

8 Agriculture and economies

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Like many new religious groups of the central Middle Ages the Cistercians had origins in the late eleventh-century eremitical reformers who questioned the comfortable lives of those earlier monastic communities that had held lordship over villages, rights to tithes, churches and other revenues. Instead, these Cistercian reformers embraced a reputation for foundations 'far from cities, castles and human habitation'.¹ Taking literally such self-descriptions by the Order's monks, earlier economic historians saw them as twelfth-century 'pioneers' whose clearing and draining of new lands led to an enormous acquisition of wealth derived from 'bumper crops' on 'never-before cultivated lands'.² More recent studies have shown that although many Cistercian abbeys became wealthy, they were not the pioneers once imagined. Cistercian wealth derived from providing meat, cheese and other animal products along with the usual agricultural products to neighbouring towns where they were sold free of tithes, tolls and market dues. Their pastoralism became famous especially in Britain, where they produced wool for export. Their attempts to revive the early simplicity of the Rule of Benedict included a reduced liturgical practice that allowed time for manual labour in the production of their own food and the gradual introduction of lay brothers and lay sisters as labourers.

While the earliest Cistercian communities may have lived on the produce of their little gardens, Cistercian grange agriculture would be based on large, compacted granges or farms created by reconstituting fragmented holdings of previously cultivated lands into large compact ones. Although Cistercian abbeys and granges might be sited on recently cleared lands (*assarts* or, in southern France, *artigues*), such land coming into Cistercian hands was almost entirely already settled and cultivated. It was extremely rare for Cistercian abbeys to clear and drain land. Although abbey and grange sites might give the appearance of recent wilderness, such land had features of earlier development such as roads, pathways, mills, farm buildings and established place-names.³

Acquisitions often had as their core the land given them by early donors and patrons, but large sums were needed to consolidate land rights into granges, using hundreds of contracts. These contracts were sometimes recorded in monastic charter books or cartularies that still survive. Such charters constitute a major source for our knowledge of the early Cistercians and their agricultural practices. Such contracts show both the hard work of reassembling rights and the cash needed to pay off peasant owners who were moving to villages or towns, or lords amassing cash in preparation for crusade and reconquest.

The Order's success derived from several trends. Cistercians reaped the benefits of changes in the rural landscape that saw lords in the eleventh and twelfth centuries gathering peasants from isolated hamlets and farmsteads into nucleated villages near castles and churches.⁴ As a consequence, land at the edges of parishes became available for monastic sites. Such lands were often those that peasants were particularly anxious to sell: distant from new villages, they involved time-consuming travel for cultivation; if located in river beds, they were lands at risk of flooding, on the marginal and fragile soils of mountainsides, and after producing initial high yields, they quickly lost fertility and so forth. At this time, as well, Benedictine communities were granting or selling distant holdings and cells in order to consolidate lands closer to home. Cistercians often acquired such cells and communities, which sometimes became daughter houses, but could also be absorbed as granges. Often the initiative came from those living at such cells. We see this for the monks at Morin, a cell belonging to Saint-Bénigne of Dijon; its monks transformed their cell and lands into a grange of Clairvaux and, bringing the documents with them, entered that abbey as '*conversi*' c.1176.⁵

Cistercians also incorporated newly founded communities like Savigny and Obazine. These oft-cited incorporations, however, were part of more widespread absorption of earlier, independent reform communities by Cîteaux, Clairvaux and their daughter houses. Indeed it was primarily by such affiliation, rather than by colonisation from mother houses, that the Cistercian congregation grew. Such affiliation brought independent communities a 'package' of Cistercian practices – from a simplified liturgy to treatises on lay-brother labourers. An increasingly text-based practice evolved to communicate Cistercian practices to affiliated communities. Such communication needs led to the creation of the religious Order as the governing institution with its General Chapter. Such smaller communities in turn contributed to the rapid accumulation of Cistercian wealth and power, for they brought with them established patrons, lands and recruits.⁶

