptized at St Mary's Church in nearby Aspenden on 5 April 1617. He was the second son of John Ward (*d.* 1656), an attorney in Buntingford, and his wife, Martha Dalton (*d.* 1646). His friend and first biographer, Walter Pope (*c.*1630–1714), said that he had never heard Ward speak of his father, but that he often spoke fondly and admiringly of his mother, and believed that his character was due to her (Pope, 4–5). John and Martha produced two other sons, John and Clement, and three daughters. Seth never married, but Clement left three sons and a number of daughters to his care while he was Savilian professor at Oxford, and he also provided throughout his life for his sisters and a number of their sons and daughters. In fact he was so dutiful in looking after his extended family that in later life his enemies found it easy to accuse him of nepotism.

## Cambridge years

From the grammar school in Buntingford, Ward entered Sidney Sussex College, Cambridge, on 1 December 1632; he graduated BA in 1637 and MA on 27 July 1640. There he quickly became the favourite of the master, Samuel Ward (*d.* 1643). He lodged in the latter's apartments and had the use of the college library, where he spent much time, being shy of going into the town. He showed great promise, and may have been tutored by Samuel Ward, who had a keen interest in the mathematical sciences. In his third year a disputation of his in mathematics impressed John Bainbridge, first Savilian professor of astronomy, and when taking his BA he disputed on the differences between the Julian and Gregorian calendars. Pope's suggestion that Ward was effectively an autodidact in mathematics is almost certainly incorrect (Pope, 10). Having been chosen in July 1640 by the vice-chancellor, John Cosin (1594–1672), as *praevaricator*, or official jester, Ward inadvertently offended Cosin and was suspended from his degree, but reinstated the following day. In 1643 he was made the university's mathematical lecturer.

In the same year Samuel Ward, with other leading members of the university, was imprisoned in St John's College for refusing the covenant. Seth Ward voluntarily remained in confinement with his mentor, and upon his release accompanied him home to care for him during his final illness. At that time Ward, together with Peter Gunning (1614–1684), John Barwick (1612–1664), and Isaac Barrow (*d.* 1680), published *Certain Disquisitions and Considerations Representing to the Conscience the Unlawfulness of the ... Solemn League and Covenant*. In the spring of 1644 Ward refused to swear to the covenant, though at least in part this refusal was prompted by the visitors' practice of implying that those who would not take the oath were guilty of various immoralities. Deprived of his fellowship in August, Ward stayed for a time with relatives of Samuel Ward, in or near London, and then went to stay with the mathematician William Oughtred in Albury, Surrey.

Ward used this unsettled period to improve his mathematics. He had made the acquaintance of Oughtred in 1643 when, together with Charles Scarborough (1615–1694), he visited Albury to clarify some obscurities in Oughtred's *Clavis mathematicae* (1631). Ward subsequently introduced the *Clavis* into his lectures at Cambridge. After studying with Oughtred for a while he went as tutor to the sons of his friend Ralph Freeman to Aspenden, where he remained until 1649. He then served for some months as chaplain to Lord Wenman (1596–1665) at Thame. From there Ward went to Oxford as Savilian professor of astronomy, a post he secured with the help of John Greaves (1602–1652), the ejected professor, and Sir John Trevor (*d.* 1673), who was able to arrange that Ward did not have to take the covenant or the engagement.

## Astronomer at Oxford

From 29 April 1650 Ward lived as a fellow-commoner at Wadham College, Oxford, where he became a close friend of the much admired warden, John Wilkins, and a leading member of the group of natural philosophers who met in the city at this time. He reinstated the university's astronomy lectures, which had been discontinued for some time, and was the first Savilian professor to teach the Copernican theory. In spite of being exempted from the pulpit as a Savilian professor, he also preached frequently. His first publication as Savilian professor was a work of natural theology, *A philosophical essay towards an eviction of the being and attributes of God, the immortality of the souls of men, and the truth and authority of scripture* (1652). This exercise in theology shows the influence of John Wilkins, who was a vigorous proponent of rationalist approaches to theology.

