

CHAPTER 9

Inferring Value: A Multiscalar Analysis of Landscape Character Assessments

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What is considered environmentally ‘valuable’ varies enormously from place to place, and from time to time, but some common denominators can be identified. A landscape assessment for the Whanganui District¹ of the north island of New Zealand, for example, puts the emphasis on memory and affect:

¹ Whanganui District: Outstanding Natural Landscape Assessment, 10th July 2015. <https://www.whanganui.govt.nz/files/assets/public/district-plan-changes/ HUDSON-landscape-assessment-introduction-10-7-2015.pdf>

How to cite this book chapter:

Taylor, Joanna E., Meladel Mistica, Graham Fairclough, and Timothy Baldwin (2022). “Inferring Value: A Multiscalar Analysis of Landscape Character Assessments.” In: *Unlocking Environmental Narratives: Towards Understanding Human Environment Interactions through Computational Text Analysis*. Ed. by Ross S. Purves, Olga Koblet, and Benjamin Adams. London: Ubiquity Press, pp. 179–196. DOI: <https://doi.org/10.5334/bcs.i>. License: CC-BY 4.0

‘A landscape becomes memorable when the image perceived by the viewer remains with them after they leave the site.’ The capacity of a place, landscape or site to influence a visitor emotionally – and the durability of that affect – leaves the most ‘valuable’ legacy, both in economic and personal terms: it is the private memory of a place which encourages repeat visits, and concern for the future survival of a location’s particular character.

There are long-standing variations in how ‘value’ is applied nationally and locally (Bloomer Tweedale Architects and Town Planners, 1992). The Wanganui assessment continues, ‘it is not possible to fully define what makes landscapes memorable, as the combination of factors is numerous and of different importance to different people.’ In the UK Government’s National Planning Policy Framework 2019 ‘value’ is closely aligned with significance, which is assessed according to the ‘value of a heritage asset to this and future generations because of its heritage interest’ (Ministry of Housing, Communities and Local Government, 2019). That ‘interest’ might be archaeological, architectural, artistic or historic in nature (Ministry of Housing, Communities and Local Government, 2019, p. 71), and elsewhere recreational and environmental values are also included (Ministry of Housing, Communities and Local Government, 2019, p. 29). However, as planning advisors CSA Environmental observe, the NPPF ‘does not define a “valued landscape”’; instead, what ‘value’ means is left open to judgement (CSA Environmental, 2017). Indeed, one of the goals of a baseline study may be to define what ‘value’ is taken to mean for a particular practical purpose or in a certain place (Landscape Institute, 2013, p. 32). Combining computational and human-led text analysis, our goal is to determine some common factors in these diverse definitions.

The multiplicity of definitions of landscape value has encouraged legal disputes over whether or not, or how far, a landscape is environmentally, socially, or culturally valuable. For example, in England in 2015 one case pitted Stroud District Council against the Department for Communities and Local Government, forcing a clearer definition of landscape value in that particular context, notably that a ‘designation’ – for instance, as an Area of Outstanding Natural Beauty – was not a prerequisite for ‘value.’ However, it also clarified that landscape value should be based on ‘demonstrable physical attributes rather than just popularity’.

Formal assessments of landscape value can take place at many scales, from national to local. Nationally recognised areas with high landscape value are formalised into statutory designations with varying levels of protections in the UK, for example, as National Parks and Areas of Outstanding Natural Beauty. Local authorities at district or county level may also recognise special areas, using nomenclature such as Areas of Great Landscape Value (AGLV) or similar terms². An AGLV acknowledges a place’s emotional significance to the

² https://www.planningportal.co.uk/directory_record/347/local_landscape_designation_for_example_area_of_high_landscape_value

local population, as well as its cultural, environmental or economic value. In Scotland, these local designations have been amalgamated into one category: National Scenic Areas, which aim to represent the variety of features that might be considered truly ‘Scottish’: prominent landforms, coastline, lochs, rivers, woodlands and mountains (Office, 1996). These places tend to lack the consistency of an AONB or National Park; their value is more closely aligned with local feeling than objectified scenery (Institute, 1996).

Since about 1990, these assignments of value have been identified and described in Landscape Character Assessments (LCAs). As Graham Fairclough explains in Chapter 2, an LCA seeks ‘to be holistic in its understanding of landscape’, but often tends to emphasise the present, physical state of a place over historic and affective markers. As Fairclough also observes, LCAs are further complicated by their vocabulary choices. Calling an area a ‘landscape’ indicates a close relationship between people and place. A landscape’s identity is predicated on the interplay between human residents and natural features, and as such value is accorded to those locations that display this kind of relationship over a sustained period of time (Landscape Institute, 2013, p. 14). A landscape, then, does not necessarily need any special attributes; indeed, its everyday usage – its apparent ordinariness – might be the very thing that makes it valuable.

