RIEVAULX ABBEY, THE CISTERCIAN TASKSCAPE AND ENVIRONMENTAL CHANGE

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Cistercian monasteries gained a reputation for the 'transformation' of marginal locations, from wilderness to abundance.[1] The Cistercian reputation for settling in remote and hostile locations is, however, increasingly understood as problematic.

ABBREVIATIONS

Blackwell	*The Wiley Blackwell Encyclopedia of Anglo-Saxon England* ed. Michael LAPIDGE, John BLAIR, Simon KEYNES, and Donald SCRAGG, Chichester 2013.
Cart. Riev.	*Cartularium Abbathiae de Rievalle*, ed. John C. ATKINSON, Surtees Society 83, Durham 1889. The Roman numerals used by Atkinson to identify individual documents have been converted to Arabic numerals in the current paper and cited by document number unless otherwise indicated.
DB	*Domesday Book: Yorkshire*, 2 vol., ed. Margaret L. FAULL and Marie L. STINSON, Chichester 1986. Entries are here cited by folio number followed by the entry number assigned by the editors, for example 300c80 is the first mention of Helmsley.
'Estates'	Janet E. BURTON, 'The Estates and Economy of Rievaulx Abbey in Yorkshire', *Cîteaux* 49:1-2 (1998), p. 29-93.
EYC	*Early Yorkshire Charters: Being a Collection of Documents Anterior to the Thirteenth Century Made from the Public Records, Monastic Chartularies*, *Roger Dodsworth's Manuscripts and Other Available Sources*, ed. and trans. William FARRER, vol. 1, Durham 1914. Entries are here cited by document number unless otherwise indicated.
Rievaulx Abbey	Peter FERGUSSON and Stuart A. HARRISON, with contributions from Glyn COPPACK, *Rievaulx Abbey: Community, Architecture, Memory,* New Haven, CT 1999.
Rievaulx Abbey 1132-1300	Emilia M. JAMROZIAK, *Rievaulx Abbey and its Social Context 1132-1300: Memory, Locality and Networks*, Turnhout 2005.
'Transformation'	Freya HORSFIELD, "Transformation' by Cistercian Rievaulx Abbey: Change and Complexity in a flood-prone Landscape', PhD Thesis, University of Durham 2021.
'Wasteland'	Freya HORSFIELD, 'Cistercian Rievaulx Abbey and the 'Transformation' of King Henry II's Wasteland', in *Ecclesiastical Landscapes in Medieval Europe: An Archaeological Perspective*, ed. Jose-Carlos SANCHEZ-PARDO, Emmet MARRON, and Maria C. ȚIPLIC, Oxford 2020, p. 148–166.

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Cistercian monasteries, and indeed monasteries overall, were not unique in being agents of physical change in the medieval landscape. It is far from clear how exceptional Cistercian land management practices were among their peers, both lay and monastic, and if there was anything uniquely 'Cistercian' about how they went about such things. Historians have established a substantial list of Cistercian locations documented as previously occupied.[2] Archaeologists also suggest that the quantitative degree to which Cistercian monasteries pioneered occupation of previously unsettled land should not be overemphasised.[3]

The substantial body of research about Cistercian monasteries however permits interpretative nuance in exploring the relationships between a specific monastery and the physical environment. The physical environment was important to Cistercian monasteries on multiple levels. Environmental products sustained monasteries practically, whether by direct cultivation or the gifts of the produce by others.[4] The physical environment was also a source of metaphorical and theological sustenance. For Cistercians, a specific concept, that of wilderness, may have performed multiple functions, including as *lieu de memoire*.[5] The wilderness concept was a paradigm of monastic asceticism which has been preserved in text, developing as Christian monasticism expanded across Europe.[6] It may, however, have been necessary for there to have existed some elements of truth underlying this Cistercian wilderness ideology for it to be effective.[7] The physical environment was also an arena where social relationships were encoded and negotiated.[8]

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[1] Illustrated by Orderic Vitalis's comment that the Cistercians 'have built monasteries with their own hands in lonely, wooded places'. See Orderic Vitalis, *Ordericus Vitalis Historia Ecclesiastica*, in *The Ecclesiastical History of Orderic Vitalis*, vol. 4, ed. and trans. Marjorie M. Chibnall, Oxford 1973, p. 327.

[2] A synthesis of historical evidence countering assumptions of Cistercian settlement in 'new' land in is provided by Mette B. Bruun, 'The Wilderness as 'lieu de mémoire': Literary Deserts of Cîteaux and La Trappe', in *Negotiating Heritage: Memories of the Middle Ages*, ed. Bruun and Stephanie Glaser, (*Ritus et Artes*: Traditions and Transformation), Turnhout 2008, 4, p. 21-42; Janet Burton and Julie Kerr, *The Cistercians in the Middle Ages*, Woodbridge 2011, p. 56-81.

[3] For archaeological syntheses see C. James Bond, *Monastic Landscapes*, Stroud 2004. p. 68-100; Mick Aston, *Monasteries in the Landscape*, Stroud 2000, p. 83-100. A study of Stanley Abbey (Wilts) used a range of evidence, including field survey, and found that Stanley had been founded in a previously well populated and well-developed area: Graham R. Brown, *Stanley Abbey and its Estates 1151-c.1640: A Cistercian Monastery and its Impact on the Landscape* (British Archaeological Reports British Series 566), Oxford 2012.

[4] For abundant evidence from monasteries of multiple religious orders see Bond, *Monastic Landscapes*.

[5] Bruun, 'Wilderness', p. 41.

[6] James. E. Goehring, 'The Dark Side of Landscape: Ideology and Power in the Christian Myth of the Desert', *Journal of Medieval and Early Modern Studies* 33:3 (2003), p. 437-451.

[7] Noël J. Menuge, 'The Foundation Myth: Some Yorkshire Monasteries and the Landscape Agenda', *Landscapes* 1:1 (2000), p. 22-37.

[8] Space may be understood as a social construct, with meaning communicable in various ways. For a variety of analytical approaches to space see *The Spatial Turn: Interdisciplinary Perspectives (Routledge Studies in Human Geography 26)*, ed. Barney Warf and Santa Arias, London 2008. For an extended study of Cistercian space, see Megan Cassidy-Welch, *Monastic Spaces and Their Meanings*, Turnhout 2001.

Cistercian relationships with the physical environment may therefore be understood partly as identity work within specific contexts. The importance of context in understanding Cistercian responses to local circumstances has been noted elsewhere.[9] Practices by men and women who lived under Cistercian rule developed in a diversity of contexts, from northern Europe to the East Mediterranean.[10] 'Cistercian behaviour' was therefore potentially diverse, yet the possibility of diverse behaviour appears in tension with older, normative models of uniform and distinctive Cistercian practice, such as Louis Lekai's 'ideals and reality' model.[11] Documentary suggestions of physical 'transformation' by Cistercian monasteries thus merit critical, contextual investigation. Insights from both the physical environment and the study of human behaviour are essential to understand the role played in environmental change by a specific human culture, such as that associated with the Cistercian monastic rule.

I. Methods and Sources

The current paper foregrounds the interpretative model used for a recent investigation of the role played by a major Cistercian monastery, Rievaulx Abbey, in creating physical change in a specific context: North Yorkshire in England. The interdisciplinary study drew on earth science data, documentary, placename, and remote sensing evidence. Data were interrogated by a spatial framing (hydrological catchments), within a descriptive model (complex system) and analytical 'lenses' suggested by the concept of 'taskscape.' The rationale for each investigative element is sketched successively below.

A catchment-based approach used earth science and remotely sensed data to conduct hydrological modelling.[12] For both case studies, aerial photographs, earth science data, soil data, historic maps and other data were accessed via the Edina Digimap service, The National Archives (TNA, UK), the (UK) Soil Survey and National Soil Resources Institute (NSRI), and various published sources. LiDaR (Light Detection and Ranging) data in both elevation (height) data and intensity (light strength returned from the laser beam) data were supplied by the UK's Environment Agency. Archaeological data were collated from a range of existing

[9] Berman emphasised the need to see the evolution of the Cistercian Order in the context of evolution of governance of the lay world. Constance H. Berman, *The Cistercian Evolution: The Invention of a Religious Order in Twelfth-century Europe*, Philadelphia 2000. In turn, others caution against using Berman's work on Cistercians in France to interpret activities elsewhere, where the social, political, economic, and geographical factors may differ markedly (see *Rievaulx Abbey 1132-1300*, p. 13).

[10] The Cistercian monastic tradition continues in the modern day. The current paper however confines itself to study of specific past episodes of Cistercian culture.

[11] Louis J. Lekai, *The Cistercians: Ideals and Reality*, Kent, OH 1992.

[12] A catchment is a geographic area defined naturally by surface water hydrology. See the policy paper 'Catchment Based Approach: Improving the Quality of our Water Environment' produced by the Department for Environment, Food and Rural Affairs (DEFRA) in June 2013: https://www.gov.uk/government/publications/catchment-based-approach-improving-the-quality-of-our-water-environment.

sources, including Historic Environment Records. Historic documents are cited as used. Placenames were interpreted using the work of the English Place Name Society. For case study 1 on Rye Vale, structure from motion (SfM) photogrammetry and other data were made available by Historic England. Finally, the collection and processing of near-earth geophysics north of Rievaulx's precinct were conducted by Dr Chrys Harris and Bradford University, assisted by the author.

