

The Naturalization of Ethnicity and Environmental Thought

Shortly after the First Crusade to Palestine, Benedictine monks in different monastic houses in England and northern France turned towards physiology to contrast their foes with their own armies. They speak of courageous French fighters and weak-blooded, cowardly, cunning Saracens, both of whom are shaped by their regional environment and climate. Guibert of Nogent (c. 1060–c. 1125) and William of Malmesbury each directly engaged ancient Hippocratic environmental theory that took a geographic deterministic view of peoples' physical and mental character, strength, intelligence and industry.¹ Echoing these ideas, Orderic Vitalis (1075–c. 1142) and Baldric of Bourgueil (c. 1050–1130) commented on Turkish military cunning, a trait that environmental theory accounted for on the basis of a lack of blood. Environmental (or climate) theory presented an explanatory structure for the classification of essentialized mental and physical qualities based upon topography, which Aristotle had expanded in his *Politics* to clarify groups' status in a hierarchy of power. Aristotle's work, which was unknown in Arabic and was translated into Latin by William of Moerbeke in c. 1260, introduced the concept of natural slavery, building upon environmental theory, arguing that the physiognomy and mental traits of large-bodied workers lacking rational qualities rendered them natural slaves. Various climates favoured different political systems, the weaker southerners and irrational northerners being less well equipped for self-rule because they lacked a sufficient capacity for reason. In line with ancient Greek stoicism, environmental theory accordingly held that only the most temperate

¹ Guibert of Nogent, *Dei gesta per Francos et cing autres textes*, i.2, ed. R. B. C. Huygens (Turnhout, 1996), pp. 89–90; William of Malmesbury, *Gesta regum Anglorum* iv.347, ed. and trans. Mynors, Thomson and Winterbottom, i, 600–3; Orderic Vitalis, *Historia ecclesiastica: The Ecclesiastical History of Orderic Vitalis* ix.12, ed. and trans. M. M. Chibnall, 6 vols. (Oxford, 1969–80), v, 132–3 and Baldric of Bourgueil, *Historia Ierosolimitana* ii, ed. S. J. Biddlecombe (Woodbridge, 2014), p. 33, also speak of Turkish military cunning, a trait that often explained in the context of environmental theory. Also I. Wolsing, 'Horsemen of the Apocalypse? Turkish Alterity in Chronicles from the Latin East, 1098–1187', *Viator* (2021), forthcoming.

region, where heat and coldness, moisture and dryness balanced out, nurtured the ideal, rational and brave man, able to defend his territory.² Even before Aristotle's *Politics* was translated, however, climate theory was known through texts produced in the military and monastic spheres.

This chapter is about how the adoption and adaptation of environmental theory fostered a biological mode of thinking about ethnicity, whereby the significance of the salubriousness and sacredness of domesticated spaces on occasion was identified with the translation of power, learning and military qualities. Following a short explanation of what environmental theory and its sibling humoral theory entail, and their dissemination, this chapter will explore how monks and schoolmen copied, adapted and applied these ideas between 1100 and 1250. Environmental and Galenic theory's effectiveness accelerated in two contexts. Firstly, monks and courtiers consulted Vegetius's army manual *De re militari* in the crusader wars in the Mediterranean region to describe Muslim and Christian soldiers. Environmental theory also was the bedrock for military and travel manuals.³ Secondly, the establishment of urban centres of knowledge encouraged the study of scientific treatises on medicine and the natural sciences using translations from Arabic and Greek into Latin. The heightened focus on these theories gave authority to arguments about the differences between Christian Europeans and others in a military context of colonization, tying physiology to environment and landscape, alongside cultural, social and linguistic factors.⁴ This view was part of a broader development wherein natural philosophy and medicine seeped into all kinds of discussions about the materiality of the body, original sin, the soul and life after death.⁵

² Eliav-Feldon, Isaac and Ziegler (ed.), *Origins of Racism*; Isaac, *The Invention of Racism*; I. Metzler, 'Perceptions of Hot Climate in Medieval Cosmography and Travel Literature', *Reading Medieval Studies* 23 (1997), 69–105.

³ G. Geltner, 'In the Camp and on the March: Military Manuals as Sources for Studying Premodern Public Health', *Medical History* 63/1 (2019), 44–60; P. Horden, 'Regimen and Travel in the Mediterranean', in *Mobility and Travel in the Mediterranean from Antiquity to the Middle Ages*, ed. R. Schlesier and U. Zellmann (Münster, 2004), pp. 117–32.

⁴ Ziegler, 'Physiognomy, Science, and Proto-racism 1200–1500', p. 199; Epstein, *Purity Lost*, pp. 9–51.

⁵ Minnis, *From Eden to Eternity*; A. Boureau, 'Hérédité, erreurs et vérité de la nature humaine (XIIe–XIIIe siècles)', *L'hérédité entre Moyen Âge et Époque moderne: Perspectives historiques*, ed. M. van der Lugt and C. de Miramon (Florence, 2008), pp. 67–82; C. W. Bynum, 'Material Continuity, Personal Survival, and the Resurrection of the Body: A Scholastic Discussion in Its Medieval and Modern Contexts', *History of Religions* 30/1 (1990), 51–85. For Adam's complexion in Paradise, J. Ziegler, 'Medicine and Immortality in Terrestrial Paradise', *Religion and Medicine*

The translation of Aristotle's *Politics* thereby eventually impacted on political thought and contributed to the environmental determinism underlying the organization of labour and property rights, leading Thomas Aquinas to argue for the natural inferiority of the enslaved, although they fell under *ius gentium* in Roman canon law, not natural law (applied to animals). Economic, civil or legal subjection, arising after the original sin, consequently meant that the ruler managed 'his subjects for their advantage and benefit'.⁶ According to the Dominican scholar Albertus Magnus (c. 1200–80), who taught at the *studium generale* in Cologne and in Paris, knowledge of climatic and humoral theory spread rapidly and was discussed *vulgariter*, in the vernacular tongue as well. He makes this comment in a text produced in c. 1258.⁷

Racism and environmental theory

The impress of the biological discourse has sparked discussions about the early origins of racism, vigorously unpacked in Geraldine Heng's *The Invention of Race in the European Middle Ages*, focusing on the racialization of Jews, Saracens, Mongols, Romani and Native Americans in the North Atlantic until the sixteenth century.⁸ As discussed in the Introduction, the racialized language created and sustained hierarchies by assigning traits to specific collectivities in hierarchical power relations through the practical application of social knowledge – which for most people is far more significant than any theoretical, academic construction of race.⁹ Less explored, however, are the scientific texts that fed into these representations of ethnic categories, articulated, copied, commented upon and adapted by the authoritative voices of schoolmen and reworked by court poets, historians and advisors. As far as the scientific discourses are concerned, a central discussion point revolves around

in the Middle Ages, ed. P. Biller and J. Ziegler (York, 2001), pp. 201–42. An older discussion in R. Klibansky, E. Panofsky and F. Saxl, *Saturn and Melancholy: Studies in the History of Natural Philosophy, Religion, and Art* (rev. edn, London, 1964), pp. 78–80.

⁶ Thomas Aquinas, *Summa theologiae*, 1a.92.1 and 2, ed. Gilby, xiii, 36–9. A. Minnis, *From Eden to Eternity: Creations of Paradise in the Later Middle Ages* (Philadelphia, 2015), p. 98. Barker, *That Most Precious Merchandise*, pp. 15–19. G. Fioravanti, 'Servi, rustici, barbari: Interpretazioni medievali della Politica aristotelica', *Annali della scuola normale superiore di Pisa: Classe di lettere e filosofia* 11 (1981), 399–429.

⁷ Biller, 'Proto-Racial Thought', p. 179.

⁸ Heng, *The Invention of Race*. See the Introduction, pp. 18–22, for discussion and references.

⁹ Hage, *White Nation*, pp. 29–31; M. Barker, *The New Racism: Conservatives and the Ideology of the Tribe* (London, 1981).

whether Hippocratic and Galenic environmental and medical ideas claimed that ethnic character was fixed or fluid. This chapter argues that environmental theory, combined with religious constructs of group traits, allowed schoolmen to strategically claim that some group's traits – notably those of Jews – were more fixed, more essential, than others. Racialization was prevalent when the attribution of such traits served rhetorically to position various groups within a hierarchy of power, placing the virtuous and rational above the allegedly weak, irrational, more beastlike. In addition, comments about the unnaturalness of ethnogenesis, for instance to be found in the twelfth-century pilgrim's guide to Santiago di Compostela, touched on biopolitical issues of reproduction. In the pilgrim guide's opinion, the migration to the region of Navarra of the Scots (or Irish), who violently raped its indigenous female population, had produced a degenerate people.¹⁰

An exploration of environmental discourse and its application in twelfth- and early thirteenth-century learned texts reveals that although science and culture held miscegenation as unnatural, still its benefits were recognized if and when acculturation led to the appropriation of urbane cultural practices. The acknowledgement of groups' capacity for acculturation probably depended on the degree to which writers self-identified with these groups, as well as their allotted position in the hierarchy of power. Significantly, the religious concept of free will meant that, at least theoretically, change was potential and possible, trumping biological or culturally acquired differences.¹¹ Hence, adaptations of Galenism and Hippocratic thought clearly did not assume that there were 'permanent and unbridgeable' differences, nor did they suggest that anything goes.¹² Scholars theorized that a person's psychosomatic make-up evolved into transferable traits if the parents of a new-born, endowed with an identical complexion, came from the same region. However, a mortal being's complexional balance remained fluid and susceptible to natural and non-natural particulars such as the climate, air, season, exercise, the planets, food and drink, whose impress oscillated depending on time and place.¹³ The body, indeed, was porous. Through social practices set out in the pedagogical books of conduct

¹⁰ *The Pilgrim's Guide to Santiago de Compostela: A Critical Edition* vii, ed. and trans. P. Gerson, A. Shaver-Crandell and A. Stones, 2 vols. (London, 1998), ii, 28–31.

¹¹ Weeda, 'The Fixed and the Fluent', pp. 93–113.

¹² Ziegler, 'Physiognomy, Science', p. 188; Goldenberg, 'Racism, Color Symbolism', p. 92.

¹³ Ziegler, 'Physiognomy, Science', p. 193; V. Groebner, 'Complexio/Complexion: Categorizing Individual Natures, 1250–1600', in *The Moral Authority of Nature*, ed. L. Daston and F. Vidal (Chicago, 2004), pp. 361–83 (pp. 368–9); Van der Lugt, 'La peau noire', p. 459.

as part of the pre-university school curriculum, mortal beings could, moreover, train their *habitus*, their behavioural and character traits, negotiating their humoral condition in order to be good citizens.¹⁴ There is a significant caveat in the case of Jews, however, who sometimes were assigned an essentialized, fixed ‘biological make-up’, in particular when they converted to Christianity, an act that was often met with distrust.¹⁵

The active exploration of theories of environment gave arguments weight that were put forward in the context of military strength, colonization and the subjugation of workforces. Moreover, the idea that the environment produced essentialized ‘character traits’ meant that the domesticated territorial space where peoples dwelled was considered to shape culture. Although peoples’ natural traits were not considered to be immutable if humans migrated, the process of change was cumbersome. Thus, administering climate theory allowed monks, schoolmen and courtiers to not only describe Jewish or Muslim traits stereotypically. They likewise applied climate theory to construct stereotypical images of European Christian peoples as well, in a hierarchy that placed the aristocracy above labourer and peasant, knight above infantry, man over woman, catholic over heretic and western Europe over the east and north. Presenting north-western Europe as a temperate region, they reconfigured the French and English character traits, transforming them from the uncultured into tokens of urbanity and rationality – typologies of ‘national character’ that are just as much essentialized constructions as are antisemitic tropes, rather than the outcome of actual religious, cultural, social, political and economic processes. In this sense, the angry German, intelligent Englishman or civilized Frenchman are stereotypical representations strategically produced within the same framework as the envious Jew or cunning Muslim as a means of sorting positions within a hierarchy of power.

These ethnotypes, which environmental theory helped to create, could function in later political arguments as a synecdoche for the entire community of the body politic in discussions of sovereignty.¹⁶ Responding to the social

¹⁴ Nederman, ‘Nature, Ethics, and the Doctrine of “Habitus”’; C. Weeda, ‘Reviewing Conduct Books: Galenic Medicine and the “Civilizing Process” in Western European Households c. 1100–1300’, in *Elite Households in England, 1100–1550: Proceedings of the 2016 Harlaxton Symposium*, ed. C. M. Woolgar (Donington, 2018), pp. 167–84.

¹⁵ See Introduction, pp. 36–8; R. Chazan, *Medieval Stereotypes and Modern Antisemitism* (Berkeley, 1997), pp. ix–xiii.

¹⁶ For instance in Jean Bodin, *Les six livres de la république*, ed. G. Mairet (1993), available at http://classiques.uqac.ca/classiques/bodin_jean/six_livres_republique/bodin_six_livres_republique.pdf (accessed 31 August 2020).

hierarchy stratifying the aristocracy, peasantry, artisans, labourers, men and women, young and old, lay and religious, Graeco-Arabic environmental theory was thus adapted from a relativist concept that each individual had his own unique, mutating complexion, to a more essentializing categorization laying emphasis on the dominant complexion in individuals and groups.¹⁷

Environmental and humoral theory

How is environmental theory relevant to ethnography? The oldest surviving text working with the theory, *Airs, Waters, Places*, dates to the late fifth century BC. Attributed to Hippocrates (c. 460–c. 370 BC), this treatise argued that the environment – climate, winds, precipitation and terrain – affected the physiology of mortal beings, producing diverse peoples with different physical and mental qualities. The text compares the cold north, populated by fierce Scythians, to the south, Egypt and Libya, the habitat of weaker peoples. Hippocrates' text is also the first known treatise to contrast east and west, taking into account environment and topography, linking mountainous, rough, well-watered regions to endurance, courage and tall bodies, and low-lying and hot places to stocky, fleshy and dark-haired peoples. Thus, Asia's population was gentle, finely built, yet lacked courage, endurance or willpower. Its people were soft and the region was one of pleasure, which provided a strategic argument for the populace's political subjugation. Mortal beings in the west, conversely, lived under harsher conditions, rendering them more belligerent, courageous and free spirited.¹⁸ Hippocrates' dichotomy, contrasting soft and hard environments on the basis of climate, altitude and seasonality, was influential. On a north–south/east axis of identity, Greek and Roman geographers categorized the populations in northern Europe using gendered markers, claiming them to be manly, headstrong, barbarian peoples who yet lacked civilization, restraint, refinement or political organization. The people in the south, on the other hand, qualified as effeminate, weak, unreliable, fickle yet cunning, intelligent and readily subjected by powerful polities that emerged in the temperate centre, populated by rational, bold men.¹⁹ The astronomer and geographer Claudius Ptolemy (80/100–after 150) proceeded to develop

¹⁷ Groebner, 'Complexio/Complexion', pp. 365, 373 for the notion of an individual complexion in relation to the species and the development of complexional types from interior to exterior, focusing on skin colour and marks, after 1250. L. Thorndike, 'De complexionibus', *Isis* 49 (1958), 398–408.

¹⁸ Hippocrates, *Airs, eaux, lieux* xxiii.i–iv, ed. J. Jouanna, Collection Budé (Paris, 1996), pp. 241–4. The third part is unfortunately lost.