The effects of such transfers of wealth and land to the Cistercians through purchase and incorporation reflect the managerial prowess of early Cistercian administrators. While the expansion of most men's houses occurred primarily in the twelfth century, by the early thirteenth century it was the turn of the nuns, whose houses expanded enormously between 1200 and 1250. Abundant records show thirteenth-century abbesses creating systems of granges, pasturelands and other properties to support their abbeys over the next centuries.⁷ Such evidence for Cistercian nuns belies earlier assumptions that their communities were invariably poor, powerless, under-endowed, unable to administer land because of enclosure and were consequently short-lived.⁸ Nuns, like the monks of the Order, caused considerable change in the late medieval rural landscape as they vied for endowment with earlier ecclesiastical and secular owners. Still acquisitions by nuns were often made slowly and patiently, as we see even for the foundation of the house of Cistercian nuns at Maubuisson begun in 1236 by Louis IX's mother, Blanche of Castile.⁹

It was unusual, but sometimes entire villages or granges were acquired in single thirteenth-century purchases, as we see for the nuns at Rifreddo at their foundation.¹⁰ Similar acquisitions by purchase using cash brought by a bourgeois entrant were made by the nuns of Saint-Antoine at the village of Champagnes near Beaumont-sur-Oise.¹¹ In the 1230s Louis IX did the same for the new abbey of monks at Royaumont founded for his father's soul. Among other such acquisitions, including an existing grange purchased for the abbey site, was the king's purchase in June 1231 of the grange of Belleéglise for 1,050 livres parisis paid to the knight Thibaut of Beaumont, lord of Luzarches, and his wife Ermengard. The conveyance included seven livres annual rent in the village there, three muids (wag- onloads) of oats annually, all the vendors' vineyards, two winepresses and whatever other rights the vendors had within its boundaries or over its vineyards and tenants. Belleéglise included 50 arpents (each arpent about 85 per cent of an acre), the farmstead, barns and appurtenances, rights in the common fields, marshes, watercourses and a water-mill, and rights to feed animals in the common pasturelands along with the villagers' animals. The tenants of Belleéglise and other nearby villages who were accustomed to grinding their grain at the village mill could continue to do so.¹² These new granges, created by a single purchase, would have resembled very closely those that had been consolidated over many decades by earlier communities.

Cistercian agriculture benefited from being tithe-exempt. Indeed early claims to exemption from tithes were part of the larger programme

of monastic reform, which included a refusal to live on income from tithes, altars and traditional estates worked by tenant labourers, but for Cistercians this also included a refusal to pay tithes on their own manual labour in the fields or on their animal husbandry.

Although Innocent II had granted tithe exemption for all the houses associated with Bernard of Clairvaux's congregation in 1132, it was only by the 1180s that such tithe exemptions were extended to the entire Order.¹³ Earlier tithe privileges had been granted on a case by case basis to individual monastic communities by bishops and popes. Such privileges appear premised on the assumption that such grants to new semi-eremitical groups posed no conflict with existing owners of tithes.¹⁴ This, in fact, was rarely the case, however. Indeed to exercise their tithe exemption Cistercians had to purchase tithes from earlier owners. Compromises over such tithe exemption might lead to innovative solutions such as that in which the monks of Silvanès granted the Hospitallers a tenth of the lands held by the abbey in the parish of Prugnes in return for tithe exemption on the other nine-tenths of their holdings there.¹⁵ Yet the record of tithe purchases of this kind has caused consternation among historians of the Order who assumed that such tithes were those abjured by the Order's founders.¹⁶ Most often they were not.

The importance of such tithe exemption for Cistercian agricultural success is obvious. It eliminated payment of 10 per cent of gross yields for field crops along with payment of every tenth lamb or calf. This certainly allowed rural economies to grow more quickly. Not surprisingly, although Cistercians almost always exercised their tithe exemption by repurchase, exemption became the focus of complaints about the Order's wealth. In 1215 the Fourth Lateran Council limited Cistercian tithe exemption to properties held before that Council and to its gardening, animal husbandry and 'noval' cultivation.¹⁷ The issue was most difficult for thirteenth-century foundations of nuns (most monks had acquired properties before the Council and were 'grandfathered-in'). Moreover, some patrons of nuns at the time, like Bishop Manasses II of Orléans, founder of the abbey for Cistercian women at Voisins, appear to have preached the return of tithes to the Church by soliciting gifts to 'his dear daughters, the nuns of Voisins'. While such tithe acquisitions were quite early, eventually Voisins's granges were in the same parishes.¹⁸ This is true too for the Cistercian nuns of Port-Royal, who argued at the beginning of the thirteenth century that they were tithe-exempt because they were Cistercians, but in this case at issue were *novalles* that they had brought under cultivation (*ad culturam redidi faciunt*).¹⁹