1. Taskscape as Research Approach

The high degree of complexity involved in human agency, such as that of a Cistercian monastery, in historic environment change is outlined below. The range of potentially relevant data is correspondingly broad. An existing term, 'taskscape', is therefore here extended to help interpret multiple data types while foregrounding factors such as human agency and intentionality. The concept of taskscape was developed by anthropologist Tim Ingold to describe a dynamic array of related, interlocking activities: mobility, habitat, economy, nature, and public space.[13] Archaeologist Timothy Darvill summarised taskscape thus:

> … the entire ensemble of tasks or actions that a society, community, or individual performs. The idea of the taskscape recognizes that all tasks are interlocking, and that any one task is embedded in the way that other tasks are themselves seen and understood. Thus, the very notion of a taskscape as a continuous or seamless spread of heterogeneous events and experiences stands in opposition to the widespread western practice of classifying activities into groups such as technological, subsistence, or ritual.[14]

Both Ingold's own work and wider theoretical developments have continued, with taskscape being arguably superseded by 'landscape'.[15] The definition of landscape is however plural and highly contested.[16] Crucially, natural science definitions of landscape can under-emphasise the cultural aspects of human behaviour.[17] In contrast, taskscape clearly signals processes of social construction. The concept of taskscape, rather than landscape, was therefore used for the research reported here.

An imaginative exercise to recreate human intentionality is at the core of a taskscape model. Reconfiguring Ingold's original elements permits the application of taskscape to a Cistercian context. A focus on the intentional centre of a Cistercian setting would incorporate the liturgy and purposeful philosophies such

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[13] Timothy Ingold, 'The Temporality of the Landscape', *World Archaeology* 25:2 (1993), p. 152-174.

[14] Timothy Darvill, *The Concise Oxford Dictionary of Archaeology*, Oxford 2009[2], p. 356.

[15] Timothy Ingold, 'Taking Taskscape to Task', in *Forms of Dwelling: 20 Years of Taskscapes in Archaeology*, ed. Ulla Rajala, and Philip Mills, Oxford 2017, p. 16-27.

[16] *Handbook of Landscape Archaeology*, ed. Bruno David and Julian Thomas (World Archaeological Congress Research Handbooks in Archaeology 1), Walnut Creek, CA 2008.

[17] Veronica Strang, 'Uncommon Ground: Landscapes as Social Geography', in *Handbook of Landscape Archaeology*, p. 51-59.

as *caritas*.[18] Multiple interpretative lenses may be overlapped to identify the factors which historic actors might have encountered, thus increasing nuance. In the research reported here, at least three interpretative lenses were applied to each case study to help mitigate against binary interpretations. The interpretative lenses applied in these case studies included a lens sensitive to the possibility of belief and meaning ascribed to places and landscape features preceding Cistercian foundation. Other taskscape lenses focussed on temporal and physical power, and on pragmatic issues such as resources. The case studies are drawn from the history of a specific monastery to illustrate a preliminary application of taskscape to a Cistercian context. Summary details only are presented here to illustrate key concepts.

II. Interpretative Models for Worldview as a Factor in Environmental Change

Many existing interpretative models for the role of human culture in historic environmental change are problematic. The debate over the development of the Cistercian Order illustrates the degree to which Cistercian scholarship has rested on generalised interpretations which applied anachronistic concepts.[19] Some Cistercian research has been coloured by post-medieval interpretative models. For example, it has become common to suggest that Cistercians practiced a 'rational' economic approach to environmental management, an overt choice which, it is claimed, contributed to the success of the order.[20] An economic approach, which sees human decision-making as based on objective rationalisation of a set of economic objectives and goals, is arguably anachronistic for the late eleventh and twelfth centuries.[21] A post-medieval perspective may also be responsible for a view of monastic management of the physical environment as intended solely as the material means for monastic support, and as being distinct from spiritual activities.[22]

Explanatory models for humans as agents of historic environmental change have also been problematic in historic studies more widely.[23] A tacit assumption,

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[18] Martha G. Newman, *The Boundaries of Charity: Cistercian Culture and Ecclesiastical Reform, 1098-1180*, Stanford, CA 1996.

[19] Summarised in Emilia M. Jamroziak, *The Cistercian Order in Medieval Europe, 1090-1500*, Abingdon 2013, p. 2-5.

[20] For example, see Coburn V. Graves, The Economic Activities of the Cistercians in Medieval England (1128-1307)', *Analecta Sacri Ordinis Cisterciensis* 13 (1957), p. 3-62; Richard Roehl, 'Plan and Reality in a Medieval Monastic Economy: The Cistercians', *The Journal of Economic History* 29:1 (1969), p. 180-182.

[21] Mark Bailey, 'The Concept of the Margin in the Medieval English Economy', *The Economic History Review* 42:1 (1989), p. 1-17.

[22] For a rich resource on the functional perspective on monastic archaeology, see Aston, *Monasteries in the Landscape* (n. 3 above).

[23] With notable exceptions: Menuge, 'Foundation Myth'; Paul Everson and David Stocker, *Custodians of Continuity? The Premonstratensian Abbey at Barlings and the Landscape of Ritual*, Sleaford 2011.

that past environments were essentially static until directly modified by humans, underpins concepts frequently used to describe historic environments. For example, common metaphors for the historic landscape include describing it as successive, discrete 'layers' or as an environmental palimpsest, namely a parchment which still bears traces of previous writing.[24] An emphasis on technological progress as the primary driver of landscape change has been an explanatory model in the culture-historical tradition, notably Lynn White's suggestion that the invention of the mould-board plough enabled transformative human 'domination' of the natural world.[25]

Knowledge and technology may indeed be key factors mediating human changes to ecosystems, but focussing solely on such aspects is likely to under-represent significantly other socio-cultural factors.[26] For example, research into historic land reclamation has tended to over-emphasise factors such as commerce, demography, and technological innovation, obscuring social aspects.[27] Human actions are influenced by world views such as religious beliefs, as well as practical understanding at the time. A nuanced interpretative model is therefore required to understand a Cistercian monastery as agent of change in the physical environment. Systems approaches and complexity theory offer potential for application to the interactions between historic actors, such as Cistercian monasteries, and the environment.

III. Human Factors in Dynamic World Systems

Understanding human-mediated change in the physical environment is a major modern challenge.[28] The natural sciences understand the physical environment in terms of dynamic systems, within which multiple processes operate at a range of scales, from long term geological processes (such as plate tectonics) to short term weather fluctuations. Many approaches in the natural sciences may however not be sufficiently sensitive to the role of human agency, social behaviour and history of thought.[29] Human social systems can be defined as dealing with 'property rights, land and resource tenure systems, worldviews and ethics, and different types of knowledge systems pertinent to the environments in which they were situated.'[30] Human social systems potentially interact with dynamic physical environments in

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[24] *Land and Life: A Selection of Writings of Carl Ortwin Sauer*, ed. John Leighly, Berkeley 1962; Samuel Turner, 'Landscape Archaeology', in *The Routledge Companion to Landscape Studies*, ed. Peter Howard, Ian Thompson, Emma Waterton and Mick Atha, New York 2013, p. 131-142.

[25] Lynn White, 'The Historical Roots of Our Ecologic Crisis', *Science* 155: 3767 (1967), p. 1203-1207.

[26] Johan Colding, and Stephan Barthel, 'Exploring the Social-Ecological Systems Discourse 20 Years Later', *Ecology and Society* 24:1 (2019), accessible at: https://doi.org/10.5751/ES-10598-240102.

[27] Daniel R. Curtis, and Michele Campopiano, 'Medieval Land Reclamation and the Creation of New Societies: Comparing Holland and the Po Valley, c.800–c.1500', *Journal of Historical Geography* 44 (2014), p. 93-108 (at p. 93).

[28] See the reports by the Intergovernmental Panel on Climate Change (IPCC), hosted at: https://www.ipcc.ch/srccl/.

[29] Rainer Schreg, 'Ecological Approaches in Medieval Rural Archaeology', *European Journal of Archaeology* 17:1 (2014), p. 83-110 (at p.107).

[30] Fikret Berkes, Carl Folke, and Johan Colding, *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*, Cambridge 1998, p. 4.

multiple ways, such as through agricultural practices, thus creating consequences for the environmental development trajectory. For example, stockkeeping may affect soil fertility from accumulation of animal excreta, in turn impacting plants and animals through mechanisms such as species-selective grazing.[31] The links between human culture, practical activities and change in the physical environment can therefore be intricate. Such factors and processes might be described as a world system, comprising the physical world, human cultures, and human activities, all interacting at different timescales.

A specific culture, for example that which developed in medieval Cistercian monasteries, may be considered as operating historically within such a world system. It is suggested here that Cistercian culture can be viewed as a complex system, nested within a larger complex world system. Complex systems may be differentiated from complicated, in that the former are *diverse, interconnected, interdependent*, and *adaptive*. Complicated systems are not adaptive, although they may comprise diverse elements.[32] Cistercian culture was diverse in encompassing spiritual practices and ones which, to twenty-first-century eyes, appear wholly practical, such as agrarian activities. The Cistercian presence in the medieval world was also highly interconnected and interdependent. Spiritual practices depended on practical endeavour, at a minimum for the material means of subsistence, and these practical resources depended on connection to the world outside the precinct for donations and for societal consent to operate. The Cistercian presence in the medieval world can, therefore, be characterised as *diverse, interconnected,* and *interdependent*, since it meets at least three of the four criteria defining a complex system. Cistercian culture may also have been adaptive, as shown by the growing body of evidence for Cistercian monasticism having been practiced differently in different cultural and historical contexts (above). The example of Rievaulx Abbey is used next to consider a facet of change and adaptation, namely 'transformation'.