¹⁹ Isaac, *The Invention of Racism*, pp. 55–168.

a strand of environmental theory relating human beings' physical and mental constitutions to astrological powers as well. He posited that the revolving spheres of the seven planets and the stars transferred their virtues by discharging rays. In the thirteenth century, scientists contended that such astrological influences shaped Jewish physical constitutions, associating Judaism with Saturn, breeding stereotypes about the Jewish melancholy complexion.²⁰

Besides the tripartite division of the known world, geographical space was also arranged by subdividing the spherical earth into latitudinal zones, of which only two were considered habitable. Images of zonal divisions are preserved on the so-called Macrobian maps surviving from the fifth century AD.²¹ On them, the extreme cold of the frigid zones near the *septentrionalis* and the *australis*, the northern and southern polar zone respectively, and the blistering heat in the equatorial or torrid region between the tropics of Cancer and Capricorn (the *equinoctialis*) represent places where life was unsustainable. In between lay two mirrored temperate zones: the *solstitialis* (the Tropic of Cancer, the northern temperate zone) and the *brumalis* or *hyemalis* (the Tropic of Capricorn or southern temperate zone). Scholars contended whether or not mortal beings dwelled in the *brumalis* in the Southern Hemisphere. This region was sometimes called 'Antipodum', where men dwelled upside down, entirely cut off from the north by a vast equatorial ocean. Its remoteness concerned theologians, for it implied that the population of the *brumalis* did not have access to the Christian message.²²

Texts about the impact of climate generally remained focused on the northern, habitable hemisphere, hedged in between a frigid and a torrid zone. To complicate matters, the Greek philosopher and astronomer Posidonius of Apameia (c. 135–c. 51 BC) divided the Earth's northern *habitable* surface into seven climes as well, strips running from east to west along latitudinal lines, from the Dnieper in the north (50°N) to the Meroë in the south (12°N), in present-day Sudan. Visual representations in Europe of this sevenfold division

²⁰ Biller, 'Scientific' view of Jews', pp. 140–1. For the planetary influence of Saturn on the melancholy complexion, and in general astrology and humoral theory, Resnick, *Marks of Distinctions*, pp. 215–67. Tooley, 'Bodin and the Mediaeval Theory of Climate', pp. 66–9.

²¹ Edson, *Mapping Time and Space*, pp. 6–7.

²² The Antipodeans were sometimes depicted as dwelling in a fourth austral continent lying south of the equator, depicted on the so-called Beatus maps accompanying the commentary on the apocalypse mentioned in chapter 1. Friedman, *The Monstrous Races*, pp. 37–58; Campbell, *The Witness and the Other World*, pp. 47–86; P. Freedman, 'The Medieval Other: The Middle Ages as Other', *Marvels, Monsters and Miracles: Studies in the Medieval and Early Modern Imaginations*, ed. T. S. Jones and D. A. Sprunger (Kalamazoo, 2002), pp. 1–26 (p. 3).

remain scarce before the twelfth century, however, although they feature in Arabic map making.²³ It was rumoured that savage peoples loitered on either side of the boundaries of the habitable world, populating the *ante-climata* and *ultra-climata*. Typically, classical theory held that the fourth and fifth zones, roughly corresponding to the Mediterranean area, were the most temperate.²⁴

The Galenic medical theory of the complexions also looked at the impact of environment on the body. Aristotle had posited that *primae qualitates* qualified the four elements (air, fire, water and earth), satisfying three criteria: first, they must be tangible (ἅπτικός *haptikos*, 'sensitive to touch'); second, they must be capable to enact qualitative change; and third, they must be opposites in pairs. Of the seven opposite pairs that Aristotle recognized, only two met the second condition, namely hot/cold and moist/dry, because a body that is, for example, hot can transfer these qualities to another body, but a body that is hard (also a *prima qualitas*) cannot make another body hard. Thus, the elements of the physical world were characterized by four possible combinations: air – hot and moist (sanguine); fire – hot and dry (choleric); water – cold and moist (phlegmatic); earth – cold and dry (melancholic). Disease was believed to set in when these qualities, such as hot and cold, dry and moist, became imbalanced. The application of the so-called six non-naturals, pertaining to air, food and drink, evacuations, exercise, rest and the regulation of the passions, was meant to repair any imbalance.²⁵ Notably in *On the Temperaments* and *The Faculties of the Soul* (written sometime after 193 ad), Galen of Pergamon (129–200/16) further expounded how the elements and qualities together made up the four humours: the sanguine, choleric, phlegmatic and melancholic. The make-up of the humours created a mortal being's complexion; in a healthy person the humours were balanced in a state of *eucrasia*. Medical theory, although relativistic, at the same time cultivated environmental determinism, especially because a location's terrain, temperature and humidity pertained to elements and qualities (fig. 3).

Galenism was relativistic in the sense that the ideal state of health was not absolute, but instead depended on each individual's specific situation,

²³ Edson, *Mapping Time and Space*, p. 7.

²⁴ Van der Lugt, 'La peau noire', p. 448.

²⁵ L. J. Rather, 'The "Six Things Non-Natural": A Note on the Origins and Fate of a Doctrine and a Phrase', *Clio Medica* 3/4 (1968), 337–47; L. García-Ballester, 'On the Origins of the Six Non-Natural Things in Galen', in *Galen und das hellenistische Erbe: Verhandlungen des IV. Internationalen Galen-Symposiums veranstaltet vom Institut für Geschichte der Medizin am Bereich Medizin (Charité) der Humboldt-Universität zu Berlin 18.–20. September 1989*, ed. J. Kollesch and D. Nickel (Stuttgart, 1993), pp. 105–15.



Figure 3. The impact of air. Bartholomaeus Anglicus, *Livre des propriétés des choses* dating to 1447, in Amiens, Bibliothèques d'Amiens Métropole MS 399 F fol. 131.

age, gender and location as well as seasonality. The objective was to obtain the desired balance of qualities and elements, depending on a person's given circumstances and natural temperament, by constantly administering to the proportions of heat, cold, moisture and dryness within the body, for instance, through food and drink.²⁶ A healthy person could excrete pernicious surplus through evacuations, by bathing, vomiting or letting blood, retaining a slight excess of a specific humour that determined a person's temperament. A strong imbalance, however, caused sickness and even death.

The Galenic system acknowledged that the inner workings of the body and mind correlated, for the balance of the bodily humours impacted on the functioning of the brain as well. The humours were believed to traverse from the liver via the veins to the organs, and from the heart, mixed with air from the lungs, to the brain via the arteries, carried along by the 'spirits' or *pneumata*, particles transported in the blood. The spirits along the way were

²⁶ C. Rawcliffe, 'The Concept of Health in Late Medieval Society', in S. Cavaciocchi (ed.), *Le interazioni fra economia e ambiente biologico nell' Europa preindustriale secc.* (Florence, 2010), pp. 317–34 (pp. 318–22).

metamorphosed from natural *pneumata* in the liver via vital *pneumata* in the heart to 'animal' or 'psychic' *pneumata* in the brain.²⁷ The vital *pneumata*, upon reaching the brain, after being filtered through a network at the top of the spinal cord called the *rete mirabile*, mixed with air from the nostrils. It now actuated the nervous system as well as serving as an intermediary between sense perception and those parts of the brain responsible for the imagination, reason and memory. The spirits also were the primary constituents of the soul and created human intelligence, for all knowledge came from sense perception, and the more acute the sensory impressions, the more intense the thought process. The theory held that sensory impressions became dulled if they were hampered by thick blood in a cold climate, in regions where unruly people lived. Thin blood, produced in the warm southern climate, led to finer sense impressions and thus, allegedly, to a greater intellect and timidity.²⁸

The transfer of environmental theory

The application of environmental theory gained popularity through two strands of transmission: firstly, military manuals and travel writing, sparked by military pilgrimage, and secondly, in the course of the twelfth century, in the schools, in blossoming centres of learning where schoolmen integrated Graeco-Arabic science.

The main source for the monks commenting on the qualities of peoples in Palestine and Europe shortly after the First Crusade is Vegetius's fifth-century military manual *De re militari*. This text circulated in monasteries prior to, and was copied avidly in, the twelfth century. In addition, and related to army health, Arabic travel regimens addressing the maintenance of health while traversing various climates were translated and adapted in Latin in this period. In the following decades, the translations of Graeco-Arabic scientific texts into Latin, beginning in the late eleventh century with Constantine the African's translation of the *Pantegni*, led to the incorporation of texts about medicine and the natural sciences in the curricula of western European schools.²⁹

²⁷ N. Arikha, *Passions and Tempers: A History of the Humours* (New York, 2007), pp. 23, 38–9.

²⁸ E. R. Harvey, *The Inward Wits: Psychological Theory in the Middle Ages and the Renaissance* (London, 1975), pp. 4–30; Ziegler, 'Physiognomy, science', p. 189. The higher rational soul was located in the brain's ventricles. The two anterior ventricles were thought to house sense perception and imagination, the middle ventricle reason and the posterior ventricle memory.

²⁹ Biller, 'Proto-Racial Thought in Medieval Science', p. 159. For the rise of the schools and universities, see p. 4n.9 in the Introduction.

Vegetius's fourth-century *De re militari* was an attractive source for monks, clerics and court poets portraying the Muslim enemy in the context of the crusades, for it gave them a scientific framework to commend the European, and in particular French, military qualities based on environmental factors. Thus, although *De re militari*'s textual transmission remained unbroken from the fifth century, it is not unsurprising that another eighteen manuscripts (including excerpts) survive dating to the twelfth century, followed in the thirteenth century by vernacular translations as well.³⁰ Guibert of Nogent's *Deeds of God through the Franks*, completed at the Benedictine abbey of Nogent near Laon in 1108 and later revised,³¹ and William of Malmesbury's *Deeds of the English Kings* both contain adaptations of and responses to Vegetius's passage on climate and military qualities – William's monastery owned a copy of it in his day.

What exactly does Vegetius have to say about climate and military qualities? The manual, offering strategic advice and paying attention to the mental and physical abilities of soldiers, sets out to examine 'what provinces or nations are to be preferred for supplying the armies with recruits. It is certain that every country produces both brave men and cowards; but it is equally as certain that some nations are naturally more warlike than others, and that courage, as well as strength of body, depends greatly upon the influence of the different climates.' Continuing the theme, in the second chapter of book one, Vegetius explains that

peoples that are near the sun, being parched by great heat, are more intelligent but have less blood, and therefore lack steadiness and confidence to fight at close quarters, because those who are conscious of having less blood are afraid of wounds. On the other hand the peoples of the north, remote from the sun's heat, are less intelligent, but having a superabundance of blood are readiest for wars. Recruits should therefore be raised from the more temperate climes. The plenteousness of their blood gives them contempt for wounds and death, and intelligence cannot be lacking either which reserves discipline in camp and is of no little assistance with counsel in battle.³²

³⁰ Allmand, *The De Re Militari of Vegetius*, pp. 354–66.

³¹ Guibert of Nogent, *Dei gesta per Francos et cinq autres textes*, ed. R. B. C. Huygens (Turnhout, 1996), pp. 89–90.

³² Vegetius, *Epitoma rei militaris* i.ii, ed. Reeve, pp. 6–7, trans. Milner, pp. 3–4: 'Omnes nationes quae vicinae sunt soli, nimio calore siccatae, amplius quidem sapere sed minus habere sanguinis dicunt ac propeterea constantiam ac fiduciam comminus non habere pugnandi, quia metuunt vulnera qui exiguum sanguinem se habere noverunt. Contra septentrionales populi, remoti a solis ardoribus, inconsultiores

The Roman strategist thereby favoured peasants over city dwellers, who 'are nurtured in the open sky in a life of work, enduring the sun, careless of shade, unacquainted with bathhouses, ignorant of luxury'.³³

Such advice chimed well with monks and clergymen admonishing the decadence and softness of soldiers. For court poets, Vegetius's focus on the combination of intelligence and courage as military qualities, enhanced by environmental conditions, echoed in their praise of the *preudomme's* intelligence, strength and disciplined courage, the qualities of the chivalrous man. To monks, spiritual soldiers waging war against that devilish enemy in the self, the manual appealed in its focus on rigour and discipline.³⁴ For that matter, Benedictine monks certainly were familiar with and applied both medical and environmental theory on a daily basis in monasteries, adhering to the monthly *regimen duodecim*, organizing blood-letting and considering environmental and seasonal conditions in their choice of sites and development of technologies.³⁵ In particular Cistercian monks like Bernard of Clairvaux assiduously used medicine's metaphors of digestion and purification.³⁶ Cistercian descriptions of the wildernesses they tamed thus also celebrated the salubrious, paradisiacal surroundings, encapsulated in toponyms such as Clara Valla, Bellefontaine or Fountains. The pleasant, health-giving sites, with clear references to the benefits of the Galenic non-naturals of fresh air and soothing sounds, were satirized in the twelfth century by a Cluniac monk as antithetical to the austere wilderness where the Cistercians claimed to dwell.³⁷

quidem sed tamen largo sanguine redundantes, sunt ad bella promptissimi. Tirones igitur de temperatoribus legendi sunt plagis, quibus et copia sanguinis suppetat ad vulnorum mortisque contemptum et non possit deesse prudentia, quae et modestiam servat in castris en nont parum prodest in dimicatione consiliis.'

³³ Ibid., i.iii, ed. Reeve, p. 7, trans. Milner, p. 4: '[Q]uae sub divo et in labore nutritur, solis patiens, umbrae negligens, balnearum nescia, deliciarum ignara'.

³⁴ Allmand, *The De Re Militari of Vegetius*, pp. 13, 19.

³⁵ F. E. Glaze, 'The Perforated Wall: The Ownership and Circulation of Medical Books in Medieval Europe, ca. 800–1200' (unpublished dissertation, Duke University, 1999); P. Horden, 'What's Wrong with Early Medieval Medicine', *Social History of Medicine* 24/1 (2009), 5–25; A. Meaney, 'The Practice of Medicine in England About the Year 1000', *Social History of Medicine* 13/2 (2000), 221–37.

³⁶ F. van Dam, *Het middeleeuwse openbare badhuis: Fenomeen, metafoor, schouwtoneel* (Hilversum, 2020), pp. 156–68, who argues that medical theory held that these processes of digestion were metabolic.

³⁷ *Descriptio positionis seu situationis monasterii Clarae-Vallensis* in *PL* 185, cols. 569A–574B; the *Reprehensio* in A. Wilmart (ed.), 'Une riposte de l'ancien monachisme au manifeste de saint Bernard', *Revue Bénédictine* 36 (1934), 296–344 (p. 335).

In-house physicians at courts and monasteries, like Faritius at William of Malmesbury's abbey who also practised medicine at the court of English King Henry I (c. 1068–1135) and became abbot of Abingdon in 1100, contributed to the spread of knowledge of environmental theory.³⁸ The active application of environmental and humoral theory was further propelled by the production of medical, geographical, natural-philosophical and astrological translations from the Arabic and Greek languages into Latin in southern Italy in the eleventh and twelfth centuries and slightly later in Spain, in the second half of the twelfth century.³⁹ Whereas earlier the accessibility in Latin of Hippocrates' *Air, Waters, Places* was limited – a few manuscripts survive of two translations from Greek, the first a fifth- or sixth-century translation probably made in Ravenna in Italy, and the second made in the second half of the eleventh (and in this case to be associated with the circle of Archbishop Alfano of Salerno [1015/1020–85]) or in the first half of the twelfth century – at the end of the twelfth century, a new translation, this time from Arabic, appeared.⁴⁰ It was consulted, among others, by the physicians Arnald of Villanova (c. 1240–1311), Mondino dei Luzzi (1270–1326) and Cecco d'Ascoli (1269–1327).