In the earliest years cash for land purchases came not from agricultural surpluses or savings from ascetic lifestyles, but from the revenues of pastoralism, and possibly mills, iron and forges and saltworks. Indeed Cistercian communities in their earliest guise often supported themselves from pastoralism rather than agriculture. Such pastoral economies were well suited to the economic needs of new reform communities intent on living 'by the labour of their own hands', but having limited available labour. The earliest surviving Cistercian lay-brother treatise (found in a manuscript from Clairvaux) makes no mention of agriculture at all.²⁰ The earliest lay-brother and lay-sister labourers among the Cistercians were probably those who acted as animal herders or dairy-maids on pastoral properties. We see Nonenque's lay brothers and lay sisters described thus in a dispute settlement over pasture on the Causse de Larzac in southern France.²¹ In the late 1150s monks from Valmagne recruited such pastoralists at the same time that the community was acquiring land at Canvern. Recruits from that village included two brothers settled there with three pair of oxen, three cows and two calves, sixty sheep, money to buy eleven pigs, some fleeces, two cheeses and three sets of clothing; in another case a recruit was set up in a shepherd's hut to make cheese.²²

Shared pasture rights led to ties among reform communities, such as those that linked houses in southern France associated with the abbeys of Mazan and Bonnevaux even before their family of abbeys was absorbed by the Cistercians. In a maximisation of seasonally available pasture called transhumance these abbeys moved sheep and cattle from the vicinity of abbeys near summer pastures in the high Massif Central down to the verdant winter pastures of the Rhone valley where other abbeys were located.²³ Such movement of Cistercian animals between winter and summer pasture is documented by contracts reporting resolution of disputes over access to intermediate areas through which animals could graze, drink water and rest for several days in coming and going from the summer pastures in the Alps, Pyrenees and elsewhere.²⁴

In early charters of land acquisition, access to pasture was granted as an afterthought, but there came to be extensive grants by territorial rulers as well. Thus pasture rights were given along with vineyards, mills, a bathhouse and saltworks to the newly founded abbey of Cistercian nuns at Las Huelgas in Burgos by Alfonso and Eleanor of Castile in 1187:

The animals belonging to that community and its abbey site or its granges will have free pasture rights in all the woods and other places in which the King's animals have pasture. The nuns will

pay no tax for their animals going up or coming down from the mountain pastures. Furthermore the nuns' shepherds' huts will all have the same protection as do those of the King.²⁵

Closely related were woodland rights, as we see in the same document:

The nuns may cut wood, beams and other building materials for the needs of construction of the monastery, its conventual buildings and its granges in all the woods and places where those materials are cut for purposes of the King's construction.²⁶

There were similar forest concessions near Sens made to the nuns of Le Lys by Louis IX.²⁷ Monks at nearby Vauluisant and Pontigny east of Sens, too, seem to have benefited from access to the great forest of Othe on the boundary between Champagne and France, where clearance and reclamation came late because the forest marked that boundary.²⁸ In the mountainous, forested region of the Italian Piedmont, Rifreddo's nuns similarly appear to have acquired holdings paying rent in different varieties of chestnuts.²⁹

The actual practice of agriculture on Cistercian granges developed more slowly than pastoralism, but in many locations can be documented by the mid twelfth century. Generally, the surviving documents provide relatively little information on what was planted and how lands once acquired were used. Still we glean occasional details; for instance in the charters for Chaalis, north-east of Paris, there is evidence for a three-year, three-field rotation.³⁰ As production moved away from the abbey itself, granges developed with different emphases; some devoted to a particular type of animal, others to cultivation of grain, still others to viticulture or olive groves. Usually, however, all granges retained in part the mixed agricultural/pastoral regime typical of all medieval agricultural production, drawing in the earliest years on the manual labour of monks and nuns themselves.

Such consolidated granges had efficiencies in terms of large-scale cultivation in contrast to the earlier fragmented holdings from which they were assembled. The repurchase of rights from all claimants to the land meant that crops did not rot in the fields while the harvest awaited an owner or tithe collector to take his share. Similarly, having no rents of particular kinds to pay, Cistercians could concentrate on the most appropriate cereals, introduce new spring (often nitrogen-fixing) crops, vary rotations to allow soil to rest, pasture their animals on them as needed and convert low-yielding or hard-to-cultivate fields to other uses.