IV. Rievaulx Abbey and 'Transformation'

Rievaulx Abbey was founded in North Yorkshire by Walter Espec in 1131-1132 and operated as a Cistercian monastery until the Dissolution of the Monasteries by Henry VIII in 1538.[33] Rievaulx Abbey was immensely important and may have been intended as a 'mission centre' to Northern Britain.[34] St Bernard of Clairvaux was involved in the negotiations to establish Rievaulx Abbey, which became the first Cistercian house in Britain to be founded directly from Clairvaux, the first

[31] Ian A. Simpson, Pim F. van Bergen, Vincent Perret, Mohammed M. Elhmmali, David J. Roberts, and Richard P. Evershed, 'Lipid Biomarkers of Manuring Practice in Relict Anthropogenic Soils', *The Holocene* 9: 2 (1999), p. 223-229.

[32] Scott E. Page, *Understanding Complexity*, Chantilly, VA 2009, p. 3-7.

[33] *Rievaulx Abbey 1132-1300*.

[34] *Rievaulx Abbey*, p. 38.

Cistercian monastery in northern Britain, and only the third in the whole of Britain.[35] Rievaulx Abbey also played an important role in the medieval Church and politics, both within Britain and more widely. The monastery's charismatic third abbot, Ailred, became one of the leading figures of the age.[36] Rievaulx Abbey also became important economically, connected to pan-European trade networks through the sale of high-quality wool.[37] Such agrarian productivity was made possible by the monastery's rights across substantial areas of Northern Britain.[38]

Given the physical characteristics of Northern Britain, the community of Rievaulx Abbey would have encountered specific practical challenges in exercising the monastery's rights. It has become traditional in historical geography to refer to management of 'land' and 'water' as being distinct. Both terms however problematically simplify the physical science of the substances involved, the way the substances behave in combination, and the effect of human activities on the combined substances. Put simply, inshore 'water' and 'land' are interconnected elements in a dynamic matrix, within which the effects of human activities intricately connect with other physical processes. The physical properties of land surface and subsurface affect permeability and water storage. Water may be variously present, in forms such as groundwater, soil moisture and water channels. Waterborne erosion also occurs, whereby physical forces (including gravity and capillary action) cause water to move and thus transport sediment and other matter. The behaviour of water is in turn affected by hydrological connectivity, namely the 'water-mediated transport of matter, energy and organisms within or between elements of the hydrologic cycle.'[39]

Human impact on a specific environment therefore can be affected by hydrological connectivity, investigation of which necessitates appropriate spatial definition to determine the extent and characteristics of the hydrological catchment. Catchment connectivity may be affected by multiple factors. In temperate regions, such as Northern Europe, major factors in catchment connectivity are climate, run-off regime (water flow variability), delivery pathway (flow route) and lateral buffers (features that affect flow). Human activities may have significant effects on hydrological connectivity and delivery pathway, through drainage creation or changes to any lateral buffers between channels, such as riparian vegetation or wet areas.[40]

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[35] *Rievaulx Abbey 1132*-1300, p. 30-31.

[36] Marsha L. Dutton, 'Introduction' and 'Aelred of Rievaulx: Abbot, Teacher, and Author' in *Aelred of Rievaulx: The Historical Works*, trans. Jane P. Freeland (Cistercian Fathers Series 56), Kalamazoo, MI 2006, p. 1-47.

[37] Emilia M. Jamroziak, 'Rievaulx Abbey as a Wool Producer in the Late Thirteenth Century: Cistercians, Sheep, and Debts', *Northern History* 40:2 (2003), p. 197-218.

[38] 'Estates', p. 29-93.

[39] Mary C. Freeman, Catherine M. Pringle and C. Rhett Jackson, 'Hydrologic Connectivity and the Contribution of Stream Headwaters to Ecological Integrity at Regional Scales', *Journal of the American Water Resources Association* 43:1 (2007), p. 5-14 (at p. 5).

[40] Louise J. Bracken and Jacky Croke, 'The Concept of Hydrological Connectivity and its Contribution to Understanding Runoff Dominated Geomorphic Systems', *Hydrological Processes* 21:13 (2007), p. 1749-1763.

Stephen J. Rippon has described the effect of historic human activities on water / land systems as a spectrum, ranging from exploitation, through adaptation to transformation.[41] Rippon's identification of 'transformation' may be described in systems terminology as a *phase transition*, a tipping point from one state ('watery') into a new state, 'land.'[42] 'Land' is also subject to dynamic physical processes such as waterborne erosion, making the catchment context continuingly relevant.

Consideration of whether and how the community of Rievaulx Abbey 'transformed' its landscape therefore necessitates a focus on river catchments. The two case studies reported here addressed first the river Rye catchment, land within which Rievaulx Abbey was founded. The Rye catchment in turn contributes to the river Derwent catchment, within which lay the subject of the second case study, namely an important grant in the Vale of Pickering made to the abbey by Henry II. (Figure 1)

V. Case Study 1: Rye Vale

The religious narrative that Rievaulx Abbey was established in an untouched 'new' land was given persuasive colour by twelfth-century Cistercians.[43] Multiple lines of evidence elucidated by interpretative taskscape lenses however suggest a much more complicated and interesting picture. The Rye Vale case study is presented here first in terms of the upper and midsections of the river Rye catchment, followed by consideration of the mid-catchment valley in which the monastery's claustral core was established. [44]

1. Upper and mid-catchment Rye Vale

Espec's gifts conveyed to the community at Rievaulx Abbey certain lands and rights across the upper and mid Rye catchment. Espec's foundation grant established Cistercians on the vills of Griff and Tilstons, supplemented by a later grant of land between the location of the monastic core and the uplands, which included part of Bilsdale.[45] When Rievaulx Abbey became steward of these areas, the

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[41] Stephen J. Rippon, *The Transformation of Coastal Wetlands: Exploitation and Management of Marshland Landscapes in Northwest Europe During the Roman and Medieval Periods*, Oxford 2000, p. 52-53.

[42] Scott E. Page, *Diversity and Complexity*, Princeton 2010, p. 163

[43] For example, 'The Life of Aelred', trans. F. Maurice Powicke, in *Walter Daniel: The Life of Ailred of Rievaulx*: *And the Letter to Maurice*, ed. Marsha Dutton (Cistercian Fathers Series 57), Kalamazoo, MI 1994, p. 98.

[44] The term Rye Vale is here used to describe the Rye catchment between its upland origins as far as the floodplain edge near Helmsley.

[45] The original document for neither grant appears to have survived. Details are instead preserved in a secondary source, *Cart. Riev.* 42; 'Estates', p. 29-94. References to 'vill' in *DB* are best interpreted as a settlement or an estate (albeit in some cases a small one) rather than 'village'. See Christopher C. Dyer, and Keith D. Lilley, 'Town and Countryside. Relationships and Resemblances,' in *Medieval Rural Settlement: Britain and Ireland, AD 800-1600*, ed. Neil Christie and Paul Stamper, Oxford 2012, p. 83.

monastic community benefitted from a development trajectory which had been set in motion long before. From the fragmentary archaeological evidence it is clear that the upper Rye catchment had been exploited intermittently since the Mesolithic period, with sustained, widescale exploitation evident from surviving Bronze Age field systems.[46] Documentary and place name evidence suggests that by the time of the Norman settlement, the upper Rye catchment had been occupied by people using Anglo-Scandinavian personal and place names.[47] The river Rye and its tributary, the river Seph, flow over the Main and Dogger ironstone outcrops that contain thin seams of poor-quality coal.[48] By the early twelfth century, iron working was underway within Rye Vale at a 'smith's dale' (*Smidhesdala*).[49] A patchwork of grants in Rye Vale and the surrounding area was made to the monastery by multiple patrons in the later twelfth and early thirteenth centuries. [50] The specific nature of those grants also suggests a degree of preceding occupation.

The delineation of Espec's gifts is however problematic because the precise nature of land rights in eleventh- and twelfth-century Yorkshire is now somewhat opaque. Cultural practices and land interests in Yorkshire at the time could potentially include rights to a wide array of resources, which may not necessarily have formed coherent estates. Documentary sources from the period often describe land in terms of carucates, which could be associated with unspecified amounts of meadow and other types of land.[51] Evidence from the *Domesday Book* and Espec's 'foundation charter' suggest that at least parts of Griff and Tilstons had been settled prior to Cistercian occupation.[52] When Espec's heirs confirmed his grants of five and four carucates in Tilstons and Griff respectively, it was made clear that the specified carucates came with that which pertained to them.[53] It is most likely that

[46] Margaret Waughman, 'Hunter-Gatherers in an Upland Landscape: The Mesolithic Period in North East Yorkshire', *Yorkshire Archaeological Journal* 89:1 (2017), p. 1-22.; Donald A. Spratt, *Linear Earthworks on the Tabular Hills, North-East Yorkshire*, Sheffield 1988.

[47] 'Transformation', p. 123-142.

[48] John H. Powell and Jonathan R. Ford, *Lime and Ice Project: An Overview of the Geology and Geomorphology of Part of the Hambleton and Howardian Hills for the North York Moors National Park Authority* (British Geological Survey Commissioned Report, CR/11/099), 2011, p. 8-15. Accessible at: https://nora.nerc.ac.uk/id/eprint/519267.

[49] *Cart. Riev.* 42; Albert H. Smith, *The Place-Names of the North Riding of Yorkshire* (English Place-Name Society Series), Cambridge 1928, p. 69.

[50] Summarised in 'Estates', p. 29-43.