The transmission of climate theory took place via adaptations and excerpts as well. The medical compendium known as the *Articella*, a collection of treatises that included the *Isagoge* of Hunayn ibn Ishaq al-Ibadi (808–73), known in Latin as Iohannitius, and the *Viaticum peregrinantis* of Constantine the African – a translation of Ibn al-Jazzar's ninth-century *Provisions for the Traveller and Nourishment for the Sedentary* – allowed students to (re)familiarize themselves with the basic tenets of the influence of environment.⁴¹ The *Isagoge* comments on skin colour, the *Viaticum* about the impact of winds. Al-Majusi's (Haly Abbas) *Kitab*, produced in the tenth century and known in Latin as the *Liber regalis*, was partially reworked in the *Liber pantegni* (Encompassing all Arts) by Constantine the African and translated in full by Stephen of Antioch in 1127, applying climate theory in the paragraph 'De mutatione complexionis propter regionem'.⁴² There are at least 29 manuscripts extant, dating to the

³⁸ F. Getz, *Medicine in the English Middle Ages* (Princeton, 1998), pp. 25, 27.

³⁹ Biller, 'Proto-Racial Thought in Medieval Science', pp. 157–80.

⁴⁰ There is an authoritative modern guide to the medieval Latin versions within the history of the tradition of the text provided in Hippocrates, *Airs, eaux, lieux*, ed. J. Jouanna, Collection Budé (Paris, 1996), pp. 109–19, 135–6, 138.

⁴¹ Horden, 'Regimen and Travel in the Mediterranean', p. 119.

⁴² Constantinus Africanus, *Liber Pantegni, Theorice*, i.20, v.9 and 10, in *Opera omnia Ysaac*, ed. A. Turinus (Lyons, 1515), 'De mutatione aeris propter regionem' and 'De mutatione aeris propter loca'.

twelfth and thirteenth centuries.⁴³ The abbeys of Bury St Edmunds and of Bath, the abbey of St Amand and Durham priory for instance are all known to have owned copies of it in the twelfth century.⁴⁴ Also, Ibn Sina's (973/980–1037, also known as Avicenna) *Canon of Medicine*, which was written in the eleventh century and translated into Latin before 1187, extensively comments on the impact of climate on the physical and mental qualities of men.⁴⁵

In its course, knowledge of climate and humoral theory was transmitted to and via educational centres: the schools and universities in urban communities and via the work of mendicant friars like Bartholomaeus Anglicus from the 1240s.⁴⁶ In the twelfth century, clerics like Gerald of Wales and Walter of Châtillon commented on the popularity of medical studies in Paris and Bologna. Alexander Neckam (1157–1217) registers the prescribed reading in medicine at Paris, reflecting the situation of the late twelfth century. Knowledge of Salernitan medicine is indeed traceable in the works of, for instance, Adelard of Bath (c. 1080–c. 1152), John of Salisbury (c. 1120–80), Gervase of Tilbury and Rutebeuf (c. 1245–85).⁴⁷ Ibn Sina's *Canon* became a standard textbook in Bologna and probably also in Montpellier at the end of the

⁴³ C. Burnett and D. Jacquart, 'A Catalogue of Renaissance Editions and Manuscripts of the Pantegni', in *Constantine the African and 'Alī ibn al-Abbās al-Mağūsī: The Pantegni and Related Texts*, ed. C. Burnett and D. Jacquart (Leiden, 1994), pp. 316–51.

⁴⁴ M. Green, 'The Re-creation of Pantegni, Practica, book VIII', in *Constantine the African and 'Alī ibn al-Abbās al-Mağūsī: The Pantegni and Related Texts*, ed. C. Burnett and D. Jacquart (Leiden, 1994), pp. 121–60; W. Black, 'I will add what the Arab once taught': Constantine the African in Northern European Medical Verse', in *Herbs and Healers from the Ancient Mediterranean through the Medieval West: Essays in Honor of John M. Riddle*, ed. A. Van Arsdaal and T. Graham (Farnham, 2012), pp. 153–85; C. Burnett, 'Physics before the *Physics*: Early Translations from Arabic of Texts Concerning Nature in MSS British Library, Additional 22719 and Cotton Galba E IV', *Medioevo: Rivista di Storia della Filosofia Medievale* 27 (2002), 53–109. According to Winston Black there are about a thousand manuscripts of his medical works. Winston Black, 'A Star is Born: Reading Constantine the African in Medieval England', available at <https://constantinusaffricanus.com/2018/08/22/a-star-is-born-reading-constantine-the-african-in-medieval-england/> (accessed 4 September 2020).

⁴⁵ Ibn Sina, *The Canon of Medicine of Avicenna*, trans. O. C. Grunner (New York, 1970), 34, 305–8, 318–32, 480.

⁴⁶ A. Montford, *Health, Sickness, Medicine and the Friars in the Thirteenth and Fourteenth Centuries* (Aldershot, 2004).

⁴⁷ M. H. Green, 'Salerno on the Thames: The Genesis of Anglo-Norman Medical Literature', in *Language and Culture in Medieval Britain: The French of England c. 1100–c. 1500*, ed. J. Wogan-Browne e.a. (Woodbridge, 2009), pp. 220–34.

thirteenth century. Cornelius O'Boyle suggests that we can assume that a systematic programme in medicine, centring on a canon of medical texts known as the *Ars medicinae*, by then shaped the curriculum of universities like Paris and Montpellier.⁴⁸ Earlier, schools of medicine are mentioned in Montpellier from the 1130s and in Bologna. Medicine was perhaps also taught in Italy in the early decades of the thirteenth century at the *studia* of Vicenza, Arezzo and Vercelli, and at the universities of Naples and of Toulouse in France.⁴⁹ From these centres, knowledge spread to the courts and wider urban communities via pedagogical writings, encyclopaedias, vernacular regimens and word of mouth. One such encyclopaedia that has already featured in chapter 1 is Bartholomaeus Anglicus's *On the Properties of Things*, which applies humoral and climate theory in its ethnography, consulting among others Constantine the African's *Pantegni*, the elusive Herodotus, Ibn Sina, Solinus (who probably lived in the third century), Pliny and Aristotle. It formed part of the staple education of Franciscan monks in the *studium generale* in the second half of the thirteenth century. It also quickly became popular in urban lay circles and was translated into various vernaculars. Other texts engaging natural science included a translation of Aristotle's *On Animals* from Arabic into Latin before 1220, and his *Politics*, which took an organic view of society and was translated in 1260 by William of Moerbeke.

The health regimens translated and adapted in the twelfth century do not explicitly classify ethnic groups, and in this they differ from the strain of texts operating environmental theory. Nonetheless, these texts likewise taught students to categorize on biological grounds, because they focused on groups such as the sanguine youth and the phlegmatic aged, who were susceptible to the influence of climate and the seasons. For instance, the typology of the sanguine was grafted onto the English, discussed in chapter 5; several sources comment upon the Jews' melancholy. In Latin schools, the humours also worked as a pedagogical apparatus to mould and discipline young men, while taking into account their physical and mental traits. The influential pedagogy manual *Disciplina scoliarum*, dating to between 1230 and 1240, presented a programme to discipline the fickle, sanguine youth in the school room.⁵⁰ In the fourteenth and fifteenth centuries, slave-trade manuals produced by Mamluk physicians

⁴⁸ O'Boyle, *The Art of Medicine*, pp. 10–20. D. Jacquart, *Le milieu médical en France du xiie au xve siècle: En annexe 2e supplément au 'Dictionnaire' d'Ernest Wickersheimer* (Geneva, 1981); Siraisi, *Medieval and Early Renaissance Medicine*, pp. 48–77.

⁴⁹ T. Duranti, 'The Origins of the Studium of Medicine in Bologna: A Status Quaestionis', *CIAN-Revista de Historia de las Universidades* 21/1 (2018), 121–49.

⁵⁰ Pseudo-Boethius, *De disciplina scoliarum*, ed. O. Weijers (Leiden, 1976); Parsons, *Punishment and Medieval Education*, pp. 63–4.

likewise applied the system to appraise the value of young men and women sold at market, as did animal traders examining and evaluating horses.⁵¹

How far did knowledge of environmental and humoral theory stretch beyond the walls of the monastery and classroom? Two milieux can be identified where it was picked up. First, *speculum* literature ('mirrors') and regimens owned by larger and smaller households advised how to govern the body (and, by extension, the household, city and polity) according to the rhythms of the days and months. The mirrors drew upon the knowledge of the body and physiognomy, in many cases disseminated via translations and adaptations of the *Sirr al-Asrar*.⁵² An example is the final section of the household manual by Daniel of Beccles, known as the *Urbanus magnus*, probably dating to the 1180s.⁵³ These texts do not, however, contain ethnic stereotypes, nor do later vernacular physiognomic tracts copied into miscellanies belonging to larger households. Joseph Ziegler has argued that the paucity of ethnic stereotypes in physiognomic texts has to do with the fact that the fluidity of a person's complexional make-up generally ruled out group classification.⁵⁴ It is worth suggesting that the vernacular physiognomic tracts copied into composite manuscripts perhaps served as tools in households for the appraisal of servants and workers, as well as for establishing the individual traits of citizens, discussed in chapter 3.

The broader dissemination and application of environmental theory can be traced in travel reports, romances, *chansons de geste* and in essentializing images and sculptures of Saracens or Jews, offering us glimpses of the prejudiced representations of the religious 'others' as dark or monstrous beings.⁵⁵ Verbal representations of Plinian monstrosity became mixed with discussions of climate theory, as in the *Chronicles* of Benoît of St Maure, who died in 1173. Narrating the history of the Norman dukes, written for an audience of aristocratic warriors, Benoît declares the world's 'fringes' uninhabitable because

⁵¹ Barker, *That Most Precious Merchandise*, pp. 4, 45–59.

⁵² S. J. Williams, *The Secret of Secrets: The Scholarly Career of a Pseudo-Aristotelian Text in the Latin Middle Ages* (Ann Arbor, 2003); C. Gaullier-Bougassas, M. Bridges and J.-Y. Tilliette (ed.), *Trajectoires européennes du 'Secretum secretorum' du Pseudo-Aristote (XIIIe–XVIe siècle)* (Turnhout, 2015); J. Ferster, *Fictions of Advice: The Literature and Politics of Counsel in Late Medieval England* (Philadelphia, 1996).

⁵³ F. Whelan, *The Making of Manners and Morals in Twelfth-Century England: The Book of the Civilised Man* (Abingdon, 2017).

⁵⁴ Ziegler, 'Physiognomy, Science', pp. 182–7. Ziegler does however present references to examples of Mongols/Tartars, menstruating Jews and sixteenth-century physiognomic tracts about Italian city dwellers.

⁵⁵ Heng, *The Invention of Race*, pp. 181–256 and Introduction, p. 14n.39, for further references.

of their extreme frigidity. Europe, on the other hand, sits in the centre of the world. It is a pleasant and temperate region,

right and handsome and delightful and bounteous and abundant in all that a man needs. The men there are handsomely shaped and of wise manners, discrete, reasonable, and well dressed. They are neither too tall nor too short. There they have courteous manners and arts, laws and justice. There they believe in one God, the creator.

The south woefully lacked all of these features; in that part of the world men knew not the difference between right and wrong, nor had they laws, religion or reason. They were worse than dogs, black, chinless, horned and hairy.⁵⁶ However, this is an exceptional vernacular source from this early period; in the first instance it was predominantly through the Latin world of scientific knowledge and historiography that climate and humoral theory spread.

Applying environmental theory

Most of the texts utilizing the theory of climate taught that heat and coldness brought about opposite effects: cold climates produced men with hot temperaments, whereas hot temperatures bred cowardly, vengeful, puny yet cunning ethnotypes, the external heat drawing the moisture and spirits from the body and lowering its temperature and vitality. Constantine the African's late eleventh-century *Liber pantegni*, wielding environmental theory, thus mentions the dark men living in the southern intemperate region as having 'curly and thick hair, dry skin, small, thin bodies, round faces, concave eyes, and large noses'. They tended to be deceitful, 'and indeed they are cold within and thus rendered very timid. Although they appear from this sign to be hot, they are not. For the intense heat extracts from the interior to the exterior their natural heat and thus they are cold within.' In the northern, cold region, under the great or small pole, people mirrored them, having 'blond, soft hair, and are white, with a red and white face, broadly built and quick-footed because of the built-up heat in their breast. Their complexion is hot and hence they are

⁵⁶ Benoît of St Maure, *Chronique des Ducs de Normandie* i.11 lines 185–203; 131–2; 136–40; 141–3, ed. C. Fahlin, 2 vols. (Uppsala, 1951–54), ed. C. Fahlin, i, 5–7: 'En sunt li grant renne abitable / E riche e bel e delitable / E plantaif e abondos / De quanque hue nest desiros. / De bele forme I sunt les genz / E de saiges contene-menz, / Discret, raisnable e bien vestu; / Trop grant ne sunt ne trop menu. / Cist sevent les afaitemenz, / Les ars, les leis, les jugemenz, / Cist sevent connoistre e veir / E entendre e aperceveir / Qu'eu n'est cùn Dex, c'un criator'; the translation has been adapted from Friedman, *The Monstrous Races*, p. 54.

audacious and strong, and hot, although they seem cold.⁵⁷ In a similar vein, the English Benedictine monk William of Malmesbury, consulting Vegetius's *De re militari* in his monastery library, claimed that Saracen fighters locked in battle with crusaders lacked courage, for 'it is very well known that every nation born in the eastern clime is dried up by the great heat of the sun; they may have more good sense, but they have less blood in the veins, and that is why they flee from battle at close quarters: they know that they have no blood to spare.'⁵⁸ Wielding the same theory, the Dominican friar Albertus Magnus, who produced a tract on the nature of places about 1250, taught that men in the hot south suffered a shorter lifespan because of a deficiency of natural *virtus*.⁵⁹ Inversely, mortal beings in the cold northern regions retained the internal heat and moisture because the pores of the skin closed, hindering the heat's evaporation. The hot-blooded man dwelling in a cold climate retained larger quantities of blood, rendering him fearless, or, in Marian Tooley's words, 'confident and assertive, impatient, magnanimous, greedy of honour and power, and a great fighter' – conveniently, as we shall see in chapter 5, the makings of a bold aristocratic knight. However, in the *extremely* cold Scandinavian regions, the body's pores remained blocked and an excess of

⁵⁷ Constantinus Africanus, *Liber Pantegni, Theorice* i.20, ed. Turinus: '[P]ili crispī et asperi, sicca cutis, inferior pars corporis subtilis: facies tumida, oculi concavi, nasi magni atque interiora frigida et ideo inanimositas eos debilitat. [...] [P]ili sunt flavi lenes et albi color albus facies rubicunda pectora lata pedes subtiles propter adunationes caloris in pectore fugientis a perdis extremis. Eorum complexio est calida et ob hoc fiunt audaces atque fortes et tamen cum non sint: videntur esse frigidi. Ergo in humori non est certitudo a colore et pilis sed ex complexionē sui.'

⁵⁸ William of Malmesbury, *Gesta Regum Anglorum* iv.347, ed. and trans. Mynors, Thomson and Winterbottom, i, 600–3: '[H]omines inertissimi, et qui, comminus pugnandi fidutiam non habentes, fugax bellum diligent. [...] [T]ela mortifero suco ebria, in homine quem percutit non virtus sed virus mortem facit. Quicquid igitur agit, fortunae, non fortitudini attribuerim [...]. Constat profecto quod omnis natio quae in Eoa plaga nascitur, nimio solis ardore siccata, amplius quidem sapit, sed minus habet sanguinis; ideoque vicinam pugnam fugiunt, quia parum sanguinis se habere norunt.' Cf. Gerald of Wales, *Descriptio Kambriae* i.15, in *Giraldi Cambrensis Opera, Vols. I–VII*, ed. J. S. Brewer, J. F. Dimock and G. F. Warner (London, 1861–91), vi, 192–4 and Gerald of Wales, *Topographia Hibernica* i.37, in *Giraldi Cambrensis Opera, Vols. I–VII*, ed. J. S. Brewer, J. F. Dimock and G. F. Warner (London, 1861–91), v, 70–1. Bartlett, *Gerald of Wales*, pp. 164–7. Phillips, 'William of Malmesbury: Medical Historian of the Crusades', pp. 129–38; Titterton, 'Bloodless Turks and Sanguine Crusaders', pp. 289–308.