It should be clear, then, that assessing ‘value’ depends on complex and iterative interplay between national legislation and local contexts, between expert and lay assumptions, between a range of academic and professional practices and between local residents and perhaps more distant but nevertheless deeply engaged interests. Nor can LCA-type exercises ever be totally separate from political, ideological and economic factors; LCAs always take place in a particular cultural and social context. Landscape characterisation, in other words, is a concept that relies on multiscale negotiations. In this chapter, we take inspiration from the construction of the environmental narratives represented by a corpus of LCAs to develop a multiscale methodology that situates local understandings of landscape value in national contexts. In doing so, our aim is to uncover some of the political and cultural assumptions that underpin notions of value in British Landscape Character Assessments, and to draw out the challenges of applying these human assumptions to environmental management and landscape planning.

9.1 Methodology

9.1.1 *Creating a corpus*

The origins and history of LCA (and its ‘cousin’ Historic Landscape Characterisation [HLC]) since the late 1980s were set out by Carys Swanwick and Graham Fairclough as part of an overview of the idea of landscape characterisation as exercised in Britain, Europe and further afield (Fairclough, Sarlöv Herlin, and

Swanwick, 2018). Critically, LCA was conceived in the later 1980s in opposition to the ‘traditional’ approach to countryside protection. That approach, exemplified in the British National Parks and Access to the Countryside Act of 1949, was based on formal designation of sharply defined blocks of land singled out from the seamless whole of the ‘entire territory’. These were areas that for one reason or another were considered more special, or ‘outstanding’, or nationally important. For most of the 20th century, these assessments were based on matters such as visual connoisseurship, an appreciation of remoteness and the romantic allure of largely non-industrialized and rustic environments. In contrast, whilst still seeking to create a practical tool for landscape protection (or rather, particularly as the method evolved, landscape management), LCA aimed to define and promote the recognition of landscape character everywhere, whether ‘good’ or ‘bad’, valued or in need of improvement and change. LCA, in short, aimed to move away from a post-Romantic understanding of landscape to a wide-reaching recognition of the ways that people and place intersect.

LCA sought to be as interdisciplinary and holistic as possible, recognising the need to include perspectives on landscape other than only the visual or the affective: ecological, historical and so on. It was adopted as vehicle by a range of professionals and practices following specific goals, whether those of landscape archaeologists and heritage managers seeking a broader view of the past-in-the-present, to nature conservationists rebranding themselves as biodiversity champions and recently transforming into ecosystem analysts, to social scientists seeing landscape as a forum for ‘capturing’ public perceptions and aspirations for the landscape in which they lived and so on. A typical LCA, if there is such a thing, will probably have been largely written by geographers or landscape architects, but will contain several other voices, vocabularies and visions, and frequently an ecological or environmental sentiment will be dominant.

In these assessments, the definition of ‘character areas’ allows a heterogeneous combination of character traits to be connected to an area without any need to give it a value relative to other areas, whether adjacent or distant. For land management purposes, it is sufficient to be able to discuss in each area what gives that particular area its distinctive identity, as defined in terms of expert knowledge or of lay, local or affective interest. To say that these character areas are not assigned a ‘value’ does not, of course, mean that various values and different nodes of valuation are not embedded in the identification of their characteristics or the definition of their boundaries. LCAs are not totally objective, but they aim to defer absolute statements of significance and importance — one dominant form of ‘value’ in landscape management, protected area designation and spatial planning — until the point of need, when proposals and projects are being discussed that might adversely affect the character of a landscape. The methods used by LCA can be replicated by other people to produce different results, depending, for example, on which aspects of landscape

are given priority, or indeed how certain dimensions or aspects are interpreted: approaches to the concept of 'nature' vary widely across disciplines, for instance.