That considerable investment was made in the most effective tools and techniques in Cistercian agriculture is confirmed indirectly

by the widespread acquisition, repair and expansion of the Order's water-powered mills – which provided considerable labour savings in grinding grain and other uses. The water-channels or aqueducts leading into an abbey complex were almost invariably used to power mills for grinding grain, as seen in descriptions of Clairvaux and today at Fontenay. The charters of acquisition of such mills and their accoutrements – dams, rights to flood upstream and so forth – document large numbers of Cistercian mills and mill sites acquired throughout Europe. Usually they were of the Vetruvian (vertical-wheel) type and located most often on smaller streams, but occasionally on major rivers. Such mills are often documented because disputes arose as limits on water resources were reached or because farmlands were flooded in spring. There is also evidence for Cistercian tidal mills, for instance at Stratford Langthorne near London, and for Cistercian windmills such as that at Thame Abbey by c. 1237, which would have had similar labour-saving advantages.³¹

Was mill ownership an abrogation of Cistercian ideals about not being dependent on rents paid by peasants? The issue is complicated. In 1953 Georges Duby, remarking on the numerous mills held by early Cistercians, suggested that the income on flour-grinding at their mills in Burgundy, like animal husbandry elsewhere, may have supported those reformers before they had acquired their large granges.³² Certainly, by the thirteenth century it was accepted that mills acquired by the Order's monks and nuns would continue to be used by earlier tenants on what became Cistercian lands. Thus a contract in which the monks of Royaumont paid the knight Thibaut of Beaumont 500 livres paris for the mill of Gien in July 1259 included the stipulation that those tenants who had once paid the knight to use the mill would henceforth make payments to Royaumont.³³ At Pont-aux-Dames, the nuns' mills were closely associated with the village ovens over which the abbey appeared to have exercised monopoly control of bakers.³⁴

Whatever the case, given the labour-saving capacity of all these powered mills contracts may often have stipulated that monastic acquisition should not deprive neighbours and existing tenants (often removed only slowly from Cistercian lands) of access to such mills.³⁵

Mills also had industrial uses and the Order appears to have introduced the earliest documented fulling mill, described c. 1160 as having two mills under one roof – one for fulling cloth, the other for grinding grain; there were also references to irrigating a meadow nearby.³⁶ Waterworks might be more important than mills themselves, as they were for Cistercian nuns at Manerbio near Brescia, who from the 1140s

were involved in canalisation of water to drain their fields.³⁷ Similarly, although the rights to fish in streams and behind mills have been little studied, artificial fishponds, like those adjoining Maubuisson, must have supplemented the resources of natural fishing in streams.³⁸ Such emphasis on mills, which invariably produced documentation, suggests that Cistercians invested as well in good ploughs, harrows and draught animals.

Cistercian viticulture is also somewhat problematic, for viticulture is very labour intensive. Medieval texts recommended extensive pruning and removing every other grape to improve size and yields, and explained how to graft or plant new vines. Cistercians certainly did receive gifts of vineyards, and often they were made with stipulations about using the wine produced for mass, and never alienating such gifts of wine given for commemoration of souls. Yet Cîteaux's vineyard and grange at Le Clos Vougeot in Burgundy were acquired early and would become one of the great viticultural centres of the world.³⁹ The growing importance of wine production and the profitability of vineyards in the Paris region is suggested by gifts and purchases made by Port-Royal. These include a gift of four arpents of vines in her vineyard of Sevrès made in 1228 for the soul of the deceased Ingorrent of Sevrès by his widow Odeline (their daughter was a nun there); the widow kept a rent of two deniers per arpent paid on the feast of Saint-Rémy and required the nuns to use her winepress unless they built their own.⁴⁰

The house of Cistercian nuns founded by Blanche of Castile at Le Lys near Melun acquired existing vineyards and lands for planting more, along with wine-cellar and winepresses. Its abbesses created vineyards by letting out land in contracts called *medium vestum*, in which tenants would plant vineyards, pay nominal rents for a term of years and then split full ownership with the abbey which had granted the land.⁴¹

Early Cistercian agriculture benefited most from the innovations in labour already indicated – the devotion of time in the fields by monks and nuns themselves and the introduction of peasant labourers as lay brothers and lay sisters. Even before their granges were located too distant from the abbey, the Order began recruiting peasant labourers. Such recruits entered abbeys almost entirely along with land acquisitions. We see this in promises made to sellers that the abbey would accept a donor, a son or a daughter into the community – sometimes stipulating that they be healthy and that they not wait too long. In the early years such peasant recruits must have come with enthusiasm for working the land they knew well. Moreover, having taken vows of celibacy like monks and nuns, they worked without the dependency costs associated

with the labour of peasants and their families in villages. Their efficiency and hard work were critical to the success of Cistercian grange agriculture.