⁵⁹ Biller, 'Proto-racial Thought', p. 173.

moisture built up, clogging the brain with the snotty substance of phlegm and reducing the body temperature.⁶⁰

Climate engineering in pursuit of temperance

As elsewhere, Hippocratic and Galenic theory presented twelfth-century northern European monks and clerics with a dilemma.⁶¹ Their discomfort concerned the situation of the ideal temperate centre, which in ancient times was located in the Mediterranean south. Applying the theory to the centres of power and culture, ancient Greek naturalists had categorized the men in the north – the northern Europeans – as rash, and those dwelling in the south as weak. From Hippocrates' perspective, Greece was the most temperate region where the ideal population dwelled. In the same tradition, the biblical narrative situated Paradise in the east as the locus of temperance.⁶² Adapting the theory to their own lifeworlds, much-read Roman scholars such as Pliny the Elder proposed Campania in Italy as the most balanced temperate zone, where nature excelled, in a joyous mood, rendering 'all that invigorating healthfulness all the year round, the climate so temperate, the plains so fertile, the hills so sunny, the glades so secure, the groves so shady!'⁶³ Such were the blessings of the forests, the fertile fields yielding corn, vines and olives, such its healthy livestock and numerous ports facilitating commerce, that its populace were 'men of medium bodily stature, with a marked blending even in the matter of complexion; customs are gentle, senses clear, intellects fertile and able to grasp the whole of nature'.⁶⁴ Unsurprisingly, in the twelfth century, north-western Europeans pegged northern France and England as their

⁶⁰ Tooley, 'Bodin and the Mediaeval Theory of Climate', p. 72. Cf. Pseudo-Aristotelian *Problemata* xiv.16, in *The Works of Aristotle*, trans. E. S. Forster, 12 vols. (Oxford, 1910–52), vii, 910a, which discusses whether heat and coldness is naturally counteracted in the bodies of human beings, making men in hot regions naturally cowardly and vice versa.

⁶¹ Cf. Wear, 'Place, Health, Disease', pp. 448–51 for similar concerns about England's position in Elizabethan times.

⁶² Scafi, *Mapping Paradise*.

⁶³ Pliny the Elder, *Historia naturalis* iii.v.40–2, ed. and trans. Rackham, ii, 32–3: '[T]ota ea vitalis ac perennis salubritas, talis caeli temperies, tam fertiles campi, tam aprici colles, tam innoxii saltus, tam opaca nemora'.

⁶⁴ *Ibid.*, ii.lxxx.190, trans. Rackham, pp. 320–3: '[M]edicos corporum habitus magna et in colore temperie, ritus molles, sensus liquidos, ingenia fecunda totiusque naturae capacis.' Pliny also connected geography to political institutions, claiming that the northerners conversely lived in lawless savagery.

most temperate zone, a reflection of the political and cultural relevance the region was claiming for itself.

In response, scholars of geography took to dabbling in textual climatic engineering, tampering with the designated coordinates of the region in order to portray north-west Europe as a natural habitat of civilization, knowledge and power. However, situating western Europe as an ideal temperate zone demanded slightly more ingenuity from intellectuals than their ancient Italian forebears necessarily had mustered, for northern Europe was hardly considered a centre or temperate region in ancient texts. In the mid-thirteenth century, the Dominican friar Albertus Magnus, who was born in Lauingen in Bavaria and spent most of his working life in the German territories, tweaked the south position of the temperate clime and pushed it northwards, from the fourth to the sixth–seventh clime (corresponding to the Hellespont). This allowed him to qualify the sixth and seventh climes as the habitat of handsome, noble and fair men, whereas the men living in the fourth clime were now small and dark.⁶⁵ The region of extreme cold (90°) lay further north in uninhabitable parts and that of exceeding heat (24°) below the tropic of Cancer. He also underscored the longevity of people in the north, opposing Aristotle's *Length and Shortness* and the pseudo-Aristotelian *Problems*, which argued that men in hot regions enjoyed longer lives.⁶⁶ The English Franciscan friar Roger Bacon (c. 1214–c. 92) comments that Ptolemy erred in his longitudinal and latitudinal measurements. Bacon writes extensively about the impact of climate on the morals of the Ethiopians, Romans and French, expressing wonderment at the fact that the Picardians, neighbours under the same skies as the French, knew such different customs and language.⁶⁷

Classification of peoples based upon natural environment

With the updating of climate theory came the categorization of peoples in the north and south based upon their natural environments. In the process, intellectuals drew fault lines of regional differences in habitat, character and physique of peoples. Not only did they, in this manner, attempt to depict the

⁶⁵ Albertus Magnus, *De natura loci* i.11–12 in *De natura loci ad fidem autographi; De causis proprietatum elementorum ad fidem autographi; De generatione et corruptione*, ed. P. Hossfeld (Aschendorff, 1980), pp. 18–21.

⁶⁶ P. Biller, *The Measure of Multitude: Population in Medieval Thought* (Oxford, 2000), pp. 282–5.

⁶⁷ Roger Bacon, *Geographia* in *The 'Opus Majus' of Roger Bacon*, ed. J. H. Bridges, 3 vols. (Oxford, 1897), i, 305; *Mathematicae in physicis utilitas*, ed. Bridges, i, 138; *Judicia astronomie*, ed. Bridges, i, 250–2.

north-west as a region of temperance, but they also turned their minds to the habitat of specific territories and cities. England's situation, surrounded by a cold sea, elicited from a perturbed Robert the Englishman, lecturing on cosmology in Montpellier in 1271, the remark that the boundaries of the seventh clime were 'hardly across the English Channel, so that almost all of England is outside a clime [i.e. beyond the habitable climes of the world]'.⁶⁸ Indeed, according to calculations drawn from the Persian astronomer al-Farghānī (800/5–70), who is known in Europe as Alfraganus, and copied into the Parisian astronomer Johannes de Sacrobosco's (c. 1195–c. 1236) widely read *On the Sphere of the World*, the seventh clime ended where the North Pole was raised above the horizon by 50½ degrees, rendering England and Britain beyond the habitable world. In response, a flurry of poetry and histories produced mostly in northern France and England emphatically and somewhat frantically underscored this region's temperate, pleasant, natural habitat and the affable mental and physical qualities of its inhabitants as well as their sociocultural forwardness. In a similar fashion, as in the later urban panegyrics produced in Italy and France, the clerk William FitzStephen in the twelfth century, working in Thomas Becket's (c. 1120–70) administration, praised London's environment as wholesome, with plenty of fresh air, and flattered its urban population, which was liberal and kind, not fierce or bestial, 'conspicuous above all others for their polished manners, for their dress and for the good tables that they keep'.⁶⁹

The distinctions between regional territories and peoples in Europe reflected existing genealogical-religious identities that now were enveloped in environmental, scientific discourse. Thus, in one of its most detailed applications, in circa 1240 the Franciscan friar Bartholomaeus Anglicus presented in his immensely popular encyclopaedia *On the Properties of Things* a hierarchical sub-categorization of peoples *within Europe*, operating a classification of physical appearance and skin colour, religious devotion, language and public order (fig. 4). In it, on a micro level, Bartholomaeus ethnocentrically favours his own region of birth and residence, for he was born in England and worked and wrote for many decades in Saxony in the German territories. He claims, erroneously citing Constantine the African's *Pantegni*, that the north-easterly

⁶⁸ For a discussion of al-Farghānī's and Sacrobosco's calculation of the climes: L. Thorndike, *The Sphere of Sacrobosco and its Commentators* (Chicago, 1949), pp. 16–18, especially note 88. For Robert the Englishman's commentary, *Ibid.*, Thirteenth Lecture, pp. 186–93, translation at pp. 236–42; citation at p. 236.

⁶⁹ C. Weeda, 'Cleanliness, Civility, and the City in Medieval Ideals and Scripts', in *Policing the Urban Environment in Premodern Europe*, ed. C. Rawcliffe and C. Weeda (Amsterdam, 2019), pp. 39–68 (p. 59).

le crolement de la terre et a tant fine le .viii.
 livre. **Ey commence le .xvi.^e livre qui fait**
mention des provinces et des pays



Laide de dieu y fanle due
 aucunes choses des par
 ties de la terre et des pro

Figure 4. Regions, cities and environments. Bartholomaeus Anglicus, *Livre des propriétés des choses* dating to 1447, in Amiens, Bibliothèques d'Amiens Métropole MS 399 F fol. 166.

wind (Aquilo) has a drying and cooling effect, rendering the air clean and pure, refining and cleansing, wherefore ‘in the northern region, the men are tall and elegantly built, for the outer coldness of the air clogs up the pores, retaining the natural inner heat’.⁷⁰ To create such a benevolent picture effectively, Bartholomaeus also needed to craftily edit his classical sources, continuously presenting the northern habitat of the Germanic peoples as slightly less inhabitable or harsh than his Mediterranean sources imply.

To give one example, Bartholomaeus dutifully asserts that the Germanic territories bring forth ‘noble and immense peoples, about whom Isidore spoke in book IX. The German nations are many and they have immense bodies.’⁷¹ So far, so good. However, as discussed above, *too* cold a climate gave birth not only to strength and endurance but also to dull minds and savage behaviour and, by extension, political subjugation. Thus, Bartholomaeus conveniently omits Isidore of Seville’s next remark in his *Etymologies* about the Germans: ‘They are savage tribes, hardened by very severe cold. They took their behaviour from that same severity of climate.’⁷² He then resumes his copying of Isidore’s text, writing that ‘they are strong, courageously and fiercely brave, indomitable, living by raiding, and hunting’.⁷³ But where Isidore states: ‘There are many tribes of Germani, varied in their weaponry, differing in the colour of their clothes, of mutually incomprehensible languages. The monstrosity of their barbarism gives a fearsome quality even to their names,’ Bartholomaeus assures us that they have ‘fair and shapely faces, long, blond hair, they are generous, merry and agreeable’ – liberality, merry minds and kind hearts being the attributes of the urbane man in twelfth-century learned circles.⁷⁴ Bartholomaeus also quickly

⁷⁰ Bartholomaeus Anglicus, *De proprietatibus rerum* xiv.1, ed. Knochlobtzer, ‘De terra’: ‘[I]n terra aquilonari homines sunt procerae staturae et elegantis formae, frigiditate enim exterioris aeris clauduntur pori, et calor naturalis retinetur intrinsecus.’

⁷¹ Ibid., xv.13, ed. Knochlobtzer, ‘De Alemannia’: ‘Generosos enim et immanes gignit populos, de quibus dicitur in libro ix Isidore. Germaniae nationes sunt multae immania corpora habentes.’ Cf. Isidore of Seville, *Etymologiae* ix.ii.97, ed. Reydellet, p. 97.

⁷² Isidore of Seville, *Etymologiae* ix.ii.97, ed. Reydellet, p. 97, trans. Barney and Hall, p. 197: ‘[N]ationes seivissimis duratae frigoris. Qui mores ex ipso caeli rigore traxerunt.’

⁷³ Bartholomaeus Anglicus, *De proprietatibus rerum* xv.13, ed. Knochlobtzer, ‘De Alemannia’: ‘[V]iribus fortes, audaces animo et feroces, indomiti, raptu, captibus et venationibus occupati.’ Cf. Isidore of Seville, *Etymologiae* ix.ii.97, ed. Reydellet, p. 97: ‘[F]erocis animo et semper indomiti, raptu venatuque viventes’.

⁷⁴ Cf. Isidore of Seville, *Etymologiae* ix.ii.97, ed. Reydellet, p. 97: ‘Horum plurimae gentes, variae armis, discolores habitu, linguis dissonae [...]. [I]nmanitas barbariae etiam in ipsis vocabulis horrorem quendam significat’, trans. Barney and Hall,

highlights that the generous, merry and agreeable character 'applies especially to the Saxons, who surpass the others in the aforementioned things. Isidore says of them that the Saxon people live on the ends and coasts of the ocean and are swift and strong.' Yet again, the Franciscan friar injects a minor emendation, for Isidore mentions that they live in 'impassable marshes'; instead, according to Bartholomaeus, the land is 'fruitful and irrigated by the best rivers', and the mountains are rich in metals.⁷⁵ Much of present-day Germany is represented as a garden of delights with rivulets, ponds and lakes enveloped in salubrious air, yielding an abundance of livestock, wine and minerals.⁷⁶

Although the Germanic peoples experienced regional differences in language and culture in the 'Diutsche lant', the utilization of climate theory describing peoples in their natural habitat allowed scholars to look for perceived natural, and hence cultural, similarities.⁷⁷ Partly in keeping with classical

p. 197; Bartholomaeus Anglicus, *De proprietatibus rerum* xv.13 ed. Knochlobtzer, 'De Alemannia': '[F]acie decori et formosi, comati et coma flavi, liberales animo, hilares et iucundi'. Cf. the hugely popular (more than a hundred manuscripts have survived) twelfth-century poem *Regimen Sanitatis Salernitanum* lines 267, 273–4, ed. and trans. P. W. Cummins, *A Critical Edition of Le régime tresutile et tres-proufitable pour conserver et garder la santé du corps humain: With the commentary of Arnoul de Villeneuve, corrected by the "docteurs regens" of Montpellier, 1480, Lyon, 1491* (Chapel Hill, 1976), p. 244: 'Natura pingues isti sunt atque iocantes. [...] Largus, amans, hylaris, ridens, rubeique coloris, / Cantans, camosus, satis audax, atque benignus', part of a verse extract of John of Spain's twelfth-century prose translation of the Arabic *Sirr al-Asrar*, the *Secretum secretorum*. For the manuscripts containing the 'Salernitan Regimen of Health', see P. W. Cummins, 'A Salernitan Regimen of Health', in *Allegorica: A Journal of Medieval and Renaissance Literature* 1 (1976), 78–101 (pp. 78–81); P. W. Cummins, 'Introduction', in *Ibid.*, *A Critical Edition of Le regime tresutile*, pp. ix–xi.

⁷⁵ Bartholomaeus Anglicus, *De proprietatibus rerum* xv.13, ed. Knochlobtzer, 'De Alemannia': 'Saxonum gens in oceani finibus et litoribus constituta virtute et agilitate agilis.' Isidore of Seville, *Etymologiae* ix.ii.100, ed. Reydellet, p. 99: 'paludibus inviiis'. Cf. Orosius, *Historiae adversum paganos* vii.xxxii.10, ed. Zangemeister, pp. 513–14. Bartholomaeus does, however, copy Isidore's statement that the Saxons take their name from 'saxosus', stony, that they are a hard and powerful people, setting them apart from other 'piratical' peoples.

⁷⁶ *Ibid.*, xv.170, ed. Knochlobtzer, 'De Westphalia'.