This innate heterogeneity, and the fact that LCAs have now been produced at various scales for over 30 years, creates a great diversity, and choosing examples for our corpus was not straightforward. We initially intended to compare LCAs (or their equivalents) from several countries in order to try to assess national cultural difference to how landscape is perceived, but the complexities of dealing with multiple languages was deferred to a later period of research. Thus restricted to LCAs written in English, we chose examples of LCAs from England, Wales and Scotland. We examined LCAs carried out at various scales, and both free-standing and as part of overarching and coordinated national surveys: some county-scale LCAs in England³ and a selection of the 159 area descriptions from the England 'National Character Areas' (NCA) assessment⁴ (formerly in the 1990s in its original iteration named the 'Countryside Character Map') currently curated on the web by the government agency Natural England.⁵ The latter NCA descriptions were largely selected to bring in areas that are not amongst those popularly or traditionally viewed as special landscapes (i.e., not national parks or Areas of Outstanding Natural Beauty (AONBs)). Two of the county scale LCAs (Derbyshire and Cumbria), on the other hand, include the Peak and Lake District National Parks. Beyond England within the UK,

³ County scale England LCAs: Derbyshire <https://www.derbyshire.gov.uk/environment/conservation/landscapecharacter/landscape-character.aspx>; parts of the Devon LCA [North Devon] <https://www.northdevon.gov.uk/media/290514/north-devon-torridge-lca-191110.pdf>, East Sussex: <https://www.eastsussex.gov.uk/environment/landscape/> North Norfolk: https://www.north-norfolk.gov.uk/media/1271/landscape_character_assessment.pdf, and the Lake District https://www.lakedistrict.gov.uk/data/assets/pdf_file/0020/170480/landscape_character_assessment.pdf

⁴ <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles#other-sources-of-information>

⁵ From the national England LCAs: NCA15, Durham Magnesian Limestone Plateau: <http://publications.naturalengland.org.uk/file/8461491>; NCA68, Needwood & South Derbyshire claylands: <http://publications.naturalengland.org.uk/file/4472935>; NCA86, South Suffolk / North Essex claylands, <http://publications.naturalengland.org.uk/file/5148978341478400>; NCA115 Thames Valley, <http://publications.naturalengland.org.uk/file/6085686941712384>; NCA149, The Culm (Devon), <http://publications.naturalengland.org.uk/file/5462962095521792>.

we examined 24 of the 48 area descriptions in the all-Wales ‘National Landscape Character’ assessment,⁶ and some Scottish equivalents.

This selection provided a variety of different topographies and land-uses allowing us to explore ways that different landscape types led LCA in different directions. We also selected areas which have followed different trajectories of protection, change and urbanisation/commercialisation through the 20th century, most notably by including some LCAs covering protected areas such as National Parks where relatively little ‘modern’ development has changed older landscapes, and other LCAs concerned with areas where change has been much less constrained: thus the LCA treatment of both special areas and so-called ‘ordinary, everyday’ landscapes can be compared. A further level of diversity was introduced by the different disciplinary backgrounds and interests of the teams producing each LCA, although the national LCA descriptions subsequently went through a process of standardisation. Finally, though we focus only on British examples, the constituent countries have distinct cultural attitudes to landscape.

9.1.2 *Parsing the corpus*

Although there are detailed guidelines on what is included in an LCA, each individual council has the freedom to interpret these guidelines according to their needs. There is also diversity in the balance between different aspects of landscape (some privilege natural heritage, others focus on historical information, others on the scenic and the visual; some attempt all). The structure and display of LCA documents also varies. Whilst some LCA documents are unembellished texts, others are eye-catching publications with precisely placed images, decorated borders and colour motifs, foregrounding certain aspects and guiding the reader and user (e.g., a decision-taker in environmental planning) towards particular ‘significant’ findings. Early LCAs in the 1990s and even later were printed, usually informally for local use although occasionally more formally published. Nowadays, LCAs tend to be uploaded to official websites for download as Portable Document Formats (PDFs), often in several PDFs divided by geographical area or by landscape theme. We have limited ourselves to LCAs available online in electronic form, and therefore to the more recent examples.

⁶ Wales: nlca02-central-anglesey; nlca04-llyn; nlca06-snowdonia-description; nlca08-north-wales-coast-; nlca10-denbigh-moors; nlca12-clwydian-range; nlca14-maelor; nlca16-y-berwyn; nlca18-shropshire-hills-outliers; nlca20-radnorshire-hills; nlca22-aberdyfi-and-coast; nlca24-ceredigion-coast; nlca26-upper-wye-valley; nlca28-epynt; nlca30-brecon-beacons-and-black-mountains; nlca32-wye-valley-and-wentwood; nlca34-gwent-levels; nlca36-vale-of-glamorgan; nlca38-swansea-bay; nlca40-teifi-valley; nlca42-pembroke-and-carmarthan-foothills; nlca44-taf-and-cleddau-vaes; nlca46-preseli-hills; nlca48-milford-haven

These variations in content and formatting pose challenges from a text processing perspective. Parsing text from PDFs is a common headache in digital humanities research, but our task was complicated thanks to the diverse nature of the documents in the corpus, and the presentation of multimedia data in individual items. In terms of extracting the text from these PDF publications to build a corpus, we needed a tool that would be able to extract the prose from the LCAs as faithfully as possible, whilst also preserving the documents' material integrity.

