# Examining evidence of how a culture values nature, particularly its spiritual value.

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## Abstract

What did nature ever do for us? So much more than the direct economic benefit of food and fuel. The major enterprise of valuing ecosystem services is aiming to provide robust arguments for environmental sustainability. Work in the arts and humanities can contribute to this.

One output of the UK National Ecosystem Assessment Follow-On was “Shared, plural and cultural values: A handbook for decision-makers” (Kenter et al., 2014b), which included the disciplines of the Humanities in an overview of methods, specifically the interpretive technique of desk-based cultural history study. Few such valuation studies have so far been published. This paper reports preliminary results from inspecting three ‘cultural productions’: English village signs, street names and brief ‘stories’ about trees.

Each of these will be examined for evidence of non-economic valuation of nature and, specifically, a spiritual or religious understanding of nature. The paper reports some preliminary findings, and will reflect on the methodological challenges involved. This will be of benefit to others (including students doing projects) wishing to analyse evidence produced by a culture of its approach to nature, evidence which may support arguments for sustainability.

### Key Words

Cultural ecosystem services, critical discourse analysis, spiritual value, nature, village signs, Charter for Trees

## Introduction

### Valuing Ecosystem Services

“What has nature ever done for us?” Even more than the Romans! – but it can be even easier to lose sight of what the more-than-human (Abrams, 1997) does, taking it for granted, not including it in our calculations when making decisions. Thus, authors such as Juniper (2013) have set out for the general public what we rely on nature doing in order for human society to keep functioning in the way we have come to expect. In societies where so many decisions are financially led, how can we give nature a voice – or a price? If we are to make our decisions more environmentally sustainable for the long term in a money-dominated culture such as Britain, we may have to justify those decisions economically. This may also help link environmental sustainability with the economic through demonstrating the ways social institutions value their environmental context and future. The humanities, as a family of disciplines, have a distinct role in these demonstrations.

In Britain an important milestone in the economic valuation of nature was the publication of *Blueprint for a Green Economy* by Pearce et al. in 1989 that influenced the then Conservative government to take ‘externalities’ into economic decision-making, i.e. add into the costings the price of natural goods and services that do not have a market value. Two global milestones were the estimate of Costanza et al., (1997, and their review of progress, 2017) of the monetary value of the world’s ecosystem services, and the production in 2005 by the United Nations of the *Millennium Ecosystem Assessment* (MA) that attempted to characterise and assess all the services provided by nature/ecosystems to human flourishing.

The MA categorised these services, noting, among others, those that were provisioning services (e.g. providing food and timber), which were often included in the market economy, and cultural ecosystem services (CES, e.g. aesthetic and spiritual) that were much less likely to be traded. If non-traded ecosystem services are to be included in economic assessments in decision-making, such as a formal cost-benefit analysis, some sort of shadow price has to be established for them (Bateman et al. 2010, preparing for the UK’s National Ecosystem Assessment, NEA; see Ozdemiroglu and Hails, 2016, for a recent overview of the method). Bateman et al. (2010) provide a table of the main methods economists use to do this. The chief category they list for non-use values and many non-consumptive uses, both typical of cultural ecosystem services, is stated preference methods. At its simplest, this is just a matter of asking people to state how much they value a natural service. However, even for those who believe in this approach, asking that question in a way that is presumed fair is full of complexities (Boyle, 2003; Carson, 2012).

For others, these difficulties with stated preference methods are indicative of the fundamental flaws in the economic approach to valuing nature. When asked how much they would be willing to pay to save an ecosystem service, a member of the public might not understand the science involved. If they do, the price they state may correctly reflect their personal preference-utility, but some will make protest bids (or refuse to bid) because they feel uncomfortable with the way they are asked to express their values, while the exact sum may depend on their personal wealth, as well as on whether they are being asked for a notional contribution (willingness-to-pay) or offered a notional compensation (willingness-to-accept) (e.g. Lo and Jim, 2015). The value of an economic assessment is particularly contested (e.g. Parks and Gowdy, 2013; Winthrop, 2014; Leyshon, 2014). For these and other reasons, the argument is made for alternative, or at least complementary, methods that express people’s shared values rather than their individual utility, e.g. gathering people together to ‘deliberate’ on their values (Kenter et al. 2015; Irvine et al. 2016; Strunz et al. 2017; Hejnowicz and Rudd, 2017). This is particularly the case for cultural heritage (Hølleland, 2017). The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) recognises this (Pascual et al., 2017).