⁷⁷ For regional differences: J. I. H. Mendels, 'Nationalismus in der mittelhochdeutschen und mittelniederländischen Literatur', in *Actes du IVe Congrès de l'Association Internationale de littérature Comparée, Fribourg, 1964* = *Proceedings of the IVth Congress of the International Comparative Literature Association*, ed. F. Jost (The Hague, 1966), pp. 298–308 (pp. 300–5). *Diutsch/tiutsch*, the *tiutsche zunge* and *tiutschen liute* are common references alongside regional dialects. Cf. Kästner, 'Der großmächtige Riese und Recke Teuton', pp. 71–3.

tradition but taking a more positive view, Bartholomaeus Anglicus categorizes the Saxons, the people of Raetia (today's eastern and central Switzerland and parts of southern Bavaria and Swabia), the Swabians, the Thuringians, the people of Zeeland, Holland, Flanders, Brabant and Meissen as populous, elegant, tall, strong and courageous, some of whom also are handsome and blond, whereas he notably considers the more westerly situated Germanic peoples to be more chivalrous and devout than those in the east.⁷⁸ Even more merry, agreeable, charming and well spoken are the English. Copying an extract of a Latin verse into his encyclopaedia, he strategically claims that the English are 'full of mirth, free, born to jest, a free people, free of spirit and free of tongue', in contrast with the barbaric peoples in the Irish territories, which the English were in the process of colonizing (see further chapters 5 and 6).⁷⁹ The imagery fits rhetorically within the political–legal framework presenting naturally eloquent peoples as capable of governing well. However, this does not imply that the older tradition of etymologizing was discarded, for Bartholomaeus also claims the people of Thuringia, 'like the name of the country [to be] harsh and extremely cruel towards their enemies'.⁸⁰

Classifying European ethnotypes based upon skin colour or complexion

In response to theories of environmental determinism, schoolmen also classified ethnic groups administering degrees or shades of whiteness. They had some secure footing, for, in antiquity, Greek and Roman authors had laid the groundwork by disdainfully commenting upon the large-bodied and white-skinned Scythians in the north.⁸¹ Geographers used the imagery of the Scythians for the peoples in the northern German, Scandinavian and Slavic territories, marking their populations' whiteness of skin and scientifically explaining it through the cold climate and distance from the sun. Bartholomaeus Anglicus declared the Icelandic conditions to be so bone-chilling that

⁷⁸ Bartholomaeus Anglicus, *De proprietatibus rerum* xv.139, ed. Knochlobtzer, 'De Saxonia'; xv.153, 'De Suevia'; xv.166, 'De Thuringia'; xv.170, 'De Westphalia'; xv.143, 'De Selandia'; xv.110, 'De Hollandia'; xv.58, 'De Flandria'; xv.25, 'De Brabantia'; xv.52, 'De Misnia'.

⁷⁹ Ibid., xv.14, ed. Knochlobtzer, 'De Anglia': 'Anglia plena iocis gens libera apta iocari / Libera gens cui libera mens et libera lingua'.

⁸⁰ Bartholomaeus Anglicus, *De proprietatibus rerum* xv.166, ed. Knochlobtzer, 'De Thuringia': 'Gens quidem secundum nomen patriae Thuringia, id est, dura contra hostes, maxime et severa.'

⁸¹ Goldenberg, 'Racism, Color Symbolism', p. 92.

the mountains of frozen snow resembled glass. Iceland's large-bodied, strong population, who lived by hunting and fishing, clad in the skins of bears and wild beasts, was 'very white'.⁸² The Slavs, also, were sluggish, extremely white and phlegmatic because of the extreme cold that clogged up their senses.

The classification of whiteness within Europe rested firstly upon the non-complexional theory, according to which the proximity to the sun determined skin colour, recasting a black/white binary onto geography.⁸³ Indeed, natural science traditionally did not hold that black skin was effected by a black complexion, for the Galenic colour schema of the four humours pertained only to white-skinned mortals.⁸⁴ Yet, in the first century ad Pliny the Elder had conveyed that the Ethiopians, burnt by the heat of the heavenly body, entered the world scorched and with frizzled hair; in the opposite region of the world the population had frosty-white skins and blond, straight hair.⁸⁵ Afterwards, Isidore of Seville compared the Maures, black as night, with the Gauls, white as milk. The *Isagoge* attributed to Hunayn ibn Ishaq also contains an elementary distinction between white and black skins, invoking the Scots and the Ethiopians. In the thirteenth century, northern Europeans in Holland, Frisia, Saxony and Dacia ranked among the white-skinned populations living in the frigid regions.⁸⁶

As the perceived ties between environment, territory and population deepened, however, scholars began to organize differentiation based upon *shades of whiteness* as well – either of skin colour or humoral complexion. This occurs beyond myriad comparisons of shades of whiteness and darkness in literary

⁸² Bartholomaeus Anglicus, *De proprietatibus rerum* xv.174, ed. Knochlobtzer, 'De Islandia': 'valde alba'.

⁸³ Van der Lugt, 'La peau noire', pp. 446–50.

⁸⁴ Ibid., 452–3. Albertus Magnus claimed that colour was an external sign of physiology; mortal beings in the torrid region, who had an abundance of yellow bile (choleric), were naturally agile and dry because of the evaporation of their vital spirits due to the heat. They died at a young age and were less fertile than people in the north. Albertus Magnus, *De natura loci* ii.3, ed. Hossfeld, pp. 26–7.

⁸⁵ Pliny the Elder, *Historia Naturalis* ii.80, trans. Rackham, i, 321. Cf. Albertus Magnus, *De natura loci* ii.3, ed. Hossfeld, pp. 26–7.

⁸⁶ Vincent of Beauvais, *Speculum naturale* xxxii.13 about the Gauls, cited verbatim from Isidore of Seville, *Etymologiae* xiv.iv.25, ed. Spevak, pp. 76–9. Also in Hrabanus Maurus, *De rerum naturis* xii.4, PL 111, col. 350C. For the *Isagoge*, see Biller, 'Proto-racial Thought', p. 165; Van der Lugt, 'La peau noire', p. 447. For the populations of Holland, Frisia, Saxony and Dacia in the commentary on Sacrobosco's *The Sphere* (*Tractatus de Sphaera*) ascribed to the Paris-based astronomer Michael Scot in the 1230s: Thorndike, *The Sphere of Sacrobosco*, pp. 335–6.

sources.⁸⁷ In about 1280, Alexander of Roes, a church canon from Cologne, proclaimed that the French were whiter skinned than the Spanish, but less so than the Germans or English.⁸⁸ He does so in the *Memoriale*, written while residing at the papal court, in which he asserts the German claim to *imperium* over French pretensions.

To complicate matters, the classification of peoples' skin colour eventually became entangled with comments on complexion, religion and morality. Using the aesthetics of colour to classify moral communities was not a new exercise. In antiquity, blackness and whiteness were intermittently laden with value judgements, earmarking the radiance of virtue or stain of sin.⁸⁹ Geraldine Heng defined such markers as hermeneutic blackness, to be distinguished from the physiognomic blackness of skin.⁹⁰ For instance, the Hellenized Jewish philosopher Philo of Alexandria (20 BC–50 AD) suggested that the blackness of the Ethiopians appertained to their sin. It could also designate the unbaptized, 'black in spirit'.⁹¹ Yet its meaning was ambivalent. Within Christian allegory, the African symbolized both beauty – alluding to the Song of Songs – as well as deformity and sinfulness, such as in Pope Gregory the Great's *Commentary on Job*.⁹² These kinds of associations are found in particular in literary sources. Much later, in the fourteenth century, several *chansons de geste* and manuscript images depict black people, described Ethiops, *maurus*, *niger* or Saracen

⁸⁷ Heng, *The Invention of Race*, pp. 181–256.

⁸⁸ Alexander of Roes, *Memoriale* 15, in *Schriften*, ed. H. Grundmann and H. Heimpel, MGH Staatsschriften 1 (Stuttgart, 1958), pp. 105–8; Van der Lugt, 'La peau noire', pp. 442–4.

⁸⁹ Goldenberg, 'Racism, Color Symbolism', 89. According to Snowden, in antiquity the image of the black was without prejudice. However, this view is now contested. See F. M. Snowden, *Before Color Prejudice: The Ancient View of Blacks* (Cambridge MA, 1983). For criticism: Van der Lugt, 'La peau noire', 474 note 106 for references.

⁹⁰ Heng, *The Invention of Race*, p. 185.

⁹¹ Goldenberg, 'Racism, Color Symbolism', pp. 94–6. Origen of Alexandria, for example, drew from this allegory in the third century.

⁹² T. Hahn, 'The Difference the Middle Ages Makes: Color and Race before the Modern World', *Journal of Medieval and Early Modern Studies* 31/1 (2001), 1–37 (pp. 18–23). The Cistercian abbot Bernard of Clairvaux elaborated on the Song of Songs (1:5) 'I am black but beautiful', interpreting blackness to allow 'the soul to acknowledge and internalize an aspect of self-loathing as means of achieving wholeness'. Abelard made erotic allusions to blackness as an element of desire. Friedman, *The Monstrous Races*, pp. 64–5; Heng, *The Invention of Race*, pp. 238–42.

(*maurus* also designated 'Saracen') as monstrous or devilish.⁹³ The colour white, conversely, might represent concepts of virtue and purity, epitomized in the rebirth in Christ.⁹⁴ These affects spilled over into humoral theory. The bitterness of melancholic black bile, on occasion conceived to dominate the complexions of Jews and serfs stained as the cursed progeny of Cain, was deemed a waste product of sin. Inversely, the sanguine was held in the highest regard, of health, status and morality.⁹⁵ Thus, the allegorical text *The Medicine of the Soul*, attributed to the Picardian cleric Hugh of Fouilloy (1096/1111–c. 1172), correlates the sweetness of the sanguine with contemplation, and bitterness and grief with the memory and commission of sin.⁹⁶

The aesthetic value assigned to colour depended on the ethnocentric perspective. The ideal colour in northern western sources was, for that matter, a blushing red-white, reflecting the sanguine – male, youthful, healthy – complexion, whereas in antiquity the sanguine mortal being was light brown – a testimony to how ethnocentricity can determine taste, as David Goldenberg signalled.⁹⁷ The *Mirror of Doctrine*, written by the Dominican friar Vincent of Beauvais (before 1200–64), drawing on Johannitius's *Isagoge* and the Latin *De aluminibus et salibus*, a translation of al-Rāzī's work (854–925), in the paragraph 'On Colours' expounds that mortals with a balanced complexion are ruddy white and that the complexional colours reflect mental states such as fear, anger or sadness, whereby blondness represents instability and madness, brilliant redness veracity and blackness a paucity of morals.⁹⁸ This extensive encyclopaedia focusing on the mechanical arts was produced, with the support of the French King Louis ix (1214–70), for the edification of Vincent's fellow

⁹³ Van der Lugt, 'La peau noire', pp. 442–4. Strickland, *Saracens, Demons, and Jews*, and Heng, *The Invention of Race*, pp. 181–256 for negative stereotyping in relation to the colour black.

⁹⁴ G. Constable, *The Reformation of the Twelfth Century* (Cambridge, 1996), pp. 188–93 argues that white was associated specifically with angels and the victorious Christ of the Apocalypse 1:14, where his head and hair would be snowy white as wool.

⁹⁵ See pp. 119–21 for references to melancholy and sin. In the seventh century, Isidore already remarked that 'men dominated by blood are pleasant and charming', and Bede's *De temporum ratione* remarked that they are 'cheerful, merry, full of compassion', and that they 'laugh and talk a lot'. Isidore, *Etymologiae* xi, 'De homine et portentis'; Bede, *De temporum ratione* 35, PL 90, cols. 457C–462A.

⁹⁶ Hugh of Fouilloy, *De medicina animae*, PL 176, col. 1185A.

⁹⁷ Goldenberg, 'Racism, Color Symbolism', p. 90.

⁹⁸ Vincent of Beauvais, *Speculum doctrinale* xiii.50 (Baltazar Bellerus, Douai, 1624; reprint Graz, 1965).

Dominican students, the lay aristocracy and for rulers. Being a combination of heat and moisture, the sanguine temperament was considered praiseworthy because it was the outcome of a perfect digestion, although in youth it might also signal lustfulness and unruliness.⁹⁹ In physiognomic treatises, the well-tempered man's complexion was a mixture of red and white with a radiant skin.¹⁰⁰ The Christ-figure represented the sanguine type in the apocryphal description recorded in the *Letter of Lentulus*.¹⁰¹ Christ and the Virgin Mary, the only beings whose bodies had not been corrupted by original sin, retained a perfect, balanced, most rational complexion. Ethiopians, on the other hand, would not be resurrected as black people, Otto of Freising surmised, a colour from which humankind would be liberated.¹⁰²

The hierarchy of complexions concurrently served to strategically classify gender, age, religious and social groups using markers of skin colour and mental affects, occasionally implying that the phlegmatic and melancholic types – sporadically pasted onto women, Scandinavians, Slavs, Jews and serfs respectively – ranked last.¹⁰³ Hence, Bartholomaeus Anglicus indexed the white-skinned blond man living in the extreme north as phlegmatic, 'tough-minded and forgetful', 'listless, heavy and slow, dull of wit and forgetful, soft-fleshed and languid. He is bluish of colour, white-faced, fearful, spitting and snivelling, sluggish and slothful, with a small appetite, little thirst. [...] He has soft, blond and straight hair; his pulse weak, thick and slow, his urine white, thick, crude and discoloured. He is fat, stocky and short, his skin

⁹⁹ R. J. Long, 'Introduction', in *Bartholomaeus Anglicus: De proprietatibus rerum, libri III–IV*, ed. R. J. Long (Turnhout, 2007), p. 194. Parsons, *Punishment and Medieval Education*, pp. 63–4.

¹⁰⁰ Ziegler, 'Physiognomy, Science', pp. 183–4. In the fifteenth century, Savonarola linked it to Christ's facial complexion and moral perfection, just as Adam had been perfectly balanced. See also J. Ziegler, 'Text and Context: On the Rise of Physiognomic Thought in the Later Middle Ages', in *De Sion exhibit lex et verbum domini de Hierusalem: Essays on Medieval Law, Liturgy, and Literature in Honour of Amnon Linder*, ed. Y. Hen (Turnhout, 2001), pp. 159–82 (pp. 171–2) for a physiognomic treatise depicting Christ as perfect, fair and sanguine.

¹⁰¹ Thomas Aquinas, *Scriptum super libros Sententiarum*, ed. P. Mandonnet and M. F. Moos, 4 vols. (Paris, 1927–47), iii, 495; Albertus Magnus, *De anima* 2.3.23, ed. C. Stroick (Monasterii Westfalorum, 1968), p. 133. Resnick, *Marks of Distinctions*, pp. 31–2 for further source references. C. E. Lutz, 'The Letter of Lentulus Describing Christ', *The Yale University Library Gazette* 50/2 (1975), 91–7.

¹⁰² Minnis, *From Eden to Eternity*, p. 154.