Many PDF parsers are freely and sometimes (in terms of code) openly available. However, not all achieve the same performance or have the same features. We experimented with two main types of parser: one which could extract text on a page-by-page basis, and others which produce a structured output of the entire document (including heading labels and their content). Given that we were interested in the relationships between words, another desirable feature was dehyphenation of words broken over two lines. However, we only assessed readers freely available, and found that this feature is often offered in paid products only or versions that are not readily accessible. There were a total of 14 criteria against which we measured the PDF extractors⁷, which can be classified into four main categories: global features (to features that are invariable from document to document), linear faithfulness, lossiness and structural oddities (Table 9.1).

We produced a sub-corpus especially for the task of assessing PDF extractors. Rather than choosing whole documents for this purpose, we sampled a number of pages from various LCAs. Only choosing pages in this manner meant that the annotation task could be done in a matter of days rather than weeks. In total, we had 19 PDFs in our sub-corpus, manually annotated for the 14 criteria.

Based on our criteria, XPDF emerged as the best choice of PDF text extractor for this project. It had the advantage of being able to render PDFs one page at a time natively, though it did not produce a structured output. While this parser was weakest in the rendering of tabular data and listed data, it was the most reliable in the areas most important for us given our intended analytical approach: it produced all content most reliably – it did not lose large sections of text, and reproduced highlighted text faithfully and, mostly, in situ. These strengths meant that it offered the most faithful rendering of the prose elements of the LCAs. Once we had produced these machine readable versions of the PDF documents, we could experiment with interdisciplinary, multiscale approaches to analysing them.

⁷ tika: <https://pypi.org/project/tika/>; pdfminer: <https://pypi.org/project/pdfminer/>; pdf2tree: <https://pypi.org/project/pdf2tree/>; pdfquery: <https://pypi.org/project/pdfquery/>; xpdf: <https://www.xpdfreader.com/download.html>; pdfbox: <https://www.xpdfreader.com/download.html>

Global features	Linear faithfulness	Lossiness	Structural oddities
Structured output in XML or JSON format	Highlighted text rendered in proper sequence	Highlighted text is rendered (not necessarily in situ but at least reproduced)	In situ rendering of text for three-column formatted documents
Page-by-page processing	Non-column or highlighted related text rendered faithfully (e.g., table of contents)	Image text (e.g., the legend in a map) is rendered	In situ rendering of text for two-column formatted documents
	Image or caption text rendered in linear order (according to text flow)	Figures (non-map textual data) are rendered	Tabular data is rendered logically
		Major sections of text are not lost	Automatic reorientation of perpendicular text (i.e., not rendered one letter per line)
		Tabular data is rendered	

Table 9.1: Criteria for assessing PDF Extractors.

9.1.3 Multiscalar approaches to LCAs

Chesnokova et al. (2019) have demonstrated that a multiscalar approach is necessary for making meaningful contributions to the work of LCAs, and our approach here is in conversation with that earlier study. We focus on multiscalar approaches to text analysis taken from natural language processing (i.e., topic modelling) and literary studies (close reading). The process we describe blurs boundaries between quantitative/distant and qualitative/close methodologies. To perform our multiscalar text analyses we began with automatically generated topic models, close-read these results and then re-ran the models based on human interpretation of what ‘value’ signified in this corpus. One of the challenges of our multiscalar analysis is to create an iterative loop between human-led close reading and machine learning-led text analysis. By integrating the two approaches, we sought to treat the patterns generated through topic modelling as a guide for further research questions, rather than assuming that this human feedback can come at a later stage. Topic modelling was particularly appropriate for our work since it is an unsupervised approach well suited to an explorative

quantitative analysis, and in our relatively small corpus it was straightforward to link emerging tokens of interest back to individual documents for a qualitative close reading.