The UK’s NEA Follow On programme included a work-package on cultural ecosystem services (Church et al., 2014) that explored methods of evaluating cultural value, particularly from this social science perspective. Interestingly, the UK’s Arts and Humanities Research Council paid for a supplementary report in order to develop an arts and humanities approach to ecosystem services (Coates et al. 2014). Of course, the arts and humanities have been much exercised over environmental issues, but their engagement with the ecosystem services agenda has been much more limited. Among conceptual critics of the agenda have been philosophers (e.g. James, 2015) and geographers (e.g. Jackson and Palmer, 2015), and social criticism has come from anthropologists (e.g. Sullivan and Hannis, 2017) among others. But Church et al. (2014:8) aimed, “not to chime in with the already loud chorus of voices (which includes those of many UK NEA researchers) that emphasizes the awkwardness of the fit between cultural values and the conventional tools of ES research.” Instead, they wrote,

“One of the most productive roles we can assume is to involve ourselves in the research and development phase of operating procedures more appropriate to AH perspectives, modes of expression and communication than some of those that currently feature in ES research.”

To support this AH contribution to the argument for sustainability, several disciplines in the humanities have sought to gather evidence of the ‘value’, perhaps ‘importance’ might be a more neutral word, of ecosystems and similar entities such as landscapes (e.g. Schaich et al. 2010) and places (e.g. Williams, 2014). This may involve interviews and meetings, e.g. as conducted by the anthropologists Prévot et al. (2016), or involve participants in storytelling (Kenter et al. 2016), or draw on artworks to stimulate discussion (e.g. Fish et al., 2016). Or it may be more innovative, such as participatory arts-based exercises with the public, e.g. Fish et al. (2016) with school children sensorially investigating their environment and building a map to interpret their surroundings. While Edwards et al. (2016) used an arts-led dialogue to explore how local people valued a wood in provocative and open-ended ways.

However, asking people to state their individual preference/value, organising deliberative events at which people’s shared values can be elicited, or leading arts-based exercises are all resource-hungry. Many staff hours are required to organise and host meetings or to conduct interviews. Bieling and Plieninger (2013:651) identify two further drawbacks with interview techniques:

“People tend not to reflect on, for instance, the enrichment provided by landscape-based inspiration or aesthetic experiences, and as they are not or only partly conscious of these things, they are hardly able to readily articulate their thoughts about them for the interviewer….

“Second, even if interview partners are aware of non-material ecosystem benefits, they often find it difficult to express themselves about them in an interview context.”

It might be easier, and maybe more reliable (in that it precludes participants expressing the views they think they ought to hold, while perhaps their behaviour indicates otherwise) to look for evidence of revealed values. Bieling and Plieninger (2013) advocate recording visible evidence of non-material use of landscapes. In the economics literature this is the group of methods termed revealed preference (Bateman et al. 2010) and involves, for example, looking at the way proximity to a nature reserve might lead to an uplift in the value of a house property. When looking for revealed evidence of shared, non-monetary values, Kenter et al. (2014b) suggest three ‘interpretive’ methods: media analysis, desk-based cultural history study, and ‘others’ (including discourse, content and frame analysis of texts). The parallel full report for the NEA Follow-On (Kenter et al., 2014a) included an example of a media analysis and elements of a cultural history study, which was further developed in Cooper et al. (2016). In this way, arts and humanities methodologies are being used to interrogate evidence of value relatively available to researchers.