At first equality reigned. These recruits entered as brothers and sisters of the community and were treated as equal to monks and nuns except in so far as their participation in the Divine Office was more limited.⁴² Although spending a greater amount of their time on agricultural duties, such peasant recruits were called brothers and sisters, just like those who devoted more time to the Divine Office. Lay brothers and lay sisters were joined by monks and nuns in the harvest, as for example at Elne near Perpignan, where Cistercian monks from Grandselve joined the lay brothers for the olive harvest.⁴³ Eventually they would return to the abbey from the granges only for weekly mass.

Difficulties about labour arose once grange acquisition stopped and the automatic recruiting of new labourers with land acquisitions ceased. By the 1180s some Cistercian houses had begun to make social distinctions in which men and women from the knightly class were expected to become monks and nuns.⁴⁴ Eventually it would be the *conversi/ae* alone who did the farm labour, with the choir monks and nuns only exceptionally leaving their enclosure to assist in the harvest. It was when this happened that lay brothers and lay sisters had become a second class of monks and nuns. Conditions worsened, lay-brother revolts increased and eventually some abbeys would have to lease out lands or transform granges into villages. This is seen in Gascony, for instance, where the creation of such villages or towns (*bastides*) was made in equal shares (*pariage*) between abbeys and the king or his officers.⁴⁵

Cistercian agriculture was closely tied to town markets, and Cistercians gradually acquired hospices, warehouses and even rental properties in the growing cities. For nuns, whose abbey sites were often closer to cities than those for monks had been, such urban properties provided a place of retreat during warfare. The nuns of Saint-Antoine des Champs, located just outside the city of Paris, went further than most. By c. 1300 its nuns held more than 300 rental properties in Paris, often a number on a single street. Their tenants ranged from great ecclesiastics and feudal lords to prosperous Parisian citizens and poor artisans. Saint-Antoine made its urban endowment particularly inflation-proof by frequent augmentations of rent – possibly in return for loans that allowed tenants to make improvements.⁴⁶

By the end of the thirteenth century Cistercian grange agriculture was in place. Its benefits were shared by numerous Cistercian abbeys for nuns, some of which rivalled in size and endowment those of the

Order's monks. Clearly, moreover, patrons did not hesitate to entrust those nuns with properties in support of their daughters, their elders and their anniversary masses, for which houses of nuns were as likely to be chosen as those for the Order's monks. In fact, patrons (many of them female) seem to have convinced themselves that women's prayers were possibly even more efficacious than men's for they speak often of their admiration and support of those poor nuns at a time when the Order's monks were dismissed as wealthy and arrogant. Despite the fact that the nuns would need to hire priests to celebrate masses for souls, it was deemed appropriate, possibly even best, to make contributions to 'poor Cistercian nuns' who might even build chapels for the anniversary masses for their patrons.⁴⁷ Cistercian nuns, like all religious women, did face institutional pressure that they remain enclosed, manage property in accordance with resources and not beg, but such nuns also took their charitable activities seriously – ignoring injunctions to prudence from father-visitors whether in giving alms to the poor at their gates or in admitting nuns in excess of established population maxima.⁴⁸

Those nuns also defended their rights. Saint-Antoine's nuns showed their expertise in disputing an earlier contract for purchase of extensive woodlands from the Premonstratensians, as being too high with regard to 'the just price'.⁴⁹ Citing the volatility of prices and a decline in the purchasing power of cash, c. 1300, the nuns of Le Lys near Melun successfully challenged royal officials who had attempted to pay them in cash rather than grain. Presenting the documents for their foundation by Louis IX and Blanche of Castile, which included promises of annual rents in kind from the royal granaries, the nuns received a reissue of the royal grant of payments in kind.⁵⁰ In this and in many other ways, those nuns practised their agriculture and their almsgiving in ways that by the thirteenth and later centuries may even have seemed more effective than those of the monks.⁵¹