¹⁰³ The *De disciplina scoliarium* speaks of melancholic intelligence as well, which would later evolve into the melancholic genius. Parsons, *Punishment and Medieval Education*, pp. 63–4.

plain and hairless.¹⁰⁴ In *On the Nature of Places*, produced shortly after 1248, the Dominican scholar Albertus Magnus, specifying the proximity to the sun, engaging environmental and humoral theory, argued that ‘conversely, the Goths and the Dacians from the west, and the Slavs from the east, having been born on the boundary of the seventh clime and beyond, are white on account of their cold complexion. Because their bodies are not porous, and because the place in which they live is cold, and the cold constricts their bodies, much moisture remains in them. And this enlarges their bodies and makes them fleshy and phlegmatic.’¹⁰⁵ The oversized, phlegmatic woman was at risk when she went into labour because the firmness of her body hindered her in childbirth. By a stroke of nature, however, women in the north rarely became pregnant, for the cold constricted their veins and, instead of menstrual flow, they tended to suffer from frequent nose bleeds.¹⁰⁶ Albertus classifies German peoples, although hotter bodied, courageous and strong, as leaning towards the phlegmatic because their bodily fluids evaporate less easily, wherefore they have ‘a thick head of straight hair, not curly. Their spirits are not active because of its thickness, because their humour is thick and heavy and does not respond to motion and the reception of forms of the animal spirit. Therefore, they are dull-witted and stupid, if they do not exert themselves in study.’¹⁰⁷ Lastly, the

¹⁰⁴ Bartholomaeus Anglicus, *De proprietatibus rerum* iv.2, ed. Knochlobtzer, ‘De frigiditate’: ‘Intellectus durus et obliviosus, appetitus parvus et somnus multus, incensus gravis et tardis.’ Ibid., iv.9, ‘De flegmatis proprietatibus’: ‘deses, gravis et tardus et sensu hebes, mente obliviosus, carne mollis et fluidus, colore lividus, albidus in facie, timidus, sputis et excretionibus multis plenus, piger et somniculosus, parvi appetitus, parve sitis. [...] Crine mollis est, flavus et laxus, cuius pulsus est mollis, grossus et tardus, urina alba, spissa, cruda et discolorata, statura pinguis et grossa, in extremitatibus brevis et curta, cuius cutis superficies plana et lenis ac a pilis denudata.’ K. Park, ‘The Meaning of Natural Diversity: Marco Polo on the “Division” of the World’, in *Texts and Contexts in Ancient and Medieval Science: Studies on the Occasion of John E. Murdoch’s Seventieth Birthday*, ed. E. Sylla and M. McVaugh (Leiden, 1997), pp. 134–47 (pp. 140–2).

¹⁰⁵ Albertus Magnus, *De natura loci* ii.3, ed. Hossfeld, p. 27: ‘E contrario autem Daci et Gothi ex parte occidentis et Sclavi et Parthi ex parte orientis, nati in fine septimi climatis et ultra, sunt albi propter frigus complexionale ipsorum. Et quia corpora eorum porosa non sunt et locus eorum est frigidus constringens corpora eorum, remanet umidum multum in eis. Et hoc auget corpora eorum et facit ea carnosa et fleumatica.’ Cf. Albertus Magnus, *De homine* i.1.

¹⁰⁶ Ibid., ii.3, ed. Hossfeld, p. 27.

¹⁰⁷ Ibid., ii.3, ed. Hossfeld, p. 27: ‘Et sunt pili eorum multi et laxi, non crispī. Operationes autem eorum animales non vigent propter spissitudinem, quippeumor eorum est piger et spissus nec oboedit motui et receptioni formarum animalium. Sunt igitur tales hebetes et stolidi, nisi hoc sit ex studio exercitio.’

Ethiopians were shaped by the choleric rather than the phlegmatic or melancholic humour.¹⁰⁸ The ‘sexual hotness’ of black women was also interpreted by Albertus Magnus climatically, indicative of how scientific theory might be construed to validate prejudiced attitudes towards the southerner in the course of the thirteenth century.¹⁰⁹

Fixed or fluid ethnotypes

The categorization of population groups grounded on geography and environment inevitably raised the issue of whether complexions could change. This question is relevant in discussions about the existence of racial classification and racism in this period. Climate theory did not so much lump people together in subspecies, but categorized them based upon external, natural factors as well as allegedly innate traits, sociocultural and religious factors, *habitus* and free will.¹¹⁰ Complexional change could occur as a result of, firstly, miscegenation; secondly, migration; and thirdly and importantly, the medicalized application of the non-naturals. Lastly, from the twelfth century, theologians considered temperaments to be subject to religious determinism as well, occasionally stating that the humors were the outcome of the fall of mankind. They classified Jews (and sometimes serfs) as having corrupt, melancholy bodies inherited from their forebears, congenital traits befitting their cursed state and resonating in their semi-free legal status. This tendency to attribute to some groups fixed traits, while assigning to other groups the capacity to change, fits into a racializing hierarchy of power. For it was, as the Franciscan friar Roger Bacon stated, the inherited radical complexions that determined humans’ dispositions with regard to morals, learning and languages, crafts and workmanship.¹¹¹ Nonetheless, the notion that mortals attained the virtuous

¹⁰⁸ Albertus Magnus, *De natura loci* ii.3, ed. Hossfeld, p. 26. Biller, ‘Proto-Racial Thought’, p. 164 note 25, where Bernard de Gordon (fl. 1270–1330) is quoted saying that the Africans are choleric.

¹⁰⁹ P. Biller, ‘Black Women in Medieval Scientific Thought’, *Micrologus: Natura, scienze e società medievali – Nature, Sciences and Medieval Societies* 13 (2005), 477–92 (pp. 485–9); Heng, *The Invention of Race*, pp. 181–256. The physician Arnald of Villanova, using environmental theory, commented in circa 1308 that black men, like monkeys, were uncivilized, frightened of shedding blood, quick to use trickery and full of lust; in *Speculum medicine*, ‘De regionibus’, ed. M. R. McVaugh, *Opera medica omnia* 13 vols. (Barcelona, 2018), xiii; cited in Biller, ‘Proto-racial Thought’, pp. 174–5.

¹¹⁰ Ziegler, ‘Physiognomy, Science’, p. 195. Isaac, *The Invention of Racism*, pp. 34–5. Weeda, ‘The Fixed and the Fluent’.

¹¹¹ Roger Bacon, *Mathematicae in physicis utilitas*, in *The ‘Opus Majus’ of Roger Bacon*, ed. J. H. Bridges, 3 vols. (Oxford, 1897), i, 138; see also *Moralis philosophia* ii, in *The*

or evil qualities of *habitus* through practice and education, guided by manuals and regimens, also exerted its influence.¹¹²

Questions about the fixed or fluid nature of complexions were concentrated in discussions of generation: the complexion of the male semen and female blood at conception. Alongside radical moisture, gained at the first moment of generation from sperm, members and organs, some commentators claimed that mortals possessed an innate or radical complexion (*complexio innata* or *radicalis*) passed down through parental transmission (semen and blood), together with a natural complexion (*complexio naturalis*) which was changeable in response to environmental factors such as climate, the seasons, planetary conjunctions and other non-naturals such as diet, rest and exercise.¹¹³ As the father's semen mixed with the mother's blood, its complexion bearing the *virtus informativa* stamped its mark on the formation of the embryo and its members, as well as on accidental particularities such as sex, complexion and skin colour.¹¹⁴ Originating in the heart and drawn from blood, the male semen was the definitive factor in the formation of human beings, just as male blood ties were recognized over female blood in law, articulated in thirteenth-century concepts of nobility.¹¹⁵ Applying these ideas, in his *Questions on Animals*, Albertus Magnus poses the question in Aristotelian tradition of whether philosophers will beget intelligent children. Affirming that this would be the case, Albertus suggests that 'those of noble birth will beget noble and better children, as is the case with horses', for 'the sperm contains both the bodily and the mental virtue [...] thus children resemble their parents in their

'*Opus Majus*' of Roger Bacon, ed. Bridges, ii, 258–62 for training morals.

¹¹² Nederman, 'Nature, Ethics', pp. 87–93.

¹¹³ Ziegler, 'Physiognomy, Science', pp. 191–3; D. Jacquart, *Le médecine médiévale dans le cadre Parisien: xive–xve siècle* (Paris, 1998), pp. 392–3; K. van 't Land, 'The Rise and Fall of Human Life: Theory on Life Course, Nutrition and Sperm in Late Medieval University Medicine' (unpublished dissertation, Radboud University Nijmegen, 2020); L. Thorndike, 'De Complexionibus', 398, note 1. The separate theory of pangenesis held that seeds come from all parts of the body and offered a material basis for the inheritance of acquired characteristics and disease. This theory became popular in relation to the intergenerational transmission of characteristics within groups only from the sixteenth century.

¹¹⁴ For the dominant embryological narrative: J. Ziegler, 'The Scientific Context of Dante's Embryology', in *Dante and the Human Body: Eight Essays*, ed. J. C. Barnes (Dublin, 2007), pp. 61–88 (pp. 74–82).

¹¹⁵ M. Keen, *Chivalry* (New Haven, 2005), pp. 143–58; A. A. Robiglio, 'The Thinker as a Noble Man (bene natus) and Preliminary Remarks on the Medieval Concepts of Nobility', *Vivarium* 44 (2006), 205–47 (p. 207). Nobility was potentially universally acquirable. However, with the embodiment of differences the fluid boundaries in theory became more impervious.

bodily disposition, to that extent that they are by the same reasoning similar in mental disposition, such as in wisdom and knowledge'.¹¹⁶ However, natural and non-natural conditions – the seasons, winds, the imagination, nutrition, stellar influences and climate – influenced the active sperm at the moment of generation. The mother's passive blood could hamper the reception of the paternal form, in which case the child was more likely to resemble its mother or grandparents.¹¹⁷ Therefore, the parental and the offspring's complexions were not necessarily identical. And although a person's innate complexion was relatively stable, still her natural complexion was subject to non-natural factors throughout life, such as diet or climate. Children placed in the care of a wet nurse who received the wrong food or moved to a different climate might, in theory, undergo a complexional change – this explains why the intake of the mother's natural milk is mentioned in national discourses in later centuries, although in practice physicians seem to have cared little about the value of 'national mother milk'.¹¹⁸ Migration meant that, for instance, an innate sanguine complexion could slowly become more choleric, although the transformation was more cumbersome if the complexions were incompatible (i.e. a phlegmatic cannot easily become choleric).

These ideas touched upon questions of heredity. The scholastic William of Conches (c. 1085–c. 1154), at the school of Chartres, surmised that nature demanded that the similar came from similar things.¹¹⁹ Encyclopaedists in the thirteenth century considered leprosy to be transmitted by semen, as well as

¹¹⁶ Albertus Magnus, *Quaestiones super de animalibus* xviii, Quaestio 4, in *Opera omnia*, ed. E. Filthaut, 40 vols. (Aschendorff, 1951–), xii, 299: 'Quod parentes nobiliores generant filios nobiliores et meliores, ut patet in equis [...] in spermate non solum est virtus corporis, sed animae [...] ergo cum filii assimilentur parentibus in dispositionibus corporalibus ut plurimum, pari ratione assimilabuntur in dispositione animae, ut sapientiae et scientiae etc.'

¹¹⁷ Van der Lugt, 'La peau noire', pp. 458–60. Ziegler, 'Scientific Context of Dante's Embryology', pp. 73, 79 for the notion that the woman also emitted a generative female semen, in contrast to the Aristotelian concept that the embryo is formed from matter from the female's menses.

¹¹⁸ John of Newhouse, 'Tractatus de complexionibus Magistri Johannis de Nova domo' i, ed. W. Seyfert, 'Ein Komplexionentext einer Leipziger Inkunabel', *Archiv für Geschichte der Medizin* 20 (1928), 272–99, 372–89, pp. 298–9. For the value of wet nurses in the slave trade, R. L. Winer, *Women, Wealth, and Community in Perpignan, c. 1250–1300: Christians, Jews, and Enslaved Muslims in a Medieval Mediterranean Town* (Aldershot, 2006), pp. 152–4. In the seventeenth century, Anthony Weldon relates Scottish identity to the 'savage mother's milk'; M. Floyd-Wilson, *English Ethnicity and Race in Early Modern Drama* (Cambridge, 2003), pp. 56–8.

¹¹⁹ Cf. William of Conches, *Dragmaticon Philosophiae* vi.xiii.2–3, ed. I. Ronca, *Corpus Christianorum Continuatio Mediaevalis* 152 (Turnhout, 1997), pp. 204–5.

being caused by a humoral imbalance.¹²⁰ By the fourteenth century – and thus beyond the scope of this book – the scholar John of Newhouse claimed that an identical parental complexion strengthened the likelihood that the offspring would inherit the same physical and mental affects. He applied the concept of parental transmission, thus explicating: ‘The Saxons and the Frisians, the Polish and the Thuringians all have the same character, because they are nursed in the same place and under the same constellation.’¹²¹ A scribe commenting on this text clarified the rise in criminality on these grounds.¹²² In the fifteenth century, Moors and Jews went on to feature in a Spanish *anti-converso* discourse, that was possibly informed by ideas taken from the sphere of horse breeding, creating a language of ‘political disability and reproductive fitness’, essentializing Jews who converted by force or voluntarily to Christianity and excluding them from government offices, based upon arguments of ‘blood’.¹²³ The transregional entanglement of human and horse medicine, the development of theories of heredity, animal breeding and the appraisal of bodies of the enslaved, labourers and horses at markets is still little understood.¹²⁴

Returning to the twelfth century, ideas also circulated about the corruption or else emendation of offspring by means of migration, acculturation and the training of a virtuous *habitus* that undercut the allegedly innate, collective character of ethnic groups. The German Bishop Otto of Freising, the nephew of the German Emperor Frederick Barbarossa who commissioned the *Gesta Friderici*, claimed that the Lombards inherited their intelligent and gentle character from their mothers’ Roman blood as well as from exposure to the temperate climate, rendering them elegant rather than barbaric in speech and manners.¹²⁵ Earlier descent myths also could become entangled with Greek

¹²⁰ Resnick, *Marks of Distinctions*, p. 111.

¹²¹ John of Newhouse, *Tractatus de complexionibus*, i, ed. Seyfert, pp. 298–9: ‘Et ideo Saxones omnes sunt eiusdem moris et Frisones et Poloni et Thuringi, quia in eodem loco et ab eadem constellatione sunt nutriti.’

¹²² Zurich, Zentralbibliothek MS Car. C 111 fol. 207ra: ‘...et ideo in una terra sunt plures fures quam in alia.’ Cited by L. Thorndike, ‘De Complexionibus’, p. 399 note 5.

¹²³ Nirenberg, ‘Was There Race Before Modernity?’, pp. 250–2.

¹²⁴ See for horse–human comparisons in Egypt: Y. Rāḡib, *Actes de vente d’esclaves et d’animaux d’Égypte médiévale*, 2 vols. (Cairo, 2002–6); Barker, *That Most Precious Merchandise*, p. 113; De Miramon, ‘Noble Dogs, Noble Blood’, pp. 200–16.

¹²⁵ Otto of Freising, *Gesta Friderici* ii.14, in *Die Taten Friedrichs oder richtiger Chronica*, ed. F.-J. Schmale (Berlin, 1965), p. 308–9. Compare also the ‘Descriptio Norfolciensium’ lines 53–5, ed. T. Wright, *Early Mysteries and Other Latin Poems of the Twelfth and Thirteenth Centuries* (London, 1838), pp. 93–8 (p. 94), claiming that a bad tree does not produce good fruits, nor a bad *patria* good people.

climate theory, arguing that purity of blood through descent was tainted by miscegenation. In *On the Properties of Things*, Bartholomaeus Anglicus pointedly explains the character of the people of Poitou in terms of ethnogenesis, combining a descent myth, climate theory and etymology.¹²⁶ In this instance, the changes to the biological make-up of migratory peoples were not considered to be commendable but, rather, the hallmark of impurity. The twelfth-century pilgrim who authored the *Guide to Santiago de Compostela*, who presumably came from Poitou, took a dark view of the so-called contaminated origins of his neighbours in the south. The Navarrese, he said, were not true offspring, as they were partially descended from the Scots who had raped the indigenous female population in Julius Caesar's day, creating an illegitimate, corrupt stock, stripped of its humanity, whom the pilgrim also compares to Muslims. Here, the tradition of etymology is used as an explicatory factor: Navarrus comes from *non verus*, untrue. Swarthy, barbaric, evil, they had disgusting, unhygienic table manners, wore shabby clothes following the Scottish fashion and their language resembled that of dogs barking.¹²⁷

Both skin colour and complexion could change after migration. Although, as Ibn Sina had stated, each individual had his own balanced complexion depending on eight variables, travel generally implied that mortal beings experienced different climates that were not conducive to their individual, natural complexions.¹²⁸ The same pertained to skin colour. Black-skinned mortals, born in the fourth or fifth clime, whose blackness was caused by the complexion of their parents born in the first or second clime, slowly turned whiter if they moved to more northerly climes.¹²⁹ Albertus Magnus believed that travellers grew weaker unless they returned to their 'natural habitat'.¹³⁰ Latin medical treatises on complexions, however, affirmed that complexional change as a result of migration brought about benefits as well. Conveniently for Albertus Magnus, born in Lauingen, Bavaria, but educated in Italy's Padua, German students travelling southwards experienced an expedient mental

¹²⁶ Bartholomaeus Anglicus, *De proprietatibus rerum* xv.122, ed. Knochlobtzer, 'De Pictavia'.