This paper explores how some of the suggestions in Cooper et al. (2016) might be developed further. The three types of evidence examined in this preliminary, scoping, desk-based study as examples of products of British culture are (a) village signs, (b) street names and (c) a corpus of ‘stories’ about trees submitted by the public to the Woodland Trust.

## Methods

### Cultural productions/multimodal discourses

What Cooper et al (2016) called ‘cultural productions’ could also be termed ‘multimodal discourses’ (Abousnnouga and Machin, 2011; Forceville, 2016; Mayr, 2016). This is a somewhat technical use of the word ‘discourse’: “’discourse’ refers to all the phenomena of symbolic interaction and communication between people, usually through spoken or written language or visual representation” (Bloor and Bloor, 2007:6). The qualification ‘multimodal’ signifies that such symbolic interaction can use various modes, not merely verbal texts (as in the ‘stories’ contributed by members of the public to the campaign for a Charter for Trees – really very short snippets of text), but also three-dimensional symbolic objects like village signs and the implicit advertising involved in the naming of streets by housing developers. As discourses, the methods of discourse analysis are applicable and, in particular, critical discourse analysis (CDA).

The ‘critical’ element of CDA refers to the interest the method takes in the context of discourse, their producers and consumers, and the power relations between them. Typically, practitioners of CDA view it as a programme to liberate societies (Wodak and Meyer, 2009) by exposing the discursive methods powerful institutions use to shape societies in their interests, methods that obscure some aspects of what is going on, while highlighting others. An example of this would be the work of Abousnnouga and Machin (2013), who analyse British war memorials, structures with much in common with village signs. Following good practice in CDA of making their own stance explicit (Wodak and Meyer, 2009), they are highly critical of war and believe they show that, “The war monument… has been one important way by which discourses of war that reflect the interests of the powerful in society have been communicated in British society” (2013:2). They use social semiotics to deconstruct how war memorials do this, borrowing much from Kress and Van Leeuwen (1996). However, village war memorials and the commemorative practices around them are arguably more ambivalent, even potentially subversive, than Abousnnouga and Machin anticipate from their perspective. This study attempts a somewhat more neutral stance, not that complete neutrality is possible. The study is looking for evidence that British society values the natural world, and its spiritual dimension in particular – to be explicit about this study’s preconceptions – but it is aware that the level of that valuation is highly varied, both positive and negative. The aim is to describe the variety of the evidence.

Discourse analysis began with the analysis of texts, before expanding to investigate other modes of communication. What do texts ‘say’ and how do they say it? Broadly, what words are used (lexis), how are they put together (syntax), and how are arguments made (rhetorical figures)? As illustration, considering the corpus of texts about trees, one can explore the difference in nuance made by the choice between using ‘wood’ or ‘forest’ (lexis); or the degree of explicitness of an agent, e.g. *the Forestry Commission felled…, ‘they’ felled…,* or putting a verb into the passive, *was felled…,* or as a noun, *the felling of*…, or adjective, *felled*(syntax); or metaphorically speaking of a wood as a single, living organism (rhetorical figure) (Machin and Mayr, 2012; Richardson, 2007). This approach is useful in examining people’s stories about trees, but much less so for street names with their usual two-word structure. It can be adapted to the largely visual communications of village signs. Here the choice of words is paralleled by a choice of images (iconography), and how the images are placed and related (iconology) has been of particular interest to CDA. There are also rhetorical gestures in village signs, especially metonymy.

### Methods

This level of detailed analysis is most appropriately applied to just a handful of case studies, but we have a plethora of material to study, 30,359 tree stories and innumerable village signs and street names. A manageable sample for village signs and street names is that of a county. For readiness of data access, this study analyses the village signs of Kent and the street names of Cambridgeshire, or, rather, subsets of these.