[51] June A. Sheppard, 'Pre-Conquest Yorkshire: Fiscal Carucates as an Index of Land Exploitation', *Transactions of the Institute of British Geographers* 65 (1975), p. 67-78; Richard Hoffmann, *An Environmental History of Medieval Europe*, Cambridge 2012, p. 277

[52] It is difficult to distinguish formulaic from informed details in the text of *Cart. Riev.* 42: 'cum omnibus appenticiis et rebus eisdem terris pertinentibus, in boscho et plano et pastura, et pratis et aquis, et omnibus aliis locis, bene et in pace, et honorifice et libere et quiete de omnibus consuetudinibus et auxiliis et assisis et occasionibus et placitis et querelis, et omni terreno servitio.' In *The Domesday Book*, Griff is described as having land for one plough, variously two or four carucates (*DB* Breve and 'Summary' differ on this), with Tilstons described as having variously three or four carucates (again, the *DB* Breve and Summary differ) with two and a half ploughs taxable, as well as woodland pasture and field (see *DB* 300c78; 380d 17, 300c79, 306a49).

[53] *Cart. Riev.*, p. 43-48.

the vills of Griff and Tilstons were situated on the plateau overlooking the riverside site on which the monastic core was later built, although a topographic survey in 2003 near the small modern farmstead of Griff failed to identify the Domesday vill.[54] The limestone plateau could have provided a productive substrate for cereal cultivation, and pre-Cistercian grain production is indeed documented for Griff.[55]

2. Monastic precinct in the mid-catchment valley

The site on which Rievaulx Abbey's monastic precinct was established can be described as a mid-catchment valley. Here, the course of the river Rye broadens to become more meandering, the river energy decreases, and different ecological conditions are present to those in the uplands. By analogy with Anglo-Scandinavian sites elsewhere, it is likely that before being given to Rievaulx Abbey this relatively flat riverside land had been used for pasture by the vills of Griff and Tilstons.[56] Rievaulx Abbey's claustral complex underwent multiple stages of development and adjustment during the period in which the monastic community was active.[57]

Water helped define, in both an etymological and a practical sense, the area within which the monastic complex was established. Rievaulx Abbey's name derives from the Anglo-Norman term for the location of the monastery, the valley of the river Rye.[58] The modern course of the river Rye defines the western boundary of the extent scheduled as an ancient monument.[59] Despite over a century of scholarship on the history of the site, the established opinion on how, when and where the final boundary of the monastic precinct at Rievaulx Abbey was established, and the role played by monastic manipulation of hydrology in the precinct extent, still rests on problematic antiquarian studies. The Rev. John Atkinson, an industrious antiquary, compiled much of Rievaulx's early cartulary for publication by the Surtees Society in 1899.[60] Some of Atkinson's editorial decisions have however been described by Emilia Jamroziak as 'potentially misleading'.[61] Atkinson's practical conclusions are also potentially misleading but can only be sketched here for reasons of space. Atkinson attempted to reconstruct the boundaries of Espec's gifts to the community at Rievaulx. He identified *Sperragate,* and

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[54] Abigail Hunt and Jane Stone, *Griff North Yorkshire A Grange of Rievaulx Abbey* (Historic England Archaeological Investigation Report Series AI/14/2003), Swindon 2003.

[55] *Cart. Riev.* 42 states that the men of Griff used to visit Sproxton mill. This was presumably for the purposes of grain milling.

[56] 'Transformation', p. 255.

[57] *Rievaulx Abbey*, p. 1-174.

[58] Smith, *Place-Names*, p. 73; Victor Watts, *The Cambridge Dictionary of English Place-Names: Based on the Collections of the English Place-Name Society*, Cambridge 2010, p. 500.

[59] The Rye correspondingly defines the extent scheduled as an ancient monument in the present day. The National Heritage List for England (online register) Scheduled Monument listing 1012065: https://historicengland.org.uk/listing/the-list/list-entry/1012065?section=official-list-entry.

[60] *Cart. Riev*. See 'Abbreviations' section above.

[61] *Rievaulx Abbey 1132-1300*, p. 6-9.

hence the southern boundary of Espec's gift, as a route beginning near a location marked by Griff cross and meeting the river Rye near the eighteenth century Rievaulx Bridge.[62] The location of *Sperragate* suggested by Atkinson, and hence the suggested route to the Rye, would have unaccountably omitted much of Griff's cultivatable land on the plateau.

To fit the physical evidence into the documentary evidence, Atkinson collaborated with local surveyor Henry Rye to devise an elaborate hypothesis about how the precinct was developed. While differing in some respects, Atkinson and Rye's parallel accounts concurred that Rievaulx Abbey had conducted large-scale diversions and canalisations of the river Rye.[63] Considerable respect is due to Atkinson and Rye for their innovative approach which, for the first time, integrated historic documents with an interpretation of this physical landscape. The Atkinson-Rye theory still substantially underpins the prevailing account of Rievaulx Abbey's monastic core, despite later reservations variously expressed.[64] Most recently, Trevor Pearson's study based on a high-resolution topographic survey found 'no evidence' for major diversions or canalisations at Rievaulx.[65] Regrettably, Pearson's study did not engage substantively with the documentary evidence on which so much of the established interpretation depends. Both the pre-monastic environment and the sequence and consequences of monastic interactions with the environment are therefore ripe for interdisciplinary examination.

Water channel management at Rievaulx may have been more spatially extensive than hitherto identified. The present author's analysis of remotely sensed data identified evidence suggestive of a diversion of the river Rye to the north of the precinct, namely beyond the extent currently scheduled as an ancient monument.[66] Within the precinct, the author's hydrological analyses exposed issues with key aspects of the Atkinson-Rye theory. For example, neither account addresses the

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[62] 'Ab eo loco ubi Sperragata venit ad Riam', *Cart. Riev.* 42. *Sperragate* is of uncertain etymology. In his footnotes to *Cart. Riev.* 42, Atkinson associates the -gate suffix with examples from elsewhere in Yorkshire of a path or route. Atkinson's association of a route between Griff cross (a late medieval wayside cross -scheduled monument number 1012890) and *Sperragate* is not conclusive.

[63] *Cart. Riev.*, ixvii-ixxiii; Henry Rye, 'Rievaulx Abbey, its Canals and Building Stones', *The Archaeological Journal* 57 (1900), p. 69-77.

[64] Ada Russell 'Helmsley', in *A History of the County of York North Riding*: *Volume 1*, ed. William Page. Available at British History Online: https://www.british-history.ac.uk/vch/yorks/north/vol1/ pp. 485-505 (originally published by Victoria County History, London 1914, p. 485-505); John Weatherill, 'Rievaulx Abbey: The Stone used in the Bulding, with Notes on the Means of Transport and a New Study on the Diversions of the River Rye in the Twelfth Century', *Yorkshire Archaeological Journal* 38 (1955), p. 333-354; Glyn Coppack, *English Heritage Book of Abbeys and Priories*, London 1990, p. 95-97; Glyn Coppack, 'The Outer Courts of Fountains and Rievaulx Abbeys: The Interface between Estate and Monastery,' in *L'espace cistercien*, ed. Leon Pressouyre, Paris 1994, p. 421-425; Glyn Coppack, *The White Monks: The Cistercians in Britain, 1128-1540*, Stroud 1998, p. 44-45; *Rievaulx Abbey*, p. 38-39; *Rievaulx Abbey*, ed. Peter Fergusson, Glyn Coppack, Stuart Harrison, Michael Carter and Susannah Lawson, London 2016, p. 28, 34-35.

[65] Trevor Pearson, *Rievaulx Abbey, Helmsley, North Yorkshire: Archaeological Survey and Investigation of the Precinct* (Historic England Research Report 7/2019), Swindon 2019 p. 47-48.

[66] See n. 59 above.

question of relative ground levels in the twelfth and early thirteenth century, which would have determined water flow and the feasibility of the postulated dams and diversions. The precinct topography was substantially affected by post-monastic activities, including spoil dump from metal working and clearance activities in 1812.[67] Ground levels during monastic occupation are therefore substantially uncertain.

The author's doctoral study also identified multiple issues with the extremely slight documentary evidence cited by Atkinson and Rye.[68] Espec's donational text is not informative on the matter, so the evidence relied on by Atkinson encompassed short references in just six directly pertinent documents.[69] Only two of the multiple issues are outlined here. First, the two charters by Richard Malebisse are contradictory in key aspects, so it is possible that one may be a correction of the other.[70] Second, Atkinson misinterpreted certain words on which the 'canals and major diversions' theory depends.[71] These subtle issues are of importance as to the weight of documentary evidence for canals or major river diversions at Rievaulx Abbey. What is already apparent is that human management of the claustral core and precinct was likely a long-term programme of interventions and adjustments, such as John Senior identified in buttressing to the claustral buildings necessitated

[67] The area may have been subject to spoil dumping from metalworking at Furnace Hill and clearance activities in 1812 (see PEARSON, *Rievaulx Abbey*, *Hemsley, North Yorkshire*, p. 41).

[68] 'Transformation', p. 181-210, 221-283. The so-called 'foundation' document, *Cart. Riev.* 42, lists benefactions in very broad terms containing no evidence directly relevant to water channel management. The main documents cited by Atkinson and Rye were two concerning relations between Rievaulx and neighbouring Byland Abbey, *Cart. Riev.* 244 and 243; two documents concerning grants from a Hugh Malebisse, *Cart. Riev.* 74 and 75; and confirmation of his kinsman's gift with a further benefaction by Richard Malebisse, *Cart. Riev.* 300 and 304. Janet E. Burton's work has demonstrated that *Cart. Riev.* 42 and 243 were composite documents, within which the constituent agreements are difficult to date (see 'Estates', p. 30; BURTON, *The Cartulary of Byland Abbey*, Woodbridge 2004, p. 337-340).