¹²⁷ *The Pilgrim's Guide to Santiago de Compostela: A Critical Edition* vii, ed. and trans. P. Gerson, A. Shaver Crandell and A. Stones, 2 vols. (London, 1998), ii, 28–31. The manuscript containing the guide is known as the *Liber Sancti Jacobi* or the *Codex Calixtinus*. It was compiled sometime between 1139 and 1173, when a monk from Ripoll copied the text.

¹²⁸ Ziegler, 'Physiognomy, Science', p. 195.

¹²⁹ Albertus Magnus, *De natura loci* ii.3, ed. Hossfeld, p. 26.

¹³⁰ Likewise, lions survived only in southern regions. Albertus Magnus, *De natura loci* i.2, ed. Hossfeld, pp. 25–6.

transformation from dull-witted, phlegmatic beings into astute intellectuals. He refers to men nurtured in Milan on law and the arts. Tragically, in his view, the Danes and the Slavs in the far north 'care little' for study, cultural inertia in this case being the outcome of environmental determinism. This idea that transmigration could eventually transform a people's complexion remained popular in later centuries.¹³¹ However, the process was considered to be long drawn out. Gerald of Wales underscored the fixity of the character of the Welsh and the English that was shaped by the climate from which they originally came. Thus, the Welsh, who according to Gerald of Wales's *Description of Wales* originally descended from Aeneas's progeny Brutus, could not erase their Trojan blood. The climatic conditions of the arid Trojan plain accounted for their positive boldness of speech, which they held in common with the Romans and Franks, as well as their swarthy colour, natural warmth of character and hot temperament.¹³² The cold and wetness, on the other hand, accounted for the phlegmatic nature of the English. As discussed further in chapter 3, the emphasis on the innate qualities of boldness of speech of the Welsh and their attendant condition of freedom suggests that they, despite attempts by the English king to conquer their territory, should not be subjected to the status of servility. Their lawlessness and lack of good political regimen, however, jeopardized their condition. Gerald's text, containing strategic military information about the strengths and weaknesses of the Welsh, in the tradition of Vegetius's manual, is seemingly arguing for their improved governance, yet resisting their subjugation.

Medical theory cut across social categories. Romance writers occasionally depicted the peasant – like the black children of Ham, a cursed descendant of Cain – as dark skinned and deformed, as a beast or a Moor.¹³³ The peasant's dark-skinned features came, the argument ran, from his proximity to the element earth when tilling the land. In the *Book of Complexions* attributed to a John of Paris (writing in the twelfth or thirteenth centuries and not, it seems, the famous theologian of that name), complexion also pertained to a skill or profession: iron and copper smiths are subjected to heat and dryness (choleric), bath keepers to heat and humidity (sanguine), fishermen to cold and moisture (phlegmatic) and peasants to cold and dryness (melancholy).¹³⁴

¹³¹ Albertus Magnus, *De natura loci* ii.3, ed. Hossfeld, pp. 26–7. Floyd-Wilson, *English Ethnicity and Race*, pp. 48–52.

¹³² Gerald of Wales, *Descriptio Kambriae* ii.15, ed. Dimock, vi, 192–4. Bartlett, *Gerald of Wales*, p. 203.

¹³³ P. H. Freedman, *Images of the Medieval Peasant* (Stanford, 1999), pp. 139–40.

¹³⁴ John of Paris, *Liber complexionum*, in Paris, Bibliothèque nationale de France, MS Latin 7121, fols. 73r–80r; cited in Thorndike, 'De Complexionibus', p. 402.

However, there was little clarity about the time-span required for complexional transformation, which was probably open to ethnocentric and racialized manipulation, depending on the desirability of emphasizing change or stability in power hierarchies.

Religious determinism

Environmental theory had a lasting impact on thinking about groups, notably in the Mediterranean trade in the enslaved, where it was engaged to value people and their alleged traits.¹³⁵ It was also appropriated and incorporated by learned religious men, who unsurprisingly intertwined religious and medical discourses, creating a language of inherited physiology integrating religious-cultural traditions and traits, in which disease was triggered by sin. This discourse contained ideas about free will – and hence the possibility of complexional change – as well as religious determinism, and was applied to the non-Christian other.

Speaking of Christianity in terms of embodiment was not new. In late antiquity, the language of conversion had been coined in terms of the mutability that was necessary to achieve full humanness.¹³⁶ Conversion was thereby envisioned as a *rebirth*, whereupon new members entered the body politic, the Pauline *corpus mysticum* of Christ's Church. Nonetheless, humoral and environmental theory now lent the embodied religious discourse a scientific framework, and thus authority on a different level.

The embodiment or biological construction of religious categories – which were and are frequently mixed up with ethnic-genealogical categories, the Saracen, for example, being used as an umbrella term for Muslims – notably occurred in medicalized discussions of the 'Jewish nature' and Jews' melancholy complexion grounded in astrology. Peter Biller and Irven Resnick have shown that in the ninth century Abu Ma'shar al-Balkhi (787–886) – who in Europe was known as Albumasar and whose work was translated into Latin in the twelfth century by John of Spain (*fl.* 1133–53) and Hermann of Carinthia (*c.* 1100–*c.* 1160) under the title *Liber de magnis coniunctionibus* – claimed that religious faiths arose under the influence of the conjunctions of the planets.¹³⁷

¹³⁵ Barker, *That Most Precious Merchandise*, pp. 45–59.

¹³⁶ Buell, *Why This New Race*; Buell, 'Early Christian Universalism and Modern Racism', pp. 109–31.

¹³⁷ Albumasar, *On Historical Astrology: The Book of Religions and Dynasties (on the Great Conjunctions)* 2.8, ed. C. Burnett and K. Yamamoto, 2 vols. (Leiden, 2000), i, 127. Resnick, *Marks of Distinctions*, pp. 225–7; Biller, 'Scientific' View of Jews', pp. 140–1, 154.

Hermann of Carinthia's *On Essences*, written in 1143, managed to connect Judaism, arising under Saturn, with a melancholy complexion and characterizations of fraud, wickedness, envy, perfidy and stubbornness – familiar older stereotypes listed in the catalogues and in biblical exegesis.¹³⁸ These are typical anti-Jewish stereotypes mixing theological commentary with science. Such stereotypes also gave a gendered interpretation of alleged religious–ethnic traits. A clear example is the late twelfth-century treatise written in the crusader states, *Tractatus de locis et statu sancte terre ierosolimitane*, classifying Jews as obstinate people who were more unwarlike than women or serfs and suffered from menstrual flow.¹³⁹ The concept that Jews suffered from the inherited curse of a 'flux of blood' or haemorrhoids subsequently made its way into texts of Albertus Magnus.¹⁴⁰ Jacques de Vitry's *History of the East* is another example where a combination of biblical exegesis and medicine are used to frame Jewish military qualities, tying them to the myth of deicide as well, claiming that Jews, scattered as slaves across the world, had become unwarlike and weak like women.¹⁴¹ The *Isagoge* of Al-Qabīṣī (who was known in Europe as Alcabitus and who died in 967), which survives in more than a hundred Latin copies and vernacular translations, integrated the older theological contention that the child of Saturn emanated a bad smell (*foetor judaicus*).¹⁴² Saturn's qualities were cold and dryness, associated with melancholy and bad odour. This trope was particularly heinous because stench or miasma was considered to be the cause of disease, such as gout, leprosy or cancer. Bartholomaeus Anglicus, among others, claimed that Saturn produced men dark, wicked and sad.¹⁴³

¹³⁸ Hermann of Carinthia, *De essentiis*, ed. and trans. C. Burnett (Leiden, 1982), p. 166–9. Islam was said to have arisen under Venus, Christianity under Mercury.

¹³⁹ *Tractatus de locis et statu sancte terre ierosolimitane*, in 'Ein Tractat über das heilige Land und den dritten Kreuzzug', ed. G. M. Thomas (Munich, 1865), p. 26; Biller, 'A "Scientific" View of Jews', p. 158 for a transcription.

¹⁴⁰ Resnick, *Marks of Distinctions*, pp. 188–9; Biller, 'A "Scientific" View of Jews', pp. 140–6; Johnson, 'The Myth of Jewish Male Menses'; Bauchau, 'Science et racisme: les juifs, la lèpre et la peste'; J. Gebke, (*Foreign*) *Bodies Stigmatizing New Christians in Early Modern Spain*, trans. H. W. Schroeder (Vienna, 2020), pp. 110–11. For the 'immutability' of Jews, Resnick, *Marks of Distinctions*; J. M. Elukin, 'From Jew to Christian? Conversion and Immutability in Medieval Europe', in *Varieties of Religious Conversion in the Middle Ages*, ed. J. Muldoon (Gainesville, 1997), pp. 171–89.

¹⁴¹ Jacques de Vitry, *Historia orientalis*, ed. and trans. J. Donnadieu (Turnhout, 2008), p. 328.

¹⁴² Al-Qabīṣī, *The Introduction to Astrology* 2.2.6, ed. and trans. C. Burnett, K. Yamamoto and M. Yano (London, 2004), p. 63.

¹⁴³ Resnick, *Marks of Distinctions*, 199, 232–43 (p. 241 for plague and infection); Bartholomaeus Anglicus, *De proprietatibus rerum* viii.23, ed. H. Knochlohtzer.

Discussions of astrology and hereditary characteristics were, however, at loggerheads with the notion of free will, whose relationship to the body engendered a complicated discussion. Theologians took the monistic position that the soul was partly attached to the body, yet that the intellectual will was divinely appointed.¹⁴⁴ William of Conches, in his commentary on the work of Macrobius (*fl.* 400), for instance, claimed that free will prevailed despite the fact that the planets influenced predispositions.¹⁴⁵ Complexion was accordingly said to be not the cause but the sign of a person's natural character, congenital character being born of divine appointment. Nonetheless, especially where the otherness of Jews, Saracens and heretics was concerned, this idea of free will and mutability seemed to fall short, suggesting that salvation required a specific essence. In Paul's Letter to the Romans, all of mankind had been presented as equal, spiritual descendants of Jacob and Esau.¹⁴⁶ All were God's slaves, regardless of status or descent.¹⁴⁷ Many scholars have accordingly stressed that *christianitas* promoted a transnational myth of oneness and unity, seldom acknowledging internal differences.¹⁴⁸ However, as Denise Buell has argued cogently, in early Christendom, rhetorical strategies continued to wield ethnic markers in order to explain what being a member of the Christian community entailed, often in terms of regeneration. Members of the Christian community described themselves as being reborn in Christ; becoming a Christian meant activating a potential of being, developing an acquirable fixed essence that all human beings allegedly possessed and through which a person achieved full humanness. These ontological essences could, moreover, be administered hierarchically, favouring some groups over others, offering a rhetorical argument to marginalize 'those who had failed (in different ways)

P. Lanfranchi, 'Foetor judaicus: Archéologie d'un préjugé', in *Ékklesia: Approches croisées d'histoire politique et religieuse: Mélanges offerts à Marie-Françoise Baslez*, ed. C. Bonnet and F. Briquel-Chatonnet (Toulouse, 2017), pp. 119–33 (pp. 119); J. Elukin, *Living Together, Living Apart: Rethinking Jewish-Christian Relations in the Middle Ages* (Princeton, 2007), pp. 107–9; S. K. Cohn Jr., 'Popular Insurrection and the Black Death: A Comparative View', *Past and Present*, 195 Issue Supplement 2 (2007), 188–204.

¹⁴⁴ C. W. Bynum, 'Why All the Fuss About the Body? A Medievalist's Perspective', *Critical Inquiry* 22/1 (1995), 1–33.

¹⁴⁵ Ziegler, 'Scientific Context of Dante's Embryology', pp. 64–6; Resnick, *Marks of Distinctions*, p. 225.

¹⁴⁶ Boureau, 'Hérédité, erreurs', p. 70.

¹⁴⁷ Buell, 'Early Christian Universalism', p. 111.

¹⁴⁸ Jeffrey Cohen, for example, claimed the Christian ecumenicity was 'a universal body unmarked by such differentiations'; Cohen, 'On Saracen Enjoyment', p. 116.

to activate the potential available to all humans'.¹⁴⁹ As we shall see in chapter 3, the hierarchy of humanness was indeed framed rhetorically in legal-cultural narratives of progress and property rights.

Schoolmen likewise commented upon the physical lack of equilibrium and ensuing ill-health in the wake of the fall of mankind. Some attributed the decay of species to a complexional imbalance, sin causing disease, dark complexions and ugliness. Earlier, and exceptionally, the Irish theologian John Scottus Eriugena (*fl.* c. 845–c. 870) had explicitly interwoven environmental theory into his discussion of the diversity of mankind and early man.¹⁵⁰ In *The Division of Nature*, he hypothesized that, had Adam not sinned, he would not have been split into two sexes.¹⁵¹ No longer in his primordial condition as the image of God, man thereafter suffered further divisions that were also influenced by environmental factors, such as climate and the non-naturals:

Insofar as the diversity of man is discerned, and of one species from another, and types of stature are different, this does not have its cause in nature [i.e. the primordial condition before the fall] but arises from sin, and from the diversity of place and circumstances of lands, waters, airs, foods and the like, where people are born and nourished.¹⁵²

As humoral and environmental theory became more influential in western Europe – John Scottus Eriugena was exceptional in using Greek sources in the ninth century – this idea was expanded to incorporate the notion that the fall of man had led to a complexional imbalance. The *Dialogue against the Jews*, written circa 1109 by Petrus Alfonsi, a Spanish physician who converted from Judaism and worked at the English royal court, argued that Adam's illicit desire had created an imbalanced complexion and subsequent mortality, even before he had eaten from the forbidden fruit.¹⁵³ The German Benedictine abbess Hildegard of Bingen (1098–1179) claimed in her medical treatise *Causes and Cures* that before the fall Adam was in perfect health and sanguine; however,

¹⁴⁹ Buell, 'Early Christian Universalism', pp. 114, 119, 123–6.

¹⁵⁰ Glacken, *Traces on the Rhodian Shore*, p. 262.

¹⁵¹ For earlier discussions about human procreation and sin: G. Boas, *Essays on Primitivism and Related Ideas in the Middle Ages* (New York, 1978), pp. 70–1.

¹⁵² John Scottus Eriugena, *De divisione naturae* ii.7, PL 122, cols. 533A–533B: 'Siquidem diversitas hominum a seipsis, qua uniuscujusque species ab aliis discernitur, et staturae modus variatur, non ex natura provenit, sed ex vitio, et diversitate locorum et temporum terrarum, aquarum, aërum, escarum, ceterarumque similium, in quibus nascuntur et nutriuntur.'

¹⁵³ I. M. Resnick, 'Humoralism and Adam's Body: Twelfth-Century Debates and Petrus Alfonsi's *Dialogus Contra Judaeos*', *Viator* 36 (2005), 181–96 (pp. 191–5).