Our approach uses elements from both ends of this spectrum: while our starting point is an unsupervised machine learning process, the interpretation of the results and subsequent re-runnings of the topic models apply more specific criteria in light of our findings uncovered through close readings of the documents. Not only did this method allow for more complex and flexible interpretations of the data, but it also echoed the interplay between the personal and the governmental – a social form of closeness versus distance in a given landscape – that shape understandings of ‘value’ in the LCAs. In this way, as we explore in the discussion below, we were able to develop multiscale evaluations of the LCAs’ implications for landscape management and cultural heritage. First, though, it is important to understand the two main processes – topic modelling and close reading – that constituted this particular form of multiscale text analysis.

9.1.3.1 Topic modelling

In literary analysis terms, topic modelling is a form of distant reading; that is, it enables the ‘tracing [of] a formal element through a vast body of works’ and then attempts to ‘build an explanatory model of the emergence, demise, or transformation of certain aspects’ of the text (Khadem, 2012, p. 410). More specifically, topic modelling aims to discover the hidden semantic patterns across a document collection (Blei and Lafferty, 2009; Blei, 2012; Boyd-Graber, Mimno, and Newman, 2014) (see also Chapter 3). These patterns take the form of a probability distribution over the words in a training corpus, which is used to build the machine learning models.

There are many variants of the topic modelling algorithm and the one we employ is latent Dirichlet allocation (see Chapter 3 for more details). Once topics are generated for a particular document collection, we require a method of automatically evaluating these topics. There are a number of ways of ascertaining the quality of the learned topics, which involve *intrinsic* and *extrinsic evaluation* (Newman et al., 2010). Extrinsic evaluation integrates the output of the topic models as part of another task, with the assumption that the better the quality of the topics chosen, the better the external task will perform. Intrinsic evaluation assesses the topics in and of themselves. Intrinsic evaluation can involve *direct* and *indirect methods* (Lau, Newman, and Baldwin, 2014). One such indirect method involves the ability for humans or algorithms to detect intrusion words, or words that do not belong to a topic. In our work, we employ one of the direct methods in Lau et al. (2014), which calculates the observed coherence between the terms in a topic. The observed coherence measure is a

means to determine how frequently words identified as belonging to the same topic occur together in a reference corpus.

Topic models are able to be coaxed in a particular direction during the learning process into favouring certain terms, called seed terms. In this way, they share with close reading a tendency to amplify certain terms or themes to aid the development of an argument.

9.1.3.2 Close reading

Close reading is a critical methodology that has been central to literary scholarship – the ‘sine qua non of literary study,’ according to Jonathan Culler (2010, p. 20) – for the last hundred years. It is closely linked with practical criticism and formalism, developed at Cambridge in the 1920s and 1930s by scholars including I. A. Richards, F. R. Leavis and William Empson. The aim, for these critics, was to get readers to attend to ‘the words on the page’ (Richards, 1929) and nothing else: a form of pure reading divorced from historical or contemporary contexts.

Modern literary studies inherit this focus on ‘the words on the page,’ but is more generous about the extra material that can be brought to bear on the text. Close reading no longer operates in a scholarly silo; there are serious political, social and cultural implications from close reading, too. Henry Louis Gates Jr., for instance, viewed the close reading of black literature in the 1980s as being crucial for the sensitive recovery and acknowledgement of the repressions and cruelties that were figuratively or explicitly represented in a text (Gates Jr, 1990, p. 20). Reading the text on its own terms necessarily required the close reader to emphasise the unique conditions that each work – and each reading – represented.

For a time, a dichotomy seemed to be emerging between computational ‘distant reading’ (Moretti, 2013) and the close attention to detail with which literary scholars are more familiar. But both of these approaches, taken in isolation, have significant limitations for our understanding of textual sources; as Matthew Jockers wrote in 2013, ‘The[se] two scales of analysis ... should and need to coexist’ (Jockers, 2013, p. 9). Nowadays, most digital humanists and computational text scholars recognise that, in the words of Adam Hammond, Julian Brooke and Graeme Hirst, ‘computational analysis can only thrive in an ecosystem of close reading’ (Hammond, Brooke, and Hirst, 2016). Multiscalar analysis of the kind we describe here offers a ‘flexibility’ in reading and analysis that is not achievable in any single method (Taylor, Gregory, and Donaldson, 2018). This methodology, we would argue, is the new phase of the ‘broad intellectual shift’ that has transformed humanities and social science disciplines: multiscalar analysis recognises that previously discrete disciplines offer, in fact, interdependent ways of thinking about complex sources (Underwood, 2016).