[69] *Cart. Riev.* 243, 244, 74, 75, 300 and 304.

[70] The slightly different formulation of *Aldenetoftes/ Aldwinetoftes* in the two documents may be a trivial variation in orthography common in medieval charters. The text relating to *Hemgerdebrig* in *Cart. Riev.* 300 and 304 is otherwise identical apart from the phrase 'fossatum eorum circuit' in 300 and 'rivulus fontis circuit et cadit in Riam' in 304. Atkinson may have inferred that 300 and 304 supplemented each other, and thus that the monks created a *fossatum* here (*fossatum eorum circuit*). It is this assumption on which his notion of a 'canal' near *Hemgerdebrig* rests. What is apparent is that as the only substantive difference between the otherwise near-identical section in these two documents, it was this boundary which may have required re-statement in a revised formulation. It is possible that 304 corrected, rather than supplemented, 300, and that the boundary feature here was a natural one rather than a monastic construction. Only one of the two documents refers to construction of a monastic *fossatum* here. So, whether the boundary was the monk's ditch (*Cart. Riev.* 300) or that of a specific watercourse which encircled a 'fontis' and fell into the Rye (*Cart. Riev.* 304), it is unclear which was the final, agreed boundary.

[71] For example, Atkinson placed great reliance on the term *propius* in Richard Malebisse's two charters, translating this as an adjective relating to height, and thus as permission for Rievaulx to lead the Rye to create a channel at great depth to convey lighters full of building stone. However, according to the *Dictionary of Medieval Latin from British Sources*, *propius* is a form of *prope*, a comparative adverb for proximity. The word in this context is hence better translated reflecting a *spatial* relationship, namely as *close* as possible between the water channel and the *montem* (hill).

by landslip.[72] Fieldwork will be necessary to understand the precinct subsurface in diachronic terms, and to articulate the history of human interventions in the physical environment there.

The overall picture from documentary and place name evidence thus suggests that Espec's gifts to Rievaulx Abbey of parts of upper and mid-catchment Rye Vale contained the elements for a mixed agrarian economy, including areas of proven agrarian potential, which had previously been productive under Anglo-Scandinavian occupation and might become so again under the larger scale and flexibility of resources available to a monastery. Rather than a 'transformation' of Rye Vale by the Cistercian monastery, the community of Rievaulx Abbey therefore benefitted from a development trajectory that had begun well before Cistercian settlement.

VI. Case study 2: King Henry II's 'Waste' Land at Pickering Marishes

The second case study relates to the Vale of Pickering, North Yorkshire. In 1157-58, King Henry II of England instructed his officials first to survey, then to give to Rievaulx Abbey the *wastum subtus Pickeringam* which Henry I had held.[73] The Pickering land is important for several reasons. The grant, and the supplementary gift by Henry of two carucates at *Kilverdemarish*, were the only ones made by Henry II to the monastery.[74] The Pickering land was viewed by the monastic community itself as significant, as the relevant documents, including those relating to the various disputes the land occasioned, were grouped together in several clusters in the monastery's early cartulary.[75] Rievaulx Abbey's Pickering land is also important as a case study in the potential pitfalls of a single evidence type. Robin Donkin's seminal documentary studies of Cistercian settlement in England found that most such Cistercian settlement had taken place on land which had previously been occupied. Donkin specifically identified Rievaulx's Pickering land as one of the few cases of grange foundation in 'primeval waste.'[76] Donkin, and other historians, may have been misled by the term 'waste' in two distinct contexts.[77] Land in Pickering

[72] John R. Senior, 'Appendix A: The Stonework and Quarries,' in *Rievaulx Abbey*, p. 215-219.

[73] *Cart Riev* 206 does not give the boundaries of the waste which are instead specified in *Cart. Riev.* 210, *EYC* 401. *Subtus* in the cited documents is here interpreted as 'south of.' King Henry also separately gave two carucates at 'Kilverdemersch' and confirmed pasturage of the waste (*Cart. Riev.* 205, *EYC* 403).

[74] This document specifies that it was the pasture of the Pickering 'waste' that had been granted (*Cart. Riev.* 205, *EYC* 403).

[75] *Rievaulx Abbey 1132-1300*, p.117

[76] Robert A. Donkin, *The Cistercians: Studies in the Geography of Medieval England and Wales*, Toronto 1978.

[77] For example, Marsha Dutton interprets the term as a 'deserted area'. See Marsha L. Dutton, '*Sancto Dunstano Cooperante*: Collaboration between King and Ecclesiastical Advisor in Aelred of Rievaulx's *Genealogy of the Kings of the English*', in *Religious and Laity in Western Europe, 1000-1400: Interaction, Negotiation, and Power*, ed. Emilia M. Jamroziak, and Janet E. Burton, Turnhout 2006, p. 194. Emilia Jamroziak similarly interprets the term as wasteland that had not been previously cultivated (see *Rievaulx Abbey 1132-1300*, p. 197).

manor, which likely included the land later given by Henry, was described as 'wasta' (waste) within Domesday Book.[78] Around 70 years after the Domesday survey, Henry II instructed his local officials to declare land below Pickering as 'waste' before giving the land to the community of Rievaulx, and subsequent documents continued to refer to the Pickering land in those terms.[79]

The terms 'waste' and 'wilderness' are tropes with a complicated range of meaning in theological settings which are unlikely to have applied in this case.[80] In documentation such as the *Domesday Book* and Henry II's administrative documents, interpretations of 'waste' exist that do not necessitate that the land in question was previously unexploited or physically devastated. The term 'waste' in the *Domesday Book* is now understood as problematic. Contrary to the argument that *Domesday Book* 'waste' universally reflected physical devastation from William I's Harrying of the North, Wightman argued that the term could encompass a range of meanings, from abandoned land to an administrative exercise reflecting the merger of existing estates.[81] The term 'waste' in Henry II's benefaction to Rievaulx could similarly have reflected a range of factors.[82] The physical state of England at Henry II's accession, following the contest for the Crown between Stephen and Matilda, is the subject of some debate.[83] Henry II's declaration of his gift to Rievaulx Abbey as 'waste' may have entailed a pardon for geld payment. Geld was a tax levied periodically by the Crown in England from the eleventh century through to the later twelfth century.[84] Land carried service obligations under law and practice at the time: military service, maintenance of bridges, roads and fortifications and liability for monetary payments such as geld.[85] Monastic land was exempt from such liability only under certain circumstances. Land given in free alms (*in elemosinam*) was however free of service obligations other than prayer.[86] The Crown could excuse payments such as geld, and Henry II's pipe rolls for 1157 reflect geld pardons to several monastic houses, including Rievaulx Abbey.[87] Inquisitions in the fourteenth century confirm that Henry II's grant to Rievaulx Abbey was made in free alms, which strengthens the interpretation for 'waste' in the case of Pickering as

[78] 'Transformation', p. 322.
[79] *Cart. Riev.* 206; *EYC* 401.
[80] Bruun, 'Wilderness', p. 21-42.
[81] William E. Wightman,' The Significance of 'Waste' in the Yorkshire Domesday', *Northern History* 10:1 (1975), p. 55-71.
[82] 'Transformation', p. 154.
[83] Oliver H. Creighton and Duncan Wright, *The Anarchy: War and Status in 12th-Century Landscapes of Conflict*, Liverpool 2016.
[84] Judith A. Green, 'The Last Century of Danegeld', *The English Historical Review* 96: 379 (1981), p. 241-258.
[85] Rosamund Faith, 'Labour Service', in *Blackwell*, p. 282; Ann Williams, 'Land Tenure', in *Blackwell*, p. 282-283; Richard Abels, '*Trinoda necessitas'*, *Blackwell*, p. 475.
[86] Jochen Schenk, *Templar Families: Landowning Families and the Order of the Temple in France, c. 1120-1307* (Cambridge Studies in Medieval Life and Thought 79), Cambridge 2012, p. 35.
[87] Emilie Amt, 'The Meaning of Waste in the Early Pipe Rolls of Henry II', *The Economic History Review* 44:2, p. 240-248 (at p. 244).

a geld pardon.[88] As a consequence, descriptions of the land south of Pickering as 'waste' in the eleventh and twelfth centuries have plausible explanations alternative to the land concerned being undeveloped in physical terms. Rievaulx Abbey's Pickering estate thus prompts consideration of the multiple potential interpretations of the term 'waste,' including theological, physical, fiscal, and administrative.[89]

1. Pickering Marishes study

The present author's doctoral study was the first landscape archaeological investigation of King Henry II's waste land and is reported in detail elsewhere.[90] A study area was defined based on the spatial definitions by watercourses referenced in medieval documentation, with an additional buffer area to account for uncertainty in the northern border of the grant and to allow for post-twelfth century watercourse shift.[91] The study area thus defined is located in the central section of the Vale of Pickering, at the confluence of the rivers Rye and Derwent, and is termed here for brevity as Pickering Marishes, representing a somewhat broader area than the modern settlement of that name.

King Henry's grant of Pickering Marishes to Rievaulx Abbey appears to have been made from what may have become a royal estate of some type. The manor of Pickering came into Crown hands after 1066 and comprised a relatively coherent set of vills and other assets including substantial woodland and twenty acres of meadow.[92] The origins of the royal forest of Pickering are less clear, but references exist from the early twelfth century.[93] A charter of Henry I suggests that a parish may have existed at Pickering by the mid-eleventh century.[94] The church at

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[88] Published in *Cart. Riev.* as Appendix 78 and Appendix 82.