The tree stories, being text based, can be analysed using concordancing software, and this study uses *Voyant* (<https://voyant-tools.org>), as it is also being used by others studying the tree stories. This is a free on-line resource. The researcher using *Voyant* still has to select what questions to ask of the data and this raises important questions about how the researcher believes the values under investigation will be revealed by the discourses. For instance, which words might storytellers use when expressing an appreciation of nature, particularly its spiritual dimension? Using either software or human inspection, each discourse needs to be coded for aspects of interest, e.g. its choice of words, its syntactical strategies, or its rhetorical figures. Fletcher et al. (2014) use a somewhat similar analysis of text responses about the Black Sea.

People might appreciate and value nature for various reasons. The literature on Cultural Ecosystems Services includes various schemata for these. Those who interview people about place-based values often offer statements to interviewees, asking them to rate them, or using them to prompt conversations (e.g. Gould et al. 2014). Bryce et al. (2016) have provided a recent collection of such statements. They have also provided a theoretical rationale for some of these. The inevitable difficulty with these schemes is that they impose the researchers’ prior classification on the interviewees, either by offering them a limited range of responses or by coding free-text responses according to the chosen scheme. Other than the theoretical underpinning, one is left wondering how arbitrary the schemes’ impositions are. And the theory supporting the schemes is necessarily quite abstracted and it would be good to test it against the free responses of interviewees. Decision-makers, one imagines, would prefer a précis of the public’s opinions with as little interpretation as possible. Using discourse analysis can reduce this level of interpretation in two ways. Lexically, it can demonstrate how particular words get used; their frequency, their collocations, their emphasis. Rhetorically, it can select particular semantic markers of strength of feeling.

Of course, the researcher’s prior commitments still dominate the outcome, but in a different way to typical CES research. In the case of words, the researcher’s selectivity is plain to see. Rather than ask, for instance, how much people agree with the statement, “*4. At these sites I feel part of something that is greater than myself.*” (Bryce et al., 2016:261, who identify this as ‘spiritual value’, the only one of their fifteen statements to be so categorised), we could look for every use of the word ‘spiritual’ in people’s free texts. This has the advantage that the participants will be talking or writing about what they think of as spiritual. It has the disadvantage that people may differ in what they think the spiritual means and, in particular, fail to identify as spiritual some things that the researchers believe to be importantly spiritual. Thus, a participant may speak about feeling part of something greater than themselves and yet fail to use the word spiritual with respect to it (either because they do not identify it as spiritual or because they see no need to so identify it at that point in their text – as in at least one instance from the tree-stories corpus: *I was always climbing up trees and feeling at one with the world, feeling as if I was a part of nature*). This is a limitation of this lexical method. In the case of the two other evidential samples there is no anticipation of finding either the word ‘spiritual’ or a longer text expressing the view of ‘feeling part of something bigger’. The genre of street names rules out that anticipation, while village signs, with a very few exceptions, only contain as verbal text the name of the village. Even in these two cases a lexical method will prove a good exploratory tool. With streets it is possible to categorise elements of their names that are words for fruits, trees, and other rural or natural features. With village signs there is fairly restricted ‘vocabulary’ of frequently used visual icons, e.g. the parish church, trees, and horse-and-plough, from which a set of icons can be chosen for investigation.

If we are looking for evidence of the value people place on nature in texts we might anticipate that it would have three elements. There would be the aspect or element of nature that they value, e.g. trees (element) or peace (aspect); the appraisal (or ‘attitude’ – see below) they make of that (positive or negative), e.g. enjoy (…the peace) or am awestruck by (…these trees); and, sometimes, the strength (or ‘force’) with which they make the appraisal, e.g. quite (…enjoy the peace) or truly (…awestruck by these trees). The diversity of all three elements will be immense, but expressions of strength of feeling and opinion in the English language may be somewhat more limited and, importantly, relatively neutral with respect to the feelings and opinions held. So, if searching within a database, or corpus, of over 30,000 ‘stories’, searching for a word like *very* may highlight expressions of evaluation without imposing on the search a researcher’s anticipations of those evaluations. In a related way, when investigating images such as village signs, the strength of feeling ‘this is important’ about a particular element in the image can be assessed through examining how often its representation is included in signs and its position, size or colour within a composition as a whole.