From a literary studies perspective, any machine-led interventions need to be ‘every bit as perspectival, multifaceted, and blurry’ (Underwood, 2016) as a close reading can be. One of our aims here has been to respect the ‘blurry’ and subjective aspects of landscape valuation, alongside those facets of the LCAs that could be quantified through topic models [and sentiment analysis]. The result, as we demonstrate in the next section, is a multiscalar, multifaceted analysis that reflects the complexity of the LCAs’ textualities in its methodological approaches.

9.2 Results and Discussion

9.2.1 *Assessing “Value” by integrating knowledge and technology*

Our first task was to determine what themes could be identified across the corpus of LCAs that could offer an insight into what aspects of the landscape might hold ‘value’ in this context. We first allowed a topic model to extract themes and issues without any human guidance. That is, topics were discovered and extracted rather than being selected a priori by us. We began with three runs of topic modelling, each producing 100 topics. A topic is represented by a collection of salient terms that co-occur together over and over again throughout the document collection. Examples of these extract topics are shown below:

- Topic 1: assessment character value identify coastal natural study environment information outstanding,
- Topic 2: site subdivision value heritage include natural feature character coastal building,
- Topic 3: applicant management issue project articulate resource land include section policy,
- Topic 4: development matter soil character use land change site large activity,
- Topic 5: change development activity legislation policy character natural manage provide farm.

From these initial discovered topics, we identified a series of seed terms in keeping with the themes and issues foregrounded by the texts themselves. We manually selected the topics which included the word ‘value’, and used the other terms in those topics to identify potential seed terms. For instance, in the examples above Topic 1 contains the word ‘value’, and thus the other terms in that line (‘assessment’, ‘character’, ‘identify’, ‘coastal’, ‘natural’, ‘study’, ‘environment’, ‘information’, ‘outstanding’) are all potential seed terms. By manually comparing the terms associated with ‘value’ in each of these topics, and collating the most common words (e.g., ‘character’) or themes (e.g., the environment), we identified a small sub-set of seed terms that collocated with the term ‘value’.

In this way, we were able to identify a series of terms that were closely associated with any mention of ‘value’ within the landscape character assessment.

9.2.2 *The value of character*

Notwithstanding the LCAs’ professed intent, our analysis made clear that there are certain character traits which are considered more valuable than others. Indeed, the word ‘character’ was one of the terms correlating most strongly with ‘value’; they co-occurred together 24 times (almost double the average). This result, and a close reading of extracts from individual documents, undercuts the LCAs’ claim that a character assessment ‘seeks to capture baseline information about the character of the Park’s landscapes in a value-free way’ (Lakes), applying ‘value’ instead to the subsequent judgements as to the sensitivities of a landscape (North Norfolk). Yet, if ‘character’ and ‘value’ are so closely linked linguistically, can the documents really be said to be assessing character without value?

The North Norfolk LCA subtly highlights this tension:

In considering landscape in land use planning and management, there has been a change in emphasis from landscape evaluation or designation, i.e. what makes one area ‘better’ than another, through to describing the ‘character’ of a landscape, i.e. what makes one area ‘different’ or ‘distinct’ from another.

The value judgement has not, in this new system, been eradicated; rather the capital by which value is assessed has altered. In these documents, what is valuable – what is singled out the primary defining feature of a character area – is *uniqueness*, or more precisely *distinctiveness* (the combination and interrelationship of a large number of features and components of a piece of territory which make it different to any other area). However, as we will see, the LCAs frequently borrow directly from each other, meaning that uniqueness is expressed in a rather homogenous way.

This repetition made assessing regional understandings of value difficult, since it was clear that the documents were responding carefully to centralised dictates. Of the four UK LCAs in which the connection between ‘character’ and ‘value’ was the most pronounced, three (Culm, Durham and Thames) state their aims in identical terms:

Biodiversity and geodiversity are crucial in supporting the full range of ecosystem services provided by this landscape. Wildlife and geologically rich landscapes are also of cultural value and are included in this section of the analysis. This analysis shows the projected impact of Statements of Environmental Opportunity on the value of nominated ecosystem services within this landscape.

The implied goals, here, are twofold: to demonstrate the indivisible links between biological, geological and cultural richness; and to assess how new proposals will affect a given landscape. This, in a nutshell, is the means by which an LCA can measure its success: the extent to which the singularity of a place is defended against new policies that prioritise economic initiatives ('opportunity', in this sense, is a capitalist term) over 'ecosystem services.' To protect its region, an LCA must express its individuality in terms that are understandable to a central decision-maker. Uniqueness of landscape is, therefore, often obscured behind uniformity of expression.