[89] 'Waste' also accrued further meanings in specific other contexts, which cannot be addressed here for reasons of space. Angus J. L. Winchester, *Common Land in Britain: A History from the Middle Ages to the Present Day*, Woodbridge 2022, p. 21-50.

[90] 'Wasteland'.

[91] *Cart. Riev*. 189, 210, 173, 205, 210, 250; *EYC* 402, 403, 406.

[92] The king's breve in *DB* describes the royal manor of Pickering: 'In PICKERING there are 37 carucates of land taxable, which 20 ploughs can plough. Morcar held this as one manor with its outliers: BARTON, NEWTON, BLANDSBY and EASTHORPE. Now the King has it. There is there 1 plough; and 20 villeins* with 6 ploughs. Meadow, 1/2 league long and as wide; nevertheless all the wood which belongs to the manor is 16 leagues long and 4 wide. Value of this manor before 1066 £88; now 20s 4d. To this manor belongs the jurisdiction of these lands: BROMPTON, 3 carucates; ODULUFSMARE; EBBERSTON; ALLERSTON; WILTON; FARMANBY; ROXBY; KINGTHORPE; CHILUESMARES; ASCILESMARES; MAXUDESMARES; SNAINTON; CHIGOGEMERS; ELLERBURN; THORNTON; LEVISHAM; MIDDLETON; BARTON. In all there are 50 carucates taxable which 27 ploughs can plough. Now there are there only 10 villagers who have 2 ploughs. The rest waste. However, there are 20 acres of meadow. In all, 16 leagues long and 4 wide.' (*DB* folio 299b4). *In the preceding text, the term 'villagers' has been amended to 'villeins,' the currently preferred term. In terms of the location of the named vills, Barton and Easthorpe are outliers, but the other vills are clustered to the north and west of Pickering.

[93] For example, *EYC* 351.

[94] 'A writ of Henry I … directs that the church of Pickering shall have the parish which it had in the time of King Edward'. See *EYC* 399 (translation on p. 311). Pickering as part of early medieval ecclesiastical organisation is discussed by Christiane Kroebel, *Early Ecclesiastical Organization: The Evidence from North-east Yorkshire*, MA thesis, Durham University 2003, p. 59-61, 91-98, 125-144.

Pickering may have been a 'mother church,' namely the primary church in an area. The royal demesne churches in Yorkshire, including Pickering, were granted to the deanery of York by Henry I.[95]

From *Domesday Book* and placename evidence it is clear that by the eleventh century the Vale of Pickering was already substantially occupied.[96] *Domesday Book* records of Pickering manor suggest that the area given to Rievaulx Abbey may have been the site of a dispersed set of small vills long before the foundation of the Cistercian grange.[97] Within Pickering manor, Odulufsmare, Chiluesmares, Ascilesmares, Maxudesmares and Chigogesmers each have a terminal element suggestive of marshy or wet land; and the fact that the vills have not been able to be located has led their being considered as 'lost in Pickering Marishes'.[98] As the eastern boundary of Henry II's grant to Rievaulx was defined by Allerston Beck, the king's grant evidently went beyond that of Pickering manor to include Loft Marishes, named as being in the king's hands in 1085-1086. Loft Marishes survived as descriptor of an area in historic mapping, including the first edition of detailed Ordnance Survey maps. Uncertainty over the northern extent of the grant makes it difficult to be sure whether any part of nearby land held by the king at Allerston and Thornton Dale in 1085-1086 was included in the grant to Rievaulx Abbey. A Berengar de Tosny also held land in Thornton Dale, and at Little Marish.[99] Secular authority and occupation in this part of the Vale floodplain was thus fragmented, rather than being in unified royal control.

The measures taken to clarify the Crown's interests in the Pickering waste suggests an awareness that the royal grant might have complicated local ramifications. Henry instructed his Yorkshire authorities to direct the *legales homines* of the wapentake and forest of Pickering to survey the waste below Pickering as it had been in the time of Henry I, and to give it to the monks of Rievaulx without delay. Some local reaction appears to have been anticipated as Henry's document further instructs that the monks should not be subject to any affront or injury.[100] The survey of the boundaries of the waste was sworn to by the men of the wapentake, and

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[95] *EYC* 427.

[96] H. Clifford Darby, and Ian S. Maxwell, *The Domesday Geography of Northern England*, Cambridge 1962; William. R. Wightman, 'Some Aspects of the Historical Geography of the Vale of Pickering Area 1086-1350 A.D.', MA Thesis, Durham University 1964; Stuart Brookes, *Domesday Shires and Hundreds of England* [electronic dataset] (UCL Institute of Archaeology. Early Medieval Atlas Projects. York: Archaeology Data Service [distributor]), 2020. Accessible at: https://doi.org/10.5284/1058999.

[97] It is noteworthy that the *Domesday Book* records named occupants for only some of the marsh vills. For example, a Thorfinnr at *Chigogesmers*, an Arneketill and Thorfinnr at Loft Marish, and Thorbrandr, Gospatric and Thorr variously at nearby Allerston and Thornton Dale (*DB* 299b,300b, 305d, 380d, 314b).

[98] See *Domesday Gazetteer*, ed. H. Clifford Darby and George R. Versey, Cambridge 1975, p. 513-540. As the vills cannot be located, the identification with Pickering Marishes – and hence with the land granted to Rievaulx – must remain conjectural.

[99] Little Marish (2 carucates, land for 1 plough in *DB* 314b, 380d) was given in the twelfth century to a Benedictine nunnery located near Yedingham.

[100] *Cart. Riev.* 206, *EYC* 401.

acknowledged by a sitting of the York court in August 1158.[101] Yet despite such a show of royal authority, it was a prolonged process to get all interested parties to acknowledge Rievaulx Abbey's rights in Pickering Marishes. Lordship and customary rights over the waste were fragmented, suggesting pre-Cistercian occupation in these places.[102] Certain land parcels were not wholly in the hands of the king, such as Eduiemersc, or bordered a nearby vill, such as Theokmarais, which adjoined land held by Thornton Dale. Rievaulx Abbey's cartulary contains multiple quitclaims of interests in the waste that date variously from immediately after Henry's grant to the 1180s, and were made by people of all socio-economic status, from peasants to William le Gros, Earl of York.[103] The waste quitclaims may therefore reflect understandable reluctance to relinquish rights over land of known utility.

Tithe arrangements may help identify land parcels for further investigation of pre-Cistercian settlement.[104] The *Domesday Book* records Loft Marishes as having plough land, and Loft Marishes remained a unit defined within Allerston parish until tithe commutation in the nineteenth century. Loft Marishes was therefore not exempt from tithes on the grounds of *novalia* (land newly cultivated).[105] The case of Loft Marishes (and, possibly, Theokmarais), sheds interesting new light on the somewhat vexed relationship between Rievaulx Abbey and the Dean of York.[106] Only a very limited area of Pickering Marishes – a sub portion of a grange there later termed Deerholme – was still recognised as tithe-exempt by the nineteenth century.[107]

Much remains to be assessed through fieldwork, but the picture already emerging is that at Pickering Marishes the Cistercian community benefitted from a develop-

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[101] *Cart. Riev.* 189, 205, *EYC* 402, 403.

[102] The wapentake jurors attested that the waste boundaries included *Theokmarish*, and *Eduiemersc.* Eustace FitzJohn, a colleague of Walter Espec as Justice in the North, had half a carucate of land and meadow in *Eduiemersc* which were later given to the canons of Malton priory. By the mid-twelfth century, lordship of *Eduiemersc* had passed from FitzJohn to a relative by marriage, William de Vescy. The turbary and pasture of *Eduiemersc* was the subject of a dispute between Rievaulx Abbey and Malton priory, eventually settled by two agreements, one between Rievaulx and de Vescy, and the other between Rievaulx and Malton, the latter confirmed by Henry II (*Cart. Riev.* 190, 192, 193). De Vescy subsequently emparked *Eduiemersc* by consent of Abbot Ailred of Rievaulx (*Cart. Riev*. 279).

[103] For a discussion of the waste dispute, see *Rievaulx Abbey 1132-1300*, p. 112-120. One entry in the table of documents listed by Jamroziak on p. 118-119 was likely included erroneously. *Cart. Riev.* 164 refers to Green Howe, a high moorland location north of Bilsdale, which may have been confused with the Greenhill in Allerston.

[104] Constance H. Berman, *Medieval Agriculture, the Southern French Countryside, and the Early Cistercians: A Study of Forty-Three Monasteries*, Philadelphia 1986, p. 12.

[105] *DB* 300b, 305d, 380d. Tithe file, map and apportionment for Allerston parish, North Riding of Yorkshire, held by North Yorkshire Records Office: IR 18/11819; IR 30/42/9: plan 002; IR 29/42/9.

[106] Might the land parcel termed *Theokmarais* in the twelfth century have become known as *Kekmarish* by the thirteenth century? See *Rievaulx Abbey 1132-1300,* p. 197-198 on Rievaulx's dispute over successive Church claims for tithes on Loft Marishes and *Kekmarais* / Kekmarish, and corrections to Atkinson's publication within *Cart. Riev.* (p. 200, p. 255-259) of the original manuscript entries.