Notes

- 1 Canivez, *Statuta*, I, p. 12, 'prima collectio', no. 1, attributed to the 1130s.
- 2 J.W. Thompson, 'The Cistercian Order and Colonization in Mediaeval Germany', *American Journal of Theology*, 24 (1920), 67–93.
- 3 C.H. Berman, *Medieval Agriculture, the Southern-French Countryside, and the Early Cistercians: A Study of Forty-Three Monasteries* (Philadelphia, PA, 1986).
- 4 P. Toubert, *Les structures du Latium médiéval: le Latium méridional et la Sabine du IXe siècle à la fin du XIIe siècle*, 2 vols. (Rome, 1973);

- M. Bourin, *Villages médiévaux en Bas-Languedoc: genèse d'une associabilité, Xe-XIVe siècle*, 2 vols. (Paris, 1987).
- 5 J. Waquet et al. (eds.), *Recueil des chartes de l'abbaye de Clairvaux au XIIIe siècle* (Paris, 2004), nos. 164–5 (c. 1176).
 - 6 C.H. Berman, *The Cistercian Evolution: The Invention of a Religious Order in Twelfth-Century Europe* (Philadelphia, PA, 2000).
 - 7 A. Bondéelle-Souchier, 'Les moniales cisterciennes et leurs livres manuscrits dans la France d'ancien régime', *Cîteaux*, 45 (1994), 193–336, shows that only about a fifth of the abbeys of nuns did not survive to the French Revolution.
 - 8 B. Barrière and M.-É. Henneau (eds.), *Cîteaux et les femmes: rencontres à Royaumont* (Paris, 2001), or E. Jordan, 'Prayers, Patronage, and Polders: Assessing Cistercian Foundations in Flanders', *Cîteaux*, 53 (2002), 99–125.
 - 9 Pontoise, A.D. Val d'Oise, 72H12; selections were published by H. de l'Épinois, 'Comptes relatifs à la fondation de l'abbaye de Maubuisson, d'après les originaux des archives de Versailles', *Bibliothèque de l'école de chartes*, 19 (1858), 550–69.
 - 10 C.E. Boyd, *A Cistercian Nunnery in Medieval Italy: The Story of Rifreddo in Saluzzo, 1220–1300* (Cambridge, MA, 1943).
 - 11 Paris, A.N. LL1595 and S*4386, 'Cartulaires de Saint-Antoine'.
 - 12 Paris, B.N. Latin MSS 9166–9, 'Cartulaire de Royaumont', fols. 872ff.
 - 13 Berman, *The Cistercian Evolution*.
 - 14 G. Constable, *Monastic Tithes from Their Origins to the Twelfth Century* (Cambridge, 1964); Berman, *Medieval Agriculture*.
 - 15 *Cartulaire de l'abbaye de Silvanès*, ed. P.-A. Verlaguet (Rodez, 1910), nos. 170 (1154) and 174 (1165).
 - 16 B.D. Hill, *English Cistercian Monasteries and Their Patrons in the Twelfth Century* (Urbana, IL, 1968).
 - 17 J.S. Donnelly, *The Decline of the Medieval Cistercian Laybrotherhood* (New York, 1949).
 - 18 J. Doinel (ed.), *Cartulaire de Notre-Dame de Voisins* (Orléans, 1887), nos. 49 (1207), 44 (1215), 46 (1217), 55 (1218), etc.
 - 19 C.H. Berman, 'Cistercian Women and Tithes', *Cîteaux*, 49 (1998), 95–128; A. de Dion (ed.), *Cartulaire de l'abbaye de Porrois, au diocèse de Paris plus connue sous son nom mystique Port-Royal* (Paris, 1903), no. 4 (1206).
 - 20 Montpellier, Bibl. École de Médecine, MS H322, *De usibus conversorum*; fols. 83v–84r; see C.H. Berman, 'Distinguishing between the Humble Peasant Lay Brother and Sister and the Converted Knight in Medieval Southern France', in *Religious and Laity in Northern Europe*, ed. J. Burton and E. Jamroziak (Turnhout, 2006), pp. 263–83.
 - 21 C. Couderc and J.-L. Riga! (eds.), *Cartulaire et documents de l'abbaye de Nonenque* (Rodez, 1955), nos. 8 (1167–8), 21 (1173) and 26 (1177).
 - 22 Montpellier, A.D. Hérault, 'Cartulaire de Valmagne' 1, fols. 76r–77r, 78r (1160–1).
 - 23 Berman, *The Cistercian Evolution*, map, p. 119.
 - 24 Berman, *Medieval Agriculture*.