‘when Adam knew what was good and by eating the apple did what was evil, black bile rose up within him in reaction to this change’, upon the suggestion of the devil. A melancholy disposition in a corrupt body was accompanied by wavering beliefs, ‘for at Adam’s fall, the devil scorched the melancholy within him, and in this way [the devil] sometimes makes a person subject to doubt and lack of faith’.¹⁵⁴ About 1200, in his encyclopaedic work *On the Nature of Things* written as a preface to his commentary on Ecclesiastes, Alexander Neckam, probably while living as a canon regular at Cirencester, alleged that whereas before the fall ‘every animal would be of temperate complexion in his own genus’, although some more temperate than others, because of the sin there occurred a difference of degree, as a lapse from the norm. ‘Therefore will it not appear to one versed in physical science that complexions may be changed, although many think this to be impossible?’¹⁵⁵ Original sin thus effectuated the heterogeneity of mankind, although, according to Thomas Aquinas, climate and the planets actually even created disparities in the size, constitution and beauty of bodies in Eden, without meaning that inequality represented a defect of nature.¹⁵⁶ The twelfth-century Anglo-Norman cleric Gerald of Wales saw fit to turn the argument on its head, enlacing religious thought with the environmentally deterministic theory that the devil adjusted heresies to the climate. Thus, in his *Instruction for a Ruler*, written at the English court of King Henry II, Muhammad entices the Arabs to enter into polygamous

¹⁵⁴ Hildegard of Bingen, *Causae et curae* ii, ed. L. Moulinier (Berlin, 2003), pp. 183–5: ‘Nam cum Adam bonum sciuit et pomum comedendo malum fecit, in vicissitudine mutationis illius melancholia in eo surrexit. [...] Quoniam dyabolus in casu Ade melancoliam in ipso conflauit, qua hominem aliquando dubium et incredulum parat.’ Trans. by F. Wallis, in *ibid.* *Medieval Medicine: A Reader* (Toronto, 2010), pp. 357–8. V. Sweet, *Rooted in the Earth, Rooted in the Sky: Hildegard of Bingen and Premodern Medicine* (New York, 2006); F. E. Glaze, ‘Medical Writer: “Behold the Human Creature”’, in *Voice of the Living Light: Hildegard of Bingen and Her World*, ed. B. Newman (Berkeley, 1998), pp. 125–48.

¹⁵⁵ Alexander Neckam, *De naturis rerum* 156, in *De naturis rerum libri duo. With the Poem of the Same Author, De laudibus divinae sapientiae*, ed. T. Wright (London, 1863), p. 250: ‘Nihilominus tamen esset aliquod animal temperationis complexionis alio. [...] Nonne igitur in physicis instructo videbitur quod complexionis mutatae sint, quamvis hoc multi censeant esse impossibile?’ The translation is cited from Boas, *Essays on Primitivism*, p. 83.

¹⁵⁶ Minnis, *From Eden to Eternity*, p. 115. These ideas foreshadow later classifications. In the eighteenth century, French philosopher Georges-Louis Buffon (1707–88) asked how the descendants of Adam and Eve, expelled from paradise and living in inferior climates, suffered ‘degeneration’. Buffon believed both in monogenesis and acquired hereditary characteristics as a result of environmental influences. See Banton, *Racial Theories*, p. 5 and Isaac, *Invention of Racism*, pp. 8–11.

relationships because he knows that the Easterners are full of lust, living in a hot region. The heretical Cathars lured avaricious men in the cold climes to not pay tithes.¹⁵⁷ In the *Deeds of God through the Franks*, the Benedictine monk Guibert of Nogent, using climate theory to explain the presence of heresy in the east, commented:

However, the faith of the Easterners, which has never been stable, but has always been variable and unsteady, searching for novelty, always exceeding the bounds of true belief, finally deserted the authority of the early fathers. Apparently, these men, because of the purity of the air and the sky in which they are born, as a result of which their bodies are lighter and their intellect consequently more agile, customarily abuse the brilliance of their intelligence with many useless commentaries.

Heresies and plagues arose, the territory producing vipers and nettles.¹⁵⁸ These ideas later echoed in remarkable comments about skin-colour transformation involving religious conversion.¹⁵⁹ As Jeffrey Jerome Cohen put it, blackness provided 'the palimpsest for the racialized representation of Islam'. The Saracen occasionally was imagined as a dark-haired, horned, big-nosed and broad-eared monstrosity with alluring sexual appeal in both geographical and literary sources, such as the *Roman de la Rose*, *Aliscans* or *Fierabras*.¹⁶⁰ Vernacular tales such as the romance *King of Tars* (c. 1330) contain narratives about instantaneous skin-colour transformation, by God's grace, following conversion from Islam to Christianity.¹⁶¹ Similarly, in one of the legends in the encyclopaedic *Cursor mundi* (Runner of the World), written in circa 1300,

¹⁵⁷ Gerald of Wales, *De principis instructione: Instruction for a Ruler* i.17, ed. and trans. R. Bartlett (Oxford, 2018), pp. 222–3; Bartlett, *Gerald of Wales*, pp. 166–7.

¹⁵⁸ Guibert of Nogent, *Dei gesta per Francos* i.2, ed. Huygens, pp. 89–90, trans. R. Levine, *The Deeds of God through the Franks: A Translation of Guibert de Nogent's Gesta Dei per Francos* (Rochester, 1997), p. 26: 'Orientalium autem fides cum semper nutabunda constiterit et rerum molitione novarum mutabilis et vagabunda fuerit, semper a regula verae credulitatis exorbitans, ab antiquorum Patrum auctoritate descivit. Ipsi plane homines pro aeris et celi cui innati sunt puritate cum sint leviores corpulentiae et idcirco alacrioris ingenii, multis et inutilibus commentis solent radio suae perspicacitatis abuti.'

¹⁵⁹ Heng, *The Invention of Race*, pp. 181–256.

¹⁶⁰ Cohen, 'On Saracen Enjoyment', pp. 116–20, and Heng, *The Invention of Race*, pp. 181–256.

¹⁶¹ *The King of Tars*, line 939, in 'The King of Tars: A New Edition', ed. J. H. Chandler (unpublished dissertation, University of Rochester, 2011), p. 87; cf. Hahn, 'The Difference the Middle Ages Makes', pp. 13–15; Friedman, *The Monstrous Races*, pp. 64–5; S. Kinoshita, 'Pagans are wrong and Christians are right': Alterity, Gender,

King David encounters four monstrous Saracens. When David holds out three rods, blessed by Moses, which they kiss, their skin becomes as white as milk, and they are reborn in a completely new religion.¹⁶²

Conclusion

The impact of environmental and humoral theory on constructions of ethnic character is salient. Firstly, Graeco-Arabic ideas about the impress of environmental factors on groups' and individuals' physical and mental features advanced discussions about how virtuous or insidious behaviour was not only the outcome of free will, but also subject to hereditary and external, natural factors. It gave clerics and monks a scientific apparatus to nurture essentializing stereotypes of Jews and Muslims, and also of European peoples, positioning and sorting them within a hierarchy of power and with the voice of authority. Secondly, environmental determinism considered what bound groups to landscapes and regions, enhancing the process of imagining peoples to be dwelling in domesticated spaces. And thirdly, it allowed for the essentialization of representations of civic and social practices as well as of religious difference, notably enhancing a medicalized construction of Jewishness. Representations of groups' environmentally determined natural weakness, cunningness and irrationality, merging with genealogical constructions of (cursed) descent, resonated in the legal structures of inequality affecting, among others, Jews, serfs and women.

Joel Kaye and Cary Nederman observe that the physiological metaphor of the body politic at this time began to prevail over an anatomic vision of the organic society, viewing society as a self-regulatory body whose integrated members made up the various offices and social groups, jointly labouring towards a singular goal.¹⁶³ The metaphor, incorporated by John of Salisbury in

and Nation in the *Chanson de Roland*, *Journal of Medieval and Early Modern Studies* 31/1 (2001), 79–111 (p. 82).

¹⁶² *Cursor mundi* lines 8119–22, in *Cursor mundi: A Northumbrian Poem of the xivth century in Four Versions* / ed. from British Museum MS. Cotton Vespasian A.III, Bodleian MS. Fairfax 14, Göttingen University Library MS. Theol. 107, Trinity College Cambridge MS., R.3.8, ed. R. Morris, 7 vols. (London, 1874–93), ii, 62; G. Heng, *Empire of Magic: Medieval Romance and the Politics of Cultural Fantasy* (New York, 2003), p. 417. Maternal thoughts about the skin colour of the foetus could also bring about skin change; Van der Lugt, 'La peau noire', pp. 461–9.

¹⁶³ J. Kaye, *A History of Balance, 1270–1375: The Emergence of a New Model of Equilibrium* (Cambridge, 2014); C. J. Nederman, 'The Physiological Significance of the Organic Metaphor in John of Salisbury's "Policraticus"', *History of Political Thought* 8/2 (1987), 211–23; C. J. Nederman, 'Body Politics: The Diversification

his mirror for princes, *Policraticus*, reignited an organic biopolitical conceptualization of society. Analogous with the Church, political commentaries might envisage kingdoms and cities as a mystical corpus, regulating professions and offices through royal, urban and guild ordinances.¹⁶⁴ The metaphor of the body politic fell in step with a biopolitical approach to governing communities, for two reasons. Firstly, the metaphor of the body politic allowed officials to imagine the community as an organism that enjoyed health or could become sick. It could be regulated by political regimens, just as the body could be via *regimina sanitatis*, and the household using conduct books, for the quality of governance depended on the condition of the polity's subjects. Thus, from the late thirteenth century, responding to the Latin translation of Aristotle's *Politics* and earlier reworkings of the mirror for princes, *Sirr al-Asrar*, philosophers in Italy and France such as Giles of Rome (c. 1243–1316) and Thomas Aquinas produced new regimens for rulers and urban magistrates, approaching the political community in physiological terms as an organism whose parts together strove toward a shared, common good.¹⁶⁵ The language of the urban ordinances from the late thirteenth century, spearheaded by Italian cities, was concurrently medicalized, governments claiming to work *pro maiori sanitate hominum*.¹⁶⁶ Secondly, humoral categories gave officials the tool to hierarchically classify and measure the position and contribution of groups and individuals within the organic body politic. Coevally, as discussed in chapter 3, law and rhetoric sketched a sacralized landscape where these bodies politic dwelled.

of Organic Metaphors in the Later Middle Ages', *Pensiero Politico Medievale* 2 (2004), pp. 59–87; C. J. Nederman, 'The Living Body Politic: The Diversification of Organic Metaphors in Nicole Oresme and Christine de Pizan', in *Healing the Body Politic: The Politic Thought of Christine de Pizan*, ed. K. Green and C. J. Mews (Turnhout, 2005), pp. 19–33; C. J. Nederman, *Community and Consent: The Secular Political Theory of Marsiglio of Padua's Defensor Pacis* (London, 1995); T. Shogimen, 'Treating the Body Politic: The Medical Metaphor of Political Rule in Late Medieval Europe and Tokugawa Japan', *The Review of Politics* 70/1 (2008), 77–104. For early modernity: J. Gil Harris, *Foreign Bodies and the Body Politic: Discourses of Social Pathology in Early Modern England* (Cambridge, 2006).

¹⁶⁴ B. de Munck, *Guilds, Labour and the Urban Body Politic: Fabricating Community in the Southern Netherlands, 1300–1800* (London, 2018); Struve, *Die Entwicklung der Organologischen Staatsauffassung*, p. 107.

¹⁶⁵ Kaye, *History of Balance*.

¹⁶⁶ G. Geltner, 'Healthscaping a Medieval City: Lucca's Curia viarum and the Future of Public Health History', *Urban History* 40/3 (2013), 395–415; G. Geltner, *Roads to Health: Infrastructure and Urban Wellbeing in Later Medieval Italy* (Philadelphia, 2019).

Christian universalism claimed to girdle the whole of humanity. In discussions of social inequality or the origins of nobility, mankind's common descent was evoked. Yet natural law remained relativistic and was interpreted morally, for monks and ecclesiastics contended that a decay of species had occurred, a corruption of health after the fall. It allowed for social inequality to be viewed as the stain of vice, making room for the argument that social, and legal, control sprang from the necessity to curb the alleged bestial nature of those prone to vice, while elevating the virtuous as just masters.¹⁶⁷ Humoral and environmental theory thereby supplemented earlier moral-genealogical divisions of humanity – the outcome of God's wrath – visible in the Earth's sectioning into three regions populated by the descendants of Noah's three sons: Shem, whose progeny populated Asia, cursed Ham, whose descendants lived in Africa, and Japheth, whose children dwelled in Christian Europe or, as Honorius of Autun wrote, made up the nobility.¹⁶⁸ In humoral and environmental theory, however, physiological processes, natural factors and spaces worked in conjunction with descent.

By consequence, the epithets tacked onto the ethnotypes offered the opportunity to strategically, rhetorically position the self and others within a cultural and social narrative of progress. Depending on the environmentally determined reputations attached to the various ethnotypes, the French, German and English aristocracies accentuated their self-proclaimed chivalrous or urbane features, which are discussed in detail in chapter 5. Socio-economically disadvantaged groups were dealt a less fortunate hand and assigned negative traits, considered harder to erase. Representations of regions' features and peoples' work ethic entrenched in environment offered convenient political-rhetorical arguments for legal and territorial colonization and subjugation, in a Ciceronian-Aristotelian tradition.

On a broader level, the earlier Carolingian ideological schema of the translation of knowledge and power surfaced at power bases.¹⁶⁹ The emphasis on

¹⁶⁷ Freedman, *Images of the Medieval Peasant*, pp. 69, 75–7; Friedman, *The Monstrous Races*, pp. 92–3.

¹⁶⁸ D. M. Goldenberg, *The Curse of Ham: Race and Slavery in Early Judaism, Christianity, and Islam* (Princeton, 2003); Braude, 'Cham et Noé', pp. 93–125. For serfs' descent from Ham and Cain: Freedman, *Images of the Medieval Peasant*, pp. 86–104.

¹⁶⁹ S. Lusignan, 'L'université de Paris comme composante de l'identité du royaume de France: Étude sur le thème de la *translatio studii*', in *Identité régionale et conscience nationale en France et en Allemagne du Moyen Âge à l'époque moderne: Actes du colloque organisé par l'Université Paris XII – Val de Marne, l'Institut Universitaire de France et l'Institut Historique Allemand à l'Université Paris XII et à la Fondation Singer-Polignac, les 6, 7 et 8 octobre 1993*, ed. R. Babel and J.-M. Moeglin (Sigmaringen, 1997), pp. 59–72 (pp. 59–61).

the salubriousness of territories was the environmental setting for the translation of power and knowledge, wherein the image of 'douce France' stands out.¹⁷⁰ In 1306, French political philosopher Pierre Dubois (c. 1255–after 1321) advised that the French King Philip the Fair's (1268–1314) progeny should be born and raised in Paris in view of its temperate climate, to ensure that the monarch was fit to lead, at a distance, the French army in the hot eastern climes.¹⁷¹ The ubiquitous regimens of rulership and mirrors of princes produced by university-trained men, advising on the Hippocratic regulation of the health of rulers in their environment, taught how to align the ruler's body with the natural features of the polity it governed. The rhetorical construction of these natural communities was thus forged within a world of learning, in the schools and courts, where the rhetoric of the natural community meshed with military-political efforts to assert power over and expand territory, under the claim of rational strength.

¹⁷⁰ De Planhol and Claval, *A Historical Geography of France*, p. 101.

¹⁷¹ Pierre Dubois, Appendix to *De recuperatione Terrae Sanctae*, ed. A. Diotti (Florence, 1977), p. 220.