[107] Tithe exemption is a problematic source of evidence for Cistercian primary occupation in England. In addition to the complicated history of Church policy on the matter, tithe liability in England may have changed substantially between the twelfth and nineteenth centuries for multiple reasons. See Giles Constable, *Monastic Tithes: From Their Origins to the Twelfth Century*, Cambridge 1964; Roger J. P. Kain and Richard. R. Oliver, *The Tithe Maps of England and Wales: A Cartographic Analysis and County-by-County Catalogue*, Cambridge 2011.

ment trajectory established before Cistercian occupation, with the area of 'primal' land worked by Rievaulx representing only part of the area declared 'waste' by King Henry II.[108] Topographic, earth science, and other historic landscape evidence can begin to suggest a plausible development sequence for Pickering Marishes, within the context of interlinkages between wider physical landscape development and cultural arrangements. The Vale of Pickering hydrology formed over an extended time period and – in common with other inland systems – continues to evolve. The Vale lay at the southern extent of the last major glaciation and contained a succession of lakes that gradually shrank as the post glacial climate became more temperate. The catchment boundaries are Mesozoic bedrock hills to the south, west and north, and low-profile features (variously, glacial, pro-glacial and post-glacial) within the east of the Vale that prevent drainage directly to the North Sea.[109] Instead, drainage trends to the centre of the Vale, compelling the river Derwent to flow 'backwards' (i.e., east to west) beyond the Forge valley, to converge with the river Rye near Pickering Marishes, from where the Derwent flows southwards (see Fig. 1).

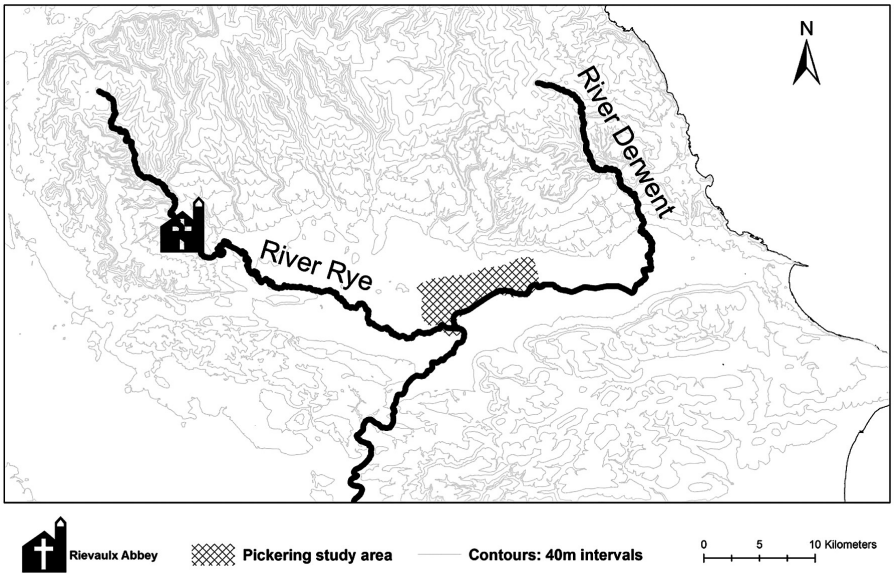

Fig. 1. Topography of locations mentioned in the text. Only the rivers mentioned in this paper are shown, with contours at 40m intervals to indicate broad topography. The rivers Rye and Derwent have their catchment origins in the North York Moors and meet near Pickering Marishes. (Freya Horsfield)

[108] 'Wasteland', p. 148-166.

[109] Laura. J. Eddey, Mark D. Bateman, Stephen J. Livingstone, and Jonathan R. Lee, 'New Geomorphic Evidence for a Multi-Stage Proglacial Lake Associated with the Former British–Irish Ice Sheet in the Vale of Pickering, Yorkshire, UK', *Journal of Quaternary Science* 37:8 (2022), p. 1407-1421.

Pickering Marishes is one of two particularly low-lying areas within the central Vale floodplain.[110] The modern visual uniformity of Pickering Marishes is misleading, being the product of multiple processes that are likely to have interacted in complex ways. For example, the Derwent was artificially embanked and canalised along a substantial reach of its former floodplain in the Vale from the eighteenth century onwards.[111] Such alterations to hydrology are likely to have significantly affected sediment erosion, deposition, and floodplain performance. The eleventh- and twelfth-century topography and hydrology may therefore have been significantly different to that of the modern day. That caveat aside, in combination, LiDAR elevation and soil data suggest that even today the area is not as uniform as first appears. There are subtle topographic differences across Pickering Marishes, with several 'mini-marshes' interdigitated by areas of slightly higher land.

Distribution of the Domesday-era vills suggests differentiated exploitation strategies had developed to take advantage of various ecological niches within and adjoining the Vale. It is striking how many of the *Domesday Book* vills in the Vale appear to have been located on or very close to 40m above sea level or are located close to a major watercourse.[112] Floodplains typically accumulate rich sediments from surface wash-off higher in the catchment, and four different soil types exist within Pickering Marishes, with a further two soil types located within a few hundred yards. Such quality and variety of subsurface provide a basis for varied ecosystems, with corresponding potential for varied exploitation strategies. A mixed agrarian economy continued to be characteristic of this part of the Vale. By the nineteenth century, many of the parishes on the north side of the Derwent floodplain each included a strip of upland, an area of alluvium-rich floodplain, and land of intermediate height in between.[113] This pattern may have enabled differential exploitation of a patchwork of ecological niches which has

[110] The other particularly low-lying areas in the central Vale of Pickering are Starr Carr and Seamer Carr which are known to have retained a series of small lakes and marshland well into prehistory, with good archaeological evidence for Mesolithic occupation. *Star Carr Volume 1: A Persistent Place in a Changing World*, ed. Nicky Milner, Chantal Conneller, and Barry Taylor, York 2018.

[111] June A. Sheppard, 'Draining of the Marshlands of East Yorkshire', PhD Thesis, University of London 1956, p. 379-408.

[112] Mapping the location of *DB* vills is fraught with uncertainty and interpretation, so where archaeological data are lacking researchers have typically assigned a vill location based on an association with a known later settlement of the same name. Caution is however needed in interpretation as settlements can move over time.

[113] Based on analysis of the data compiled by Nicholas Burton and colleagues, who converted to GIS format the mapping of historic parishes conducted by Roger Kain and Richard Oliver. Examination of this data reveals that between the river Rye and Forge valley, the parishes of Pickering, Thornton Dale, Ellerburn, Allerston, Ebberston, Brompton, Wykeham, and Hutton Buscel largely conform to the strip pattern outlined above, albeit with areas of notable intricacy. Nicholas Burton, J. Westwood, and P. Carter, *GIS of the Ancient Parishes of England and Wales, 1500-1850* [computer file], Colchester, UK Data Archive [distributor], SN: 4828, 2004. Roger J. P. Kain, and Richard R. Oliver, *The Historic Parishes of England and Wales: An Electronic Map of Boundaries Before 1850 with a Gazetteer and Metadata*, Colchester 2001.

been described elsewhere as a 'concave landscape.'[114] Such an arrangement could have enabled what has been termed 'lesser transhumance' between lowland granges (such as floodplain meadows) to upland pasture.[115]

A combination of physical and documentary evidence suggests that, rather than 'transformation', a long-term process of mixed exploitation and iterative intakes of small areas of land took place at Pickering Marishes over an extended period. Adaptive use of marshy land with minimal attempts at drainage might have been part of the management strategies at various times, as might the creation and enlargement of small areas of areas of dry land through ditching and drainage clearance. Dissolution documentation suggests that intake of land within Pickering Marishes was still underway in the mid-sixteenth century. By the nineteenth century, four different tithe districts, including a detached portion of Pickering township, can be distinguished within Pickering Marishes, a fragmented pattern suggesting that rights over the land there had developed piecemeal.[116]

In summary, the specific role played by the monks, *conversi* and lay servants of Rievaulx Abbey in the development of the landscape at Pickering Marishes requires further attention. On present evidence, that role may have been more of an evolution than a 'transformation', but as with the Rye Vale case study, fieldwork will be necessary to elucidate these matters further. [117]

VII. Discussion

In both case studies, therefore, activities by the monastic community were not wholescale 'transformations' of untouched, valueless land but were continuations of a development trajectory begun long beforehand. Traditionally, results such as these would have been used either to dismiss a theological narrative as being factually untrue, or (using Lekai's terminology) to argue that the 'reality' of practices followed by the Rievaulx Abbey community was in some way a falling-off from Cistercian 'ideals.'[118] The combination of considering the historic world as a complex system – diverse, interconnected, interdependent and adaptive – and applying taskscape analytical lenses to highlight human intentionality within the complex system, enables interpretative nuance in exploring the case study relationships between a Cistercian monastery and its context.

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[114] Robert Van de Noort, *The Humber Wetlands: The Archaeology of a Dynamic Landscape*, Bollington, Macclesfield 2004.

[115] A distinction made from the 'greater' transhumance movement between distant regions, after Harold Fox, *Dartmoor's Alluring Uplands: Transhumance and Pastoral Management in the Middle Ages*, Exeter 2012.

[116] Pickering township, Pickering district, High and Low [Pickering] Marishes and Allerston (of which Loft Marishes was part). The records for some of the adjoining tithe districts (Farmanby and Wilton) now appear lost, thus making inaccessible their potential to inform the northern extent of the titheable areas here.

[117] 'Wasteland', p. 150 .

[118] Lekai, *The Cistercians*.

This fresh methodological approach can help articulate factors possibly relevant to why both Espec and Henry II gave land of proven productivity to a Cistercian monastery. Using multiple interpretative 'taskscape' lenses, including those highlighting belief and meaning, temporal and physical power, and pragmatic resource factors, identifies that in both cases, the Cistercian community was established on a significant internal boundary by an 'absentee landlord' faced with a complicated array of challenges. Both patrons, Espec and Henry II, may have established Cistercian monks on a sensitive internal boundary, possibly partly as a pragmatic move to prevent hostile incursion.