This study has drawn on CDA in looking for evidence of strength of feeling, particularly in its use of Halliday’s Systemic Functional Grammar (SFG) (Halliday and Matthiessen, 2014). For appraisal in verbal texts, this has been developed by Martin and White (2005) and Pounds (2011). Their system of appraisal has three domains: attitude, engagement and graduation. Engagement refers to the how people express where their attitudes come from and is not touched upon in this study. Attitude is classified into three subdomains: having feelings (‘affect’), judging people’s behaviour (‘judgement’) and evaluating things and situations (‘appreciation’). Graduation is about the ‘force’ with which these attitudes are expressed and how sharp or blurred their ‘focus’ is. Thus, this study has looked for lexical qualifiers signalling ‘force’, such as *very* . Martin and White (2005) term these ‘isolated lexemes’ and note that they are ‘grammatical’, belonging to a closed set with no referential meaning (2005:142). However, force can also be signalled by the choice of the main appraising word, compare *love* with *like*, (‘infused lexemes’, 2005:143), metaphors and the like. These belong to open sets and would be more difficult to search for. Rhetorical expressions generally would be hard to search for, apart from similes, which are often signalled by *like* , *just as* and *as if*.

Kress and van Leeuwen (1990, 1996) also draw on SFG in their analysis of images, while pointing out the significant differences between texts and images. Appraisal in texts falls under the ‘interpersonal metafunction’ in SFG, which might be described as the ways discourses establish a personal relationship with the speaker/listener/viewer, including trying to establish a resonance in feelings and attitudes. As Kress and van Leeuwen (1990:23) argue, although the common-sense position is that discourses ‘are about something’, the social relations of the producer and receiver of a discourse is always prior and determines how (and why) the discourse is produced, read and used. They go on to analyse how the interpersonal metafunction works in images, as opposed to in texts. Of relevance to this study, they describe how the impact of images is affected by the use, or not, of perspective and frames, the horizontal and vertical angles of view, naturalism, and signals of salience such as focus and use of colour. Many of these are important in the analysis of village signs and explain how a sign invites viewers to identify with its presentation of the village identity and share its evaluation of what is important in the village.

Critical Discourse Analysis, therefore, provides the theoretical framework for the analysis of the three data sets of village signs, street names, and the corpus of tree stories. CDA is adapted to the nature of these three sets, and so used to identify the features of the natural world that are being appraised (often implicitly), what is the appraisal/’attitude’ and its strength/‘force’, and the social group providing the evaluation. Although there may be numerical elements to this, the chief way the results of this analysis are communicated (both in this paper and to potential decision-makers) is through a verbal and contextual account of what is revealed about the values held by society.

## Results of the detailed studies

### Village signs

The origin of the custom of erecting a village sign is generally attributed to King Edward VII, who commissioned the Princess Alexandra School of Carving at Sandringham to produce signs for four villages on the royal estate (Addy and Long, 2009). Further signs were produced, particularly in East Anglia, over the succeeding decades, but the recent flourishing of the oeuvre stems for 1977, when many villages decided to mark the Silver Jubilee of Her Majesty the Queen by erecting a sign. Further impetus was given by celebrations of the Millennium in 2000 and the Queen’s Golden Jubilee in 2002. So many villages began to have signs, that others, not wanting to be left out, erected signs in intervening years. With age, some signs have had to be replaced, sometimes with new designs.