In 1653 Ward produced a study of the nature of comets, *De cometis, ubi de cometarum natura disseritur*, and an examination of the paths of the planets, *In Ismaelis Bullialdi astronomiae philolaicae fundamenta inquisitio brevis*, which was to prove much more influential. Ward's refinement of Johann Kepler's second law of planetary motion, presented as a response to Ismael Boulliau's *Astronomia philolaica* (Paris, 1645), was developed more completely in his *Astronomia geometrica; ubi methodus proponitur qua primariorum planetarum astronomia sive elliptica sive circularis possit geometricè absolvi* (1656). Kepler's second law proved unsatisfactory to astronomers because it did not provide an easy way of determining planetary movements. In trying to solve these difficulties Boulliau developed a complex scheme which Ward was able to simplify dramatically. While Boulliau defined planetary movements by reference to the axis of imaginary cones, Ward pointed out that this was equivalent to supposing that planets move in their elliptical orbits with uniform angular velocity about the empty focus of the ellipse (the sun being at the other focus). Neither Boulliau's nor Ward's innovations were a real improvement on Kepler's second law, being only approximately true, but they proved influential among astronomers who would otherwise have to struggle with trial and error or successive approximation methods if they adhered to Kepler's original formulation.

Ward also wrote, in collaboration with John Wilkins, *Vindiciae academiarum* (1654). This was a defence of the English universities against John Webster, an illuminist and antinomian sectarian who had just published *Academiarum examen*; Thomas Hobbes, who had criticized the universities in his *Leviathan* (1651); and William Dell, master of Gonville and Caius College, Cambridge, who suggested that there should be universities in all large towns. Ward returned to criticism of Hobbes in 1656 with *In Thomae Hobbii philosophiam exercitatio epistolica*, an examination of

the philosophy and theology of Hobbes occasioned by the appearance of the latter's *De corpore* in 1655, but ranging over his other works. This represented a marked change of attitude towards Hobbes, since Ward had written (though it was signed by the printer, Francis Bowman) the adulatory preface to Hobbes's *Humane Nature* of 1650. Hobbes replied to Ward's criticisms in the last of his *Six Lessons to the Savilian Professors of the Mathematics* (1656), the other five being aimed at the more damaging mathematical critique of John Wallis (1618–1673). According to Pope, this exchange so soured things between Hobbes and his erstwhile admirer that whenever their mutual friend Charles Scarborough entertained leading intellectuals at his home, Hobbes would always check first that Ward was not present before deigning to enter the room (Pope, 125–6).

## Universal language

The *Vindiciae academiarum* also made public Ward's interest in continental schemes to provide a universal language that could be understood by all. Through Samuel Hartlib, Ward learned of the efforts of Cyprian Kinner (*fl.* 1650), a Silesian disciple of the intellectual reformer Jan Amos Comenius, to develop a philosophical language in which the words themselves, by their form and structure, reveal all the attributes of the things they signify. By 1650 Ward, one of the first English thinkers to engage with the subject, was trying to develop his own scheme, and he directly inspired Wilkins and George Dalgarno (c.1619–1687) in their own universal language schemes. Ward's projected scheme was rather different from that developed by Wilkins in his *Essay towards a Real Character and a Philosophical Language* (1668). Wilkins's scheme depended upon more orderly and clearer classifications of knowledge, and the assumption that the elements of ensuing classificatory tables could then be given a distinctive oral and visual form. Ward, even in 1654, realized that such a scheme would require an 'almost infinite' number of characters. His own scheme sought to discover supposed 'simple notions', perhaps fewer than a hundred in number, into which all discourse could be analysed and which would form the basis for a more austere and exact discourse capable of revealing the very nature of things. Ward acknowledged the influence of Ramon Lull's *Ars magna* (1517) and George Ritschel's *Contemplationes metaphysicae* (1648) upon his thinking. Ward was a member of the unproductive committee established by the Royal Society after the publication of Wilkins's *Essay* to further universal language schemes, and he also corresponded in 1676 with friends (including Robert Hooke, Andrew Paschall, Francis Lodwyck, and John Ray) who wished to complete Wilkins's project. Their awareness of the fundamental differences between Ward's and Wilkins's approaches added to the already considerable difficulties involved in producing a universal language.