Rievaulx Abbey was established within a landscape over which governance had long been established by the time of Cistercian settlement. In Rye Vale, the river Rye possibly formed the boundary between Maneshou and Yerlestre wapentakes, so a decision by Espec to establish his monastery where the Maneshou / Yerlestre boundary lay also near a possible boundary of Allerton, and a detached portion of Bulford wapentake, is intriguing.[119] *Domesday Book* evidence suggests Helmsley may have been a pre-Norman thegnly centre, as three unnamed thegns, along with an 'Uhtred,' are recorded as holding Helmsley in 1066, dispossessed by the King and Count Robert of Mortain by 1085-1086.[120] Espec established a residence at Helmsley, which lay around 3 miles from Rievaulx Abbey, but his estates extended across Northern England and to Wardon (Bedfordshire), and his duties as part of the royal court would have entailed substantial periods away from his own estates.[121] Rievaulx's founder could therefore rarely have been resident at Helmsley to defend his interests directly.

Henry II faced similar challenges in 1155-1158 to those faced by Espec in 1131-1132. Henry's grant placed Cistercians by a stretch of the river Derwent which likely formed the boundary between the North Riding wapentake of Dic, and the East Riding hundreds of Scard and Thoreshou.[122] Henry II had regained the royal manors of Pickering and Scarborough from William le Gros only by a show of force, namely a march to York in 1155.[123] Given Henry II's stretched resources, he could ill afford a second military campaign to Yorkshire if William further misbehaved. Therefore, in both cases establishing a monastic community on a sensitive internal boundary may have been partly intended to prevent hostile incursion.[124]

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[119] Brookes, *Domesday Shires*.

[120] *DB* 306a50; 300c80; 380d18. In England at the time, a thegn was a noble of the second rank who held land in return for services. David Roffe, 'From Thegnage to Barony: Sake and Soke, Title, and Tenants-in-Chief', *Anglo-Norman Studies* 12 (1990), p. 157-176.

[121] Paul Dalton, 'Espec, Walter (d. 1147x58), Baron and Justice', *Oxford Dictionary of National Biography*. Accessible at: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-8885.

[122] Brookes, *Domesday Shires*.

[123] Paul Dalton, *Conquest, Anarchy, and Lordship: Yorkshire, 1066-1154* (Cambridge Studies in Medieval Life and Thought 27), Cambridge and New York 1994, p. 156.

[124] Another pragmatic factor is that the river Derwent, which flowed past Pickering Marishes, may have been an internal transport corridor, offering connections to York and the North Sea, albeit with transhipment necessary near Malton.

In both case study areas, spiritual traditions may have pre-dated the Cistercians, which a 'taskscape' perspective suggests as a further possible motivation for Cistercian establishment. In Rye Vale, the monastic community was established very close to physical features with a deep history of ritual deposits. Windy pits are fissures in the limestone bedrock from which gusts of air periodically emerge, creating an otherworldly atmosphere. Rievaulx was founded close to three windy pits containing human remains dating from the Bronze Age to Roman periods.[125] Ian Wood has suggested that the Vale of Pickering may have performed a royal memorial tradition for the early medieval Northumbrian royal family, and certainly Bede documents a remarkable number of monasteries within the Vale.[126] Also, the flow of the river Derwent 'backwards' across the Vale of Pickering away from the sea is intriguing in respect of the spiritual traditions of the Vale. Thus, patronage of a monastic establishment in the Vale of Pickering may have offered Henry II connection to pre-existing socio-cultural traditions.

There are other consequences of understanding Rievaulx Abbey as managing land whose occupation history began long before Cistercian settlement. Moving away from the notion of a few large-scale interventions in the environment, such as the 'canals and diversions' episodes suggested by Atkinson and Rye for Rievaulx's precinct, and the wholescale reclamation of primeval marshy 'waste' near Pickering, has subtle implications. Overall, the picture emerging of Rievaulx Abbey's management of the environment in both case studies is of a long-term, iterative process albeit with distinguishable episodes. It is, therefore, less one of 'transformation' than of an extended relationship encompassing adjustments and accommodations.

This research was only the first iteration of a methodology which has potential for further development. The case studies to which the model was applied were limited in several aspects, leading to a broad but superficial approach to many issues. For example, data issues, such as uneven LiDAR data coverage, limited the potential for whole catchment hydrological modelling at uniform resolution. Interpretation of the documentary record was also highly preliminary. Physical investigation will be required to determine conclusively how and when the monastery affected the physical environment in specific locations. Pending funding, fieldwork is planned for both case studies that could help resolve empirical questions.

[125] Stephany Leach, 'Going Underground: An Anthropological and Taphonomic Study of Human Skeletal Remains from Caves and Rock Shelters in Yorkshire', unpublished PhD Thesis, University of Southampton 2006.

[126] Ian Wood, 'Monasteries and the Geography of Power in the Age of Bede', *Northern History* 45:1 (2008) p. 11-25.

Conclusion

Overall, this work contributes to the growing body of revisionist research into the Cistercian order. The research considered the first Cistercian monastery in northern Britain, Rievaulx Abbey, as an agent of change in the medieval world. The case studies demonstrate that, overall, the monastery had not been the first to use the land in question, contrary to a 'transformation' narrative embedded in medieval Cistercian accounts and older research. Along the course of the river Rye on which the monastic centre was founded, the monastery continued the developmental trajectory established by preceding Anglo-Scandinavian occupants. In the Vale of Pickering, long suggested to have been the location of an extensive primal marsh reclaimed by the Cistercian abbey, Rievaulx was found also to have continued the trajectory of Anglo-Scandinavian activities with only a limited area newly brought into agrarian use.

The case studies illustrated that the Cistercians of Rievaulx Abbey were in a complex cultural context: dynamic, adaptive, interconnected and interdependent with concerns of the lay world. These cultural considerations were intricately connected with the physical world, such as the condition of specific territory, which would have required adaptation to some degree. Investigating such complexity requires a fresh approach. This report foregrounded an interpretative model, Cistercian taskscape, to approach human intentionality within the theoretical framing of a complex system. Specific interpretative taskscape lenses, including those highlighting belief and meaning, temporal and physical power, and pragmatic resource factors, were deployed in this study but the flexibility of this method allows for multiple lenses to be applied contextually. The study therefore offers a methodological approach with potential application to other Cistercian contexts. In turn, elucidating the relationship between theological tropes such as waste and wilderness and practical activities might help better understand the processes involved in religious development. Capturing such a range of factors through taskscape potentially brings us closer to understanding the variety of medieval life.

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L'abbaye de Rievaulx, le taskscape cistercien et les changements environnementaux

Cette étude contribue au corpus croissant de recherches révisionnistes sur l'ordre cistercien en étendant le concept de « taskscape », conçu à l'origine par l'anthropologue Tim Ingold pour décrire un éventail d'activités connexes et reliées entre elles. L'application du *taskscape* aux contextes cisterciens offre un cadre d'interprétation avec une possibilité de nuance, illustrée par la question de la « transformation » cistercienne documentée du paysage. La recherche interdisciplinaire brièvement décrite ici a utilisé le *taskscape* pour analyser des données documentaires et archéologiques parallèlement à un modèle de bassin de captation des eaux. La recherche a révélé que le premier monastère cistercien du nord de la Grande-Bretagne, l'abbaye de Rievaulx, s'est développé dans un contexte physique et socioculturel complexe sur lequel l'impact du monastère a pu être complexe.

Rievaulx Abbey, the Cistercian taskscape and environmental change

The work contributes to the growing body of revisionist research into the Cistercian order by extending the concept of 'taskscape,' originally devised by anthropologist Tim Ingold to describe an array of related, interlocking activities. Extending taskscape to Cistercian contexts offers an interpretative framing with potential for nuance, illustrated by the issue of documented Cistercian 'transformation' of landscape. The interdisciplinary research reported briefly here used taskscape to analyse documentary and archaeological data alongside a catchment hydrological model. The research found that the first Cistercian monastery in Northern Britain, Rievaulx Abbey, developed in a complex physical and socio-cultural context on which the monastery's impact was likely to have been correspondingly complex.

Die Abtei Rievaulx, die „Taskscape" der Zisterzienser und umgebungsbedingter Wandel

Dieser Artikel leistet einen Beitrag zu der wachsenden Zahl revisionistischer Forschungen betreffend den Zisterzienserorden, indem er das Konzept der „Taskscape" erweitert, das ursprünglich von dem Anthropologen Tim Ingold entwickelt wurde, um eine Anzahl zusammengehöriger, ineinandergreifender Aktivitäten zu beschreiben. Die Übertragung von „Taskscape" auf zisterziensische Kontexte bietet einen interpretativen Rahmen mit der Möglichkeit zu nuancieren, was in diesem Artikel am Beispiel der zisterziensischen „Umwandlung" des Landschaftsraumes veranschaulicht wird. Die hier kurz vorgestellte, interdisziplinäre Forschung nutzte Taskscape, um durch Dokumente belegte sowie archäologische Daten betreffend das Einzugsgebiet eines hydrologischen Modells zu analysieren. Die Forschung ergab, dass sich das erste Zisterzienserkloster in Nordbritannien, die Abtei Rievaulx, in einem komplexen physischen und soziokulturellen Kontext entwickelte, auf den die Auswirkungen des Klosters seinerseits wahrscheinlich ebenfalls entsprechend komplex waren.