- 25 J.M. Lizoain Garrido (ed.), *Documentacion del Monasterio de Las Huelgas de Burgos (1116-1230)*, 6 vols. (Burgos, 1985), vol. 1, no. 11 (1187).
- 26 *Ibid.*
- 27 Paris, B.N. Latin 13892, 'Cartulaire du Lys'.
- 28 W.O. Duba (ed.), 'Cartulary of Vaulting' (University of Iowa, MA thesis, 1994); C. Higounet, *Défrichements et Villeneuves du Bassin Parisien (XIe-XIVe siècles)* (Paris, 1990).
- 29 Boyd, *A Cistercian Nunnery*.
- 30 C. Higounet, *La Grange de Vaulerent: structure et exploitation d'un terroir cistercienne de la plaine de France* (Paris, 1965).
- 31 R.A. Donkin, *The Cistercians: Studies in the Geography of Medieval England and Wales* (Toronto, 1978), p. 138.
- 32 G. Duby (ed.), *Recueil des pancartes de l'abbaye de la Ferté-sur-Grosne: 1113-1178* (Gap, 1953).
- 33 Paris, B.N. Latin MSS 9166-9, 'Cartulaire de Royaumont', fols. 1441-3 (1259).
- 34 C.-H. Berthaut (ed.), *L'abbaye du Pont-aux-Dames, assise en la paroisse de Couilly (1226-1790)* (Meaux, 1878).
- 35 C.H. Berman, 'Women's Work in Family, Village, and Town after AD 1000: Contributions to Economic Growth?', *Journal of Women's History*, 19 (2007), 10-32.
- 36 A.-M. Bautier, 'Les plus anciennes mentions de moulins hydraulique industriels et de moulins à vent', *Bulletin philologique et historique*, 2 (1960), 567-626; *Cartulaire de Silvanès*, nos. 210 (1159), 145 (1164) and 227 (1164).
- 37 F. Menant, *Campagnes Lombardes du moyen âge* (Rome, 1993), p. 191.
- 38 R. Hoffmann, 'Mediaeval Cistercian Fisheries: Natural and Artificial', in *L'espace Cistercien*, ed. L. Pressouyre (Paris, 1994), pp. 401-14.
- 39 J.-M. Marilier (ed.), *Chartes et documents concernant l'Abbaye de Cîteaux: 1098-1182* (Rome, 1961).
- 40 de Dion (ed.), *Cartulaire de Port-Royal*, no. 98 (1228).
- 41 Paris, B.N. Latin 13892, 'Cartulaire du Lys'.
- 42 Recruitment of such lay brothers along with the land their families had once held is apparent at Silvanès by 1150; Berman, *Medieval Agriculture*.
- 43 Paris, B.N. Latin MS 9994, 'Cartulaire de Grandselve', fols. 223r-225v, and no. 752 (1157).
- 44 *Statuta* 1188:8; Canivez, *Statuta*, 1, p. 108.
- 45 C. Higounet, 'Cisterciens et Bastides', *Le Moyen Âge*, 56 (1950), 69-84.
- 46 Paris, A.N. LL1595, fols. 19r-20v (1216).
- 47 *Ibid.*, fol. 41v (1228).
- 48 E. Makowski, *Canon Law and Cloistered Women: Periculoso and Its Commentators, 1298-1545* (Washington, DC, 1997), on how slowly Boniface VIII's 'Periculoso' was enforced.
- 49 Paris, A.N. S*4386, 'Cartulaire de Saint-Antoine'.
- 50 Paris, B.N. Latin 13892, 'Cartulaire du Lys'.

- 51 R. Gilchrist, *Gender and Material Culture: The Archaeology of Religious Women* (London, 1994); B. Barrière, 'The Cistercian Monastery of Coyroux in the Province of Limousin in Southern France, in the 12th–13th Centuries', *Gesta*, 31 (1992), 76–82, on nuns making less solid buildings than did monks; indeed when houses of nuns began to be suppressed, it was frequently to solve crises of debt among their father-visitors; see C.H. Berman, 'The Labors of Hercules, the Cartulary, Church and Abbey for Nuns of La Cour-Notre-Dame-de-Michery', *Journal of Medieval History*, 26 (2000), 33–70.