## Bishop of Exeter and Salisbury

In 1656 Ward had become chaplain to Dr Ralph Brownrig, the ejected bishop of Exeter, and not only accepted from him the precentorship of Exeter but also paid the full fees for this to Brownrig's secretary, even though there was then little hope that the Anglican church would be restored. The following year the fellows elected him principal of Jesus College, Oxford, but Cromwell put in Francis Howell (1625–1679), a fellow of Exeter College. Ward must have impressed Cromwell, however, since the latter compensated him with an extra stipend of £80 per annum. After Cromwell's death Ward petitioned for its continuation, and from January 1659 it was paid out of a revenue managed by the governors of Windsor.

Meanwhile, Ward was elected president of Trinity College, Oxford, on 14 September 1659, and immediately began to settle the troubled affairs of the college. At the Restoration, however, he properly resigned his place to Hannibal Potter (1592–1664), who had been ejected in 1649. In August 1660 Ward also resigned the Savilian professorship and settled in London as vicar of St Lawrence Jewry, a benefice in the king's gift. Now Ward's investment gamble with Brownrig paid off. He was confirmed as precentor of Exeter Cathedral on 25 July 1660 and as prebendary in September, elected dean on 26 December 1661, and consecrated bishop on 20 July 1662.

Ward proved to be an extremely able administrator and immediately began to fill vacant ecclesiastical preferments in his diocese, restore church buildings to their proper use (including the bishop's palace), recover church property, and reform various abuses. He managed to augment the value of the poorer benefices and increase the revenues of the prebendaries, while spending over £25,000 on restoring the cathedral. It is small wonder that Ward declared himself to be £2000 the worse for being bishop of Exeter. He also began to earn a reputation as a prosecutor, even a persecutor, of dissenters, though it is not clear how justified this reputation was. He seems to have approved of and used the Clarendon code, and he certainly supported the Five Mile Act. Nevertheless, Pope records a number of Ward's acts of kindness to individual dissenters.

Ward's success at Exeter was rewarded by translation to the wealthier see of Salisbury on 5 September 1667. He had buildings repaired, including the bishop's palace and the Guildhall; the cathedral itself had been well preserved during the interregnum, but Ward had the floor of the choir laid with marble and the cloister paved. He tried to exert conformity, and it was said that he was so vigorous in suppressing conventicles that the local cloth trade—conducted largely by nonconformists—began to suffer, but there is no independent evidence of this (Pope, 71; Whiteman, 437). During his episcopacy he divided his time between his diocese and London, where he assiduously attended the House of Lords. He used various addresses in London until 1673, when he bought, or possibly had built, a grand house in Knightsbridge, apparently attracted by the opportunities it provided for horse-riding. Always a good horseman, he was encouraged to ride regularly by his physician, Thomas Sydenham (1624–1689), who regarded it as the perfect form of healthy exercise. (Ward had been prone to bouts of ill health after a bad fever which he suffered in 1660.)

In 1674 Ward was offered translation to Durham, but he refused it, he told Pope, because he 'did not like the conditions' (Pope, 96). It is not clear what these conditions were, but they might refer to suggestions that Charles II had promised Nell Gwynne an allowance out of Durham's bishopric funds (Whiteman, 36–7). Pope also claimed to have heard Gilbert Sheldon (1598–1677) speak of Ward as his preferred successor to the see of Canterbury (Pope, 97), but by the time Sheldon died Ward was out of favour at court.

While at Salisbury, Ward engaged in a number of charitable schemes. He gave £100 for the building of Chelsea College in 1668 and promised another £100 in 1678. In 1681 he donated £100 to Wadham College, Oxford, and subsequently endowed Christ's College, Cambridge, with four scholarships. In 1682 he established a so-called College of Matrons (to avoid the stigma of the designation 'hospital') in the cathedral close at Salisbury for the maintenance of ten widows of orthodox clergymen. Two years later he established a hospital for ten poor men at Buntingford, his birthplace. In his will he left money to his native parish of Aspenden for apprenticing poor boys, and £1000 for the upkeep of the fabric of Salisbury Cathedral.

In 1669 Ward successfully petitioned for the return of the chancellorship of the Order of the Garter to the bishops of Salisbury, a right that had originally been granted in the fifteenth century, and he became the new chancellor in 1671 after the death of the lay holder of the office. Ward's administration of Garter funds brought him into trouble, however. He retained money left over from various expenses for himself, and a commission investigating charges of malversation in 1684 ordered him to refund all of this money to the crown. By then he was also busy defending himself against charges of usurping special powers and prerogatives of the king's. In 1682 Cornelius Yeate, vicar of St Mary's, Marlborough, and Thomas Pierce, dean of Salisbury, argued falsely that Salisbury was one of the king's chapels royal, like Windsor and Westminster, and that all its prebends were in the king's gift. Yeate and Pierce's son had been denied preferments by Ward and this was evidently a major cause of their animosity towards him, since charges of nepotism were prominent in their attacks upon him. He was undoubtedly guilty of favouritism, but perhaps no more so than many contemporaries in similar positions, and he arranged preferments for various protégés, including Isaac Barrow, William Lloyd (1627–1717), and Izaak Walton (1593–1683) (Whiteman, 460–64). He was vindicated from the more serious charges laid against him in 1686, when the dean submitted to an archiepiscopal visitation that found in Ward's favour.

By then, however, Ward had declined into an incapable senility. In his last five years memory failed him, even to the extent that he forgot what he was talking about in the very moment of speaking, and he was hardly aware of what was going on around him. Pope was so affected by his friend's sad decline that he alluded to it in his famous poem, 'Wish':

To outlive my senses may it not be my Fate,  
To be blind, to be deaf, to know nothing at all,  
But rather let Death come before 'tis so late.

Pope, 195  
Death came to Ward, overdue, on 6 January 1689, at his home in Knightsbridge, and he was buried in the choir of Salisbury Cathedral.

## Reputation and influence

John Aubrey (1626–1697) described Ward as 'a handsome man, pleasant and sanguine' with 'a most magnificent and munificent mind', but Robert Hooke (1635–1703) simply called him 'fals' and 'a courtier' (Whiteman, 50–51). Gilbert Burnet (1643–1715) said that his 'sincerity was much questioned' (*Of the Final Twelve Years of the Reign of King Charles II*, 1823, 332); Anthony Wood assessed him as a 'Politician' and remarked on 'his cowardly wavering for lucre and honour sake' (*Athenae Oxonienses*, 1721, 2, cols. 827, 1172). Ward's strength was as an ecclesiastical administrator. It is impossible to determine the precise nature of his theological or religious beliefs, but he was a great success in restoring the cathedrals of Exeter and Salisbury, and in reforming the administration of those dioceses after the rigours of the interregnum. During his tenure as Savilian professor he developed an international reputation as a mathematical astronomer, but after leaving Oxford he did not maintain his interest. He did not entirely repudiate natural philosophy, being a fairly active member of the Royal Society from its foundation in 1660 until about 1675 [*see Founder members of the Royal Society*], but he made no significant contribution to the development of the natural sciences, nor to that of the universal language schemes.

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#### Archives

- Bodl. Oxf., MSS
- Devon RO, papers
- Salisbury Cathedral, papers
- Bodl. Oxf., corresp. with Sancroft and papers
- diocesan registry, Exeter, MSS of the bishop of Exeter
- Exeter Cathedral, MSS of the dean and chapter of Exeter

#### Likenesses

- J. Greenhill, oils, 1673, Salisbury, Guildhall, Wiltshire [\[see illus.\]](#)
- D. Loggan, engraving, 1678, BM, NPG
- J. Greenhill, oils, second version, Trinity College, Oxford
- bust, Salisbury Cathedral, Wiltshire

#### Wealth at Death

left money for apprenticeships and £1000 for upkeep of Salisbury Cathedral: will