LCAs implicitly agree on the main contributors to an area's character: which often translates into how rare its ecological elements are and how deep its history runs. For instance, the Devonshire and Durham grasslands are, geologically speaking, dissimilar – but they share a deep importance in the cultural character of their locations. The LCAs for both Durham and the Culm grasslands emphasise, particularly in relation to their ecological dimension, that these habitats are unique. The Culm LCA states that '[t]his habitat is unlike any other in England,' and, indeed, is 'one of the last strongholds of rush pasture or Culm grassland in Britain.' The militaristic language – 'stronghold' – positions this landscape as the plucky survivor of a campaign against Britishness; its survival, then, is of interest not just to the landscape's character, but to national identity. The Durham LCA goes even further: it claims that this NCA hosts a globally 'unique' community of vegetation and invertebrates. To alter it is to destroy something that is not merely locally significant, but internationally valuable. These geological characteristics are only valuable, though, when combined with evidence of historical human action; the LCAs are united in believing that their distinctiveness arises from longstanding evidence of different relationships between people and place. Each articulates a sense that the landscape's character is an inviolable right that evidences British democracy from the ground up.

Intangible heritage, though, is not enough; an area's history must be 'visible,' and in being put on display rendered 'timeless' (Culm LCA): as much a part of a landscape's present as its past. This visible history might take several forms: settlements (such as Clovelly, which the Culm LCA asserts is 'the first coastal settlement of which there is a firm record'), evidence of old industry (such as the 'allotments and pony paddocks, reclaimed colliery sites, disused and existing railways, and industrial archaeology' that pepper Durham), and remnants of agricultural practices, including patterns of field enclosures, hedgerows, sunken lanes and old farmsteads. The challenge, in locations like Culm and Durham, is to both 'protect and enhance' ecologically rich places for 'tranquillity and inspiration,' and to 'illustrate' an area's human past (Durham LCA).

North Norfolk, on the other hand, faces a different problem: its historical cultural value has already been eroded, and the LCA demonstrates how severe the impact has been for the value of the landscape's character. This LCA utilises a

grading system for ‘Strength of Character’, which is assessed as being ‘poor’, ‘fair’, ‘moderate’ or ‘good’ – and much of the landscape is found wanting. Evidence of modern lifestyles abounds in this area: the growth of small towns and villages by new housing developments, expanding suburbs, subdivided gardens, property extensions, barn conversions, agricultural buildings at a remove from farms, the renegotiation of field boundaries and reallocation of pasture, wind turbines, telecom masts, new roads (with attendant suburban features such as ‘kerbing / signage / widening’), and the expansion of suburban traits into the open countryside (‘surfaced drives / domestic style gates and fences / garden style planting and parking areas / overly large windows and external lighting, etc.’) all have a detrimental impact on the landscape’s character in ways that, as the LCA concludes, are ‘individually modest but cumulatively significant’. The result of these ‘erosion[s]’ to the area’s character is a landscape that feels ‘somewhat degraded’: its rich human and natural histories have been extensively buried beneath modern developments. Its value, consequently, has been dramatically reduced.

The core problem identified by the North Norfolk LCA is that its ‘natural’ character – that bestowed by features such as meadows, woodlands and floodplains – has been subdued by human interferences which risk homogenising the landscape. As the Durham LCA explains, some LCA consider that an area’s uniqueness is determined by its ‘natural’ features; it is these that provide ‘such [a] strong sense of place’ (Durham LCA). This is a wider issue with LCAs: whilst accepting that landscape is dynamic and necessarily subject to change, and whilst treasuring the effects of change across time as long as it is not too recent, LCAs often fail to see any merit in ‘modern’ landscape change, which is generally seen more as ‘erosion’ rather than the creation of new forms of landscape character.

9.2.3 *Natural value and valuing nature*

This concern for non-human features is reflected in the list of topics that correlate with ‘value’; the closest link is with the ‘natural’, which co-occurs with ‘value’ 26 times (more than double the average number of co-occurrences, and more frequently even than ‘character’). This partly reflects the disciplinary backgrounds of some LCAs’ authors, and also correlates with political factors: each LCA is aligned with Natural England, the government body whose stated aims are ‘to secure a healthy natural environment for people to enjoy, where wildlife is protected and England’s traditional landscapes are safeguarded for future generations’ (LCAs - Culm, Durham). Even here, though, what ‘natural’ means is not neutral: certain kinds of ‘natural’ features are considered more valuable than others.