Regardless of the royal sponsorship, the erection of signs has largely been an autonomous expression of local communities rather than at the behest of powerful elites – in contrast to Abousnnouga and Machin’s (2013) account of war memorials. Addy and Long (2009), who founded the Village Sign Society in 1999, describe how local groups are “formed to decide on the design, to raise funds, and arrange the placement.” Such groups often involve the statutory parish council (elected by residents) and voluntary societies such as Women’s Institutes and Rotary Clubs, as well as keen individuals. Because of this, village signs represent how many local people wish to depict the special identity of their village. They are the evaluating social group, but a more detailed study would benefit from discovering the commissioning and design process for each sign. However, perhaps because of the social positioning of the commissioning groups, or because the message is one of continuity of tradition, the medium is also traditional, there is little innovation in the main elements of the genre.

Most are single flat or bas-relief heads (not fully three-dimensional) on posts just above head-height, placed either in a central spot or at the entrance(s) to the village. Although the majority are made of wood, wrought iron is also popular (when the image may be in silhouette), but there is an increasing diversity of materials used. Written text is usually restricted to the village name. Frequently, the main image on the post is a composition of several painted features thought to represent the village, with, perhaps, some subsidiary images in the spandrels, where extra text such as the date of erection may also appear. “The designs, which range from the simplistic to the intricate, portray symbolically the history of their villages, their association with agriculture and other local industries and their continuity from pre-history to the present” (MacEachern, 1993).

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| Table 1: Percentages of images in East Anglia village signs in the Savage database | | |
| Image | Percentage of signs with this image | Percentage of the total coded images of all types |
| Village church | 48.6 | 21.5 |
| Farming | 33.8 | 14.9 |
| Flora and fauna | 22.8 | 10.1 |
| River | 12.0 | 5.3 |
| All ‘natural’ images, including mills and canals | 57.6 | 36.6 |
| Totals in database | 1721 signs | 3887 coded images |

Although potential images on village signs are very numerous, the result of a quick inspection shows that some images are very common indeed. Table 1 presents the percentages of various images in signs in Ken Savage’s database of village signs in East Anglian counties (personal communication). An image is coded (or recorded) in this database when it has a focussed role in the sign. In addition to these coded images, a very high percentage of signs have trees or grass in the back- or foreground, providing a matrix for the coded images. The interpretation of these statistics is very open, but certainly both church and countryside have been frequently selected as features that are thereby positively appraised by those who commissioned and designed these signs. This is evidence of their social value. Presumably it is very likely that they would wish to retain the physical reality of these images in their villages.

A more detailed analysis of village signs may reveal iconological evidence of the degree the images invite viewers to identify with the scene and whether the church and countryside act in a visual hendiadys, signifying something like the spiritual dimension of nature. By this we may understand the basic attitude of rural English people, often unconsciously expressed (Panofsky, 1970), to their being-in-nature. On the first point of identification, a sign invites viewers to ‘belong’ and share its iconlogical understanding when it is unframed and whether the image is frontal to the viewer or, if in perspective, the vanishing point lies within the frame. Village signs that inconologically invite viewers to identify with the scene arguably express an attitude of ‘belonging to something bigger’, at least on the part of the constructors of the sign.

On the second point of the relationship of nature and spirit, we can look at whether the relative positions of church and countryside affirm a relationship, e.g. foreground/background/in the same plane, overshadowing/embracing, and whether one or other gestures to the other, perhaps through graphic diagonals (see Kress and van Leeuwen, 1990; van Leeuwen, 2011).

The analysis of the images relied on photographs of Kent village signs generously shared for this study by Roger Smith and on Alan Bignell’s two published books (2004a and 2004b.). The results of this are presented as a discursive analysis of three images. The results of a more substantial study would include many more analyses of individual images as well as a numerical analysis of coded signs.



Figure 1: The village sign of Westbere, Kent (photo: Roger Smith)

Westbere’s sign (Figure 1) has a heavy wooden frame, but within this the images are silhouettes of fine metal, so that the overall effect is of looking through the sign to the sky or trees beyond, thereby integrating the image into the reality of the village. Bignell explains (2004b:46) that the frame is “a somewhat complex arrangement of geometric shapes, the outline of which mimics that of the church, All Saints. At the top, a hexagon frames three bells