

Between Scholasticism and Folk Wisdom: The Weather Lore of William Merle

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As Jeff Opland's interdisciplinary research into the Anglo-Saxon and Xhosa poetic traditions has shown, the cross-fertilization of medieval and African studies can stimulate new flowerings of insight within both disciplines (Opland 1980; 1983). Thus it is fitting that my recent occupation with indigenous South African calendar systems should have caused this lapsed medievalist to revisit the career of an obscure fourteenth-century meteorological scholar, William Merle, whom I had first met in dissertation work on medieval astrology (Snedegar 1988; 1995). The examination of African calendars has increased my appreciation of just how keenly attuned to seasonal variation traditional agropastoral peoples are. Their food production largely depends on environmental contingencies, most important of which is the presence of water in adequate quantities at appropriate times. And although southern Africa and northern Europe experience vastly different weather patterns, the essential relationship between climate and agricultural success pertains to traditional Africa and medieval Europe alike.

African ritual meteorologies - rainmaking for example - have attracted a good measure of scholarly attention but medieval European weather lore is still a relatively unexplored subject. While working with African oral materials, it suddenly dawned on me that Merle had drawn from analogous sources. Although he would study in Oxford during the second quarter of the fourteenth century, the age of its greatest Scholastic achievements in natural philosophy, for Merle meteorology was no less an affair of oral peasant culture as it was of literary academic discourse. He stood between the paradigms of Oxford Scholasticism and the folk wisdom of his county, Lincolnshire.

Notwithstanding the few paragraphs devoted to him in my dissertation, about half of a brief chapter in volume III of Lynn Thorndike's *History of Magic and Experimental Science* and two superficial articles in the journal *Weather* represent the greatest scrutiny William Merle has received from modern scholarship (Thorndike 1934:141-145, Lawrence 1972, Meaden 1973). As for Merle's life, A.B. Emden has collected the few biographical details (Emden 1957-59: 1264-65). He emerges first in May 1331, having been presented with the rectory of Driby, Lincolnshire, a modest place between Horncastle and Skegness. Merle held this benefice until the end of his life, which came by March 1347. He punctuated his otherwise nondescript existence with a licence to study at university in 1335. This licence was renewed four times between 1335 and 1346.

Merle went up to Oxford; and while we do not know his college or hall affiliation, he soon fell in with a group of scholars at Merton College. (Contemporary Merton records nowhere list Merle as a fellow, contrary to the suggestion of many post-medieval sources.) His Merton friends included Simon Bredon, John Ashenden and William Rede, all three specialists in the *scientia astrorum*, the medieval discipline embracing both astronomy and astrology. During the 1330s and 1340s Bredon was working on redactions of Ptolemy's *Almagest* and *Quadripartitum*; Rede was drafting a set of astronomical tables for the calculation of planetary positions, and Ashenden compiling a monumental sourcebook of astrological theory, his *Summa iudicialis de accidentibus mundi*. Merle borrowed books from Bredon - at least one of which he never returned - in turn, Rede and Ashenden made use of Merle's writings (Powicke 1931: 86).

When these celestially minded Mertonians thought of the weather, they analyzed it in terms of putative intensifications or relaxations of heavenly influences (Cf. Jenks 1983). Indicative of his participation in the Bredon-Rede-Ashenden circle, Merle's earliest tract, *Regule ad futuram aeris temperiem pronosticandam*, is simply a list of astrological guidelines for weather prediction.¹ Merle's guidelines are strongly reminiscent of those in Ptolemy's *Quadripartitum* (Book II, Chapter 12): a forecast should take into account the influence of the Moon's phase, the position of the Sun and planets, and the nature of planetary alignments at the time in question (Robbins 1980: 207-213). Both Ashenden and Bredon had closely studied the Ptolemaic text. In all probability Merle had borrowed Bredon's *Quadripartitum* edition for use in his own work.²

A more original product of Merle's meteorological thought is a treatise he composed in 1340, now extant in three manuscripts.³ His *De pronosticatione aeris* in one sense is a simple *compilatio* of authoritative statements concerning weather prediction. On the other hand, being wholly devoid of astrological content, it represents a clear break from the astrometeorology of the Mertonians. Nor did Merle follow the stultifying academic tradition (still very much alive in fourteenth-century Oxford) of commentary on a standard university text, in this case Aristotle's *Meteorologica*. Merle instead headed his own direction, concentrating on weather prognostication based on 'inferior signs': the changing appearance of sky, the behavior of animals, flights of birds, and other terrestrial indicators. Merle's approach to meteorology is that of folk wisdom rather than

¹ Preserved in William Rede's historically invaluable composite manuscript, Oxford, Bodleian Library, Digby MS 176, fol. 3, s. xiv med; and Digby MS 97, fols. 128-129, under the title *De futura temperie aeris pronosticanda*. Furthermore, John Ashenden incorporated Merle's *regulae* in their entirety in the *Summa iudicialis* Book II, Distinctio 12. (The correspondence with book and chapter number in the *Quadripartitum* was not coincidental.)

² Digby MS 179, dating to the 1330s. Although there is no positive reason to think that Bredon had any knowledge of Greek, his rendering of the *Quadripartitum* displays a large measure of independence from earlier Latin translations.

³ Boston, Medical Library MS 20, fols. 136r - 150r, s.xiv. Oxford, Bodleian Library, Digby MS 147, fols. 125r - 138r, ca. 1369. Oxford, Corpus Christi College MS 293, fols. 88r - 93v (imperfect), s.xiv ex.

astrology or natural philosophy.

That is not to say that Merle collected information exclusively from common folk. For most weather signs he cited standard academic and literary sources: Pliny's *Natural History*, Ptolemy's *Quadripartitum*, the Aristotelian *Problems*, and, not least, the *Georgics* of Virgil.⁴ This body of tradition gives us the likes of 'red sky at night, shepherd's delight'.⁵ For the general character of these ancient weather signs, a few of Merle's citations are helpful: According to Pliny a clear sunrise promised a fine day. If, however, the Sun's rays shone weakly through a mist or appeared to attract clouds, they indicated rain. Lunar prognostics were said to hold true when the Moon was a thin crescent no more than four days past new. Should the crescent's horns appear blunted rain was certain; if they were sharply pointed a wind would develop. Ptolemy maintained that a ring of cloud girding the full Moon presaged stronger winds, a double halo warned of a tempest. Animals too gave their signs of weather conditions. Virgil reported that calves sniffing apprehensively at the air or licking themselves against the nap of their hair, and swine rooting about in their bedstraw, were portents of rain, as were loudly croaking frogs and ants carrying their eggs out of their nests. The Roman poet also followed avian behavior. High flying cranes foretold serenity. The full-throated raven announced rain. Flocks of rooks desert their feeding ground directly before a storm.

⁴ At least one of the reference books handled by Merle can be identified with some confidence: Pliny, 'De signis pronosticis aeris' (an extract from *Natural History*, Book XVIII), a pamphlet which Rede later incorporated into Digby MS 176, fols. 60 - 72.

⁵ A statement nowhere to be found among Aristotle, Pliny, Ptolemy, or Virgil; but surely Merle was familiar with Matthew 16.2-3: 'When it is evening you say, "It will be fair weather, for the sky is red". And in the morning, "It will be stormy today, for the sky is red and threatening".'

While affirming the general efficacy of ancient weather sayings, Merle added lore collected *partibus meis*, that is, from southeastern Lincolnshire. English birds received special mention. The robin - *lingua nostra vocatur robinette, id est rudduk vel redbreste* - staying abnormally near its nest indicated unsettled weather. If seamews were detected flying more than twenty leagues inland a tempest was brewing at sea. A species of woodpecker called *wodewale* by Merle was reputed to be such a trustworthy sign that it was also known as the *raynfughl*: episodes of excited calling and flights up and down invariably preceded rain.

For Merle the observation *that* an avian sign seemed to have effect was much more important than *why* it should have been effective. He placed value in empirical results. Mainstream scholastic thought was more concerned with the relationship between natural cause and effect. Hence John Ashenden, in the midst of reproducing an extended passage from *De pronosticatione* on avian signs, suggested a causal link between animal behavior and atmospheric temperament. It makes an intriguing point. Man had the gift of reason; of all God's creatures he alone could rationally discern the causes of things. Yet the very lack of rational faculties was the advantage of animals, for their behaviour was chiefly governed by physical temperaments. Therefore the changing temperament of the atmosphere - warmer, drier, colder, wetter - naturally prompted certain behaviours. By observing animal behaviour and recognizing its environmental causes, one could predict the weather (Snedegar 1988: 144-5).

Much to his credit Merle distinguished between ephemeral atmospheric changes and the annual weather pattern or climate of an area. Aided by readings including the *De natura loci* of Albertus Magnus,⁶ he recognised that climate bore a relation to geographical situation or *situs*. The *ratio situs* had two aspects: (1) topography, the lay of the land, and (2) geographical latitude. Topography was significant in so far as land features promoted or retarded different phenomena. Deep valleys channeled wind. Low lying areas were vulnerable to flooding. Uplands experienced more snow than lowlands. As for latitude, temperatures would on the whole increase one travelled from North to South. Ancient Greek convention, endorsed by the Merton astronomers, divided regions of the northern hemisphere into seven latitudinal zones known as climes. The first clime was centered on 16 degrees north. South of this region, it was posited, oppressive heat made civilized life untenable. At the other extreme, the seventh clime centered on the 48th parallel. We should note that at about 53 degrees north, Merle's Lincolnshire parish lay well beyond the seventh clime. To be sure conditions were frequently cold and dreary, but an imaginary line had not defined the northern limits of civilization.

Book learning plainly had its limitations. Merle tells us that knowledge may be derived *per inquisitionem per expertos et secundo per auctores*. Experience first, books second. And who is most experienced? *Nautes, pastores, agricultores*: sailors, herdsmen and farmers. Merle tells of listening to them *audi in voce*. Often

⁶ Merle may well have consulted *De natura loci* in Merton College MS 285.

he describes folk opinions as being expressed *communiter* or *vulgariter*, although this is frustratingly imprecise for the modern oral historian. One is left to imagine characters, after the pattern of Chaucer's reeve, whose livelihoods were at the mercy of the weather: *Wel wiste he by the drought and by the reyn/ The yeldynge of his seed and of his greyn.* (Canterbury Tales, General Prologue, ll.595-96) By and large Merle leaves the impression that his oral sources of weather lore were consonant with his literary sources. Very frequently they are cited together, as if to emphasize the agreement between them.

One significant divergence, however, involved the four seasons. Merle repetitively states that weather signs must be judged according to the seasonal context in which they appear; hence one's definition of spring, summer, autumn and winter was critical. Merle's astronomer colleagues defined spring, according to Greek scientific convention, as beginning when the Sun entered the constellation Aries - in the fourteenth century calculations yielded the date, 13 March. Summer began when the Sun entered Cancer (13 June); autumn, Libra (15 September); and winter, Capricorn (13 December). Nonetheless, by local practice the beginning of spring was celebrated on the feast of St Peter, 22 February; summer on St Urban's day, 25 May; autumn on St Simphorian's, 22 August; winter on St Clement's, 23 November.⁷ These dates are not astronomical in character; nor do they accord well with a theory of medieval pagan-Christian syncretism, a theory which some recent scholars like to apply to folk calendars (cf. McCluskey 1989). If, for instance, Merle's seasonal dates had any substantial link with the pagan mid-quarter festivals Imbolic (in February), Beltaine (May), Lughnasa (August), and Samhain (November), they would correspond to the first of their respective months, yet the dates provided by Merle are 21-24 days too late. Was Merle referring to local seasonal markets or fairs? The question awaits further investigation.

For an empiricist such as Merle the ancient authorities, Aristotle, Pliny, Ptolemy and Virgil, shared a defect in that they were all natives of the Mediterranean basin. Geography had shaped their outlook. A real understanding of English weather patterns required local observation. Merle attempted to do just that, keeping a weather journal over the period 1337 to 1344. His *Considerationes temperiei pro 7 annis Christi* was a unique effort in the fourteenth century.⁸ With increasing detail as the years went by, he noted relative temperatures, warm or cold; winds, often their force and direction; rain, snow, frost, fog, thunder and lightning, and hail. If a modern meteorologist had any criticism it would be that the journal lacks quantification. How much was a "moderate" rainfall? How cold

⁷ Apart from the peasant belief in a week of serene conditions about the feast of Michael the Archangel (29 September), weather sayings devoted to saint's days are conspicuously absent in Merle's writings.

⁸ The unique copy, which may be a Merle holograph, is contained in Digby MS 176, fols. 4r - 8v. The journal ends abruptly with the entry for 10 January 1344 at the top of fol.8v; several lines are ruled after this but were left unfilled (see Symons 1891).

was “exceptionally” cold? We cannot say. It should be added here that the notion of quantifying qualities was a philosophical issue being explored by Merle’s Oxford contemporaries. The outstanding Merton logicians John Dumbleton, William Heytesbury and Richard Swineshead regarded qualities such as heat as being divisible by steps or degrees (*gradus*). Ironically, their ‘natural philosophy without nature’ did not allow for the fusion of noetic measurement with empirical methods (Murdoch 1982: 174). The invention of the thermometer would have to wait for Galileo.

Few of Merle’s observations bear repeating here. In the spring of 1340 northeastern England suffered an extraordinary dry spell, receiving negligible precipitation over four months. The autumn of 1342 was so warm that leeks and cabbages grew out of their season. More dramatically, Merle reported an earthquake felt in his district on 28 March 1343. The tremor was sufficiently violent to bring down chimneys, and lasted long enough for the prayer *salutatio angelica* to be said. Merle’s concern, it must be said, was for the productivity of the land rather than its stability. In *De pronosticatione aeris* he devoted a sizeable chapter to harvests and famine. Mother Earth provided an abundance for the farmer so long as the weather cooperated. If the atmosphere fell out of a healthy temperament, the balance of warmth and humidity, the results could be disastrous. The ancients, good Mediterraneans that they were, had feared drought most. For the English excessive precipitation was the chief threat. Hence it was natural that Merle should consider how excessive rainfall could be detrimental. It made plowing and planting difficult. It also delayed harvesting. A hard rain could flatten crops, and deter budding and flowering. Choking weeds and injurious insects seemed to appear after rainfall, and subsequent mildew could attack fruits and vegetables. Knowing of rainfall beforehand did not negate its deleterious effects, but a farmer could try to work around his difficulties, plowing before a rain, going to market when the roads were still dry.

Why was Merle singularly concerned? Perhaps it has to do with some unknown aspect of his rural origins. It is unlikely that he could recall the Great Famine of 1315-1317, the mortality of which was only surpassed by the Black Death. It would be wrong to view the average fourteenth-century university scholar as being insulated from such unpleasant realities. Indeed, all of Merle’s Merton colleagues had first-hand experience with agricultural economy, spending lengthy periods away from Oxford administering college properties. The social construction of medieval universities, however, meant that Arabo-Aristotelian dialectics held far greater authority than did the empiricism of peasant farmers. Merle was highly unusual in giving credence to folk wisdom.

He must have found that natural philosophy did little to aid meteorological practice. Neither did the Merton *scientia astrorum* produce results. A theoretical system for understanding weather as a physical process simply did not exist in the fourteenth century (nor would it until the late nineteenth century). Interpretation of weather signs was the only alternative. Ancient authors had resorted to weather lore just as medieval commoners had. Even so, one must

believe that Merle recognised the potential fallibility of traditional wisdom, for not a single weather forecast is to be found in his writings. Perhaps Merle would rather not have his failed predictions enshrined in history. Certainly shame for getting it wrong is nothing new among meteorologists.

Abstract

This paper considers the life and work of William Merle, a fourteenth-century Oxford scholar who specialized in meteorology. Over the period 1337-1344 Merle compiled the first observational weather record in English history. He also collected pieces of weather lore of the 'red at night shepherd's delight' variety from common folk as well as ancient authorities. His empirical approach to weather forecasting was highly unusual in an academic milieu which emphasized philosophical and astrological speculation. Merle's personal contact with peasant farmers, herdsman and fishermen (whose lives and livelihoods depended on the weather) may well have shaped his work.

Opsomming

In hierdie artikel word die lewe en werk van William Merle, 'n veertiende-eeuse Oxford-geleerde wat in die meteorologie gespesialiseer het, in oënskou geneem. Merle het in die tydperk 1337-1344 die eerste op waarneming gegronde weeroptekening in die Engelse geskiedenis gedoen. Hy het ook voorbeelde van weerkundigheid van die 'rooi teen die aand maak die skaapwagter bly'-tipe uit gewone volksoorlewings sowel as ou gesaghebbende werke versamel. Sy empiriese benadering tot weervoorspelling was hoogs ongewoon in 'n akademiese milieu waarin filosofiese en astrologiese spekulاسie beklemtoon is. Dit is goed moontlik dat Merle se persoonlike kontak met die boere, skaapwagters en vissers (wie se lewens en lewensbestaan van die weer afgehang het) vorm aan sy werk gegee het.

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