In the British LCAs, ‘traditional’ features associated with historic cultural and political identities are prioritised. Vegetation, particularly woodland, forests, trees, and hedgerows, and coastlines, including estuaries, seem, in our analysis,

to be the most highly regarded ‘natural’ forms, as shown below in the seeds derived from the initial topic modelling runs.

vegetation, woodland, tree, hedgerow, planting, forest
 natural, environment, character, assessment
 coastal, water, estuary

Close reading reveals that this phenomenon is partly attributable to the LCAs’ detailed descriptions of local landforms, a focus on topographic form that derives from the geographical and landscape architect background of many LCA practitioners. Partly, these LCAs hark back to nostalgic notions of the past that link landscape aesthetics with the country’s naval and imperialist histories, from the woodland heroics of Robin Hood to feats of naval conquest that were a source of national pride well into the 20th century. But there is another reason, too: on a densely populated island, areas that retain the peace and tranquillity of yesteryear are vanishingly few.

The 2007 Intrusion Map (CPRE)⁸ demonstrated the extent to which urban development was intruding both visually and audibly on rural landscapes: that is, on those areas that had higher proportions of ‘natural’ features, and so are perceived as ‘natural’ landscapes. In the Culm LCA, that means that the ‘simple, austere character of the landscape and seascape’ should be preserved to protect the region’s ‘wealth’: a non-economic form of riches that, the LCAs worry, are becoming rarified in the UK. As this LCA notes, the Intrusion Map suggests that the last strongholds of tranquillity are in the UK’s woodlands. To this, the Durham LCA adds nature reserves and the coast.

The LCAs also find pressing practical reasons to prioritise the preservation of these tranquil areas. The Thames LCA explains:

Protect and manage the area’s historic parklands, wood pastures, ancient woodland, commons, orchards and distinctive ancient pollards, and restore and increase woodland for carbon sequestration, noise and pollution reduction, woodfuel and protection from soil erosion, while also enhancing biodiversity, sense of place and history.

This objective links that ‘sense of place’ and a landscape’s heritage — tangible and otherwise — to concerns for the future. Without these ‘historic’, even ‘ancient’, woodlands the landscape’s future looks bleak, because it is these characteristics that protect it from pollution, erosion and habitat loss. And these features have a significant role to play in safeguarding that other key element of the UK’s national landscape character: its coastlines. The Lake District LCA summarises that the country’s ‘coastal margins are vulnerable to a range of climate change effects’, including changing weather patterns, invasive species and the

⁸ <https://www.cpre.org.uk/resources/intrusion-map-england-2007/>

alteration (even destruction) of habitats. The result is not simply, as the LCA has it, effects on ‘the character of the landscape’; the implication is that it risks the foundations of national character, too. To value a local landscape, then, stands in for valuing the whole country – but, there, the issues of how to express diversity in a homogenised language are even more vexed and pressing.

9.3 Conclusions and Further Work

Defining value in LCAs is a complex and nuanced task that requires analytic techniques sensitive to both objective or quantifiable features, and to affective or emotional markers in a given landscape. Combining computer-driven topic modelling with human-led close reading – and, crucially, forming an iterative loop between the two processes – has allowed us to get closer to an understanding of what we associate with ‘value’ in these documents. The results are perhaps not as straightforward as LCA authors might wish: the documents uphold a certain bias towards non-human elements of the landscape. Most of the time, this bias is important for maintaining an area’s ecological health – but it does also risk sidelining human interests and suspending a landscape at a particular historic moment that may not match contemporary human concerns.

What those concerns are also change over time, and across geography. This study has raised further questions; for instance, what demographic assumptions are the LCAs making about the prime users of an area? What would happen to our understandings of ‘value’ if we were to investigate the relationship between ‘value’ and references to, and input from, indigenous populations? Can we delve deeper into the emotional value ascribed to a landscape, for instance, by applying sentiment analysis to these documents? Or could we gain a more nuanced understanding of a landscape’s individuality by comparing these kinds of political documents with creative writing from a given area? Much remains to be done to unpack the assumptions and biases inherent to these documents, and to understand how these concealed facets – evident only through careful and multivalent analysis of the language used – affect landscape perception and management. Recognising LCAs as a type of environmental *narrative*, rather than straightforward reportage, uncovers a new area of research that will be crucial to navigating future steps in managing these landscapes for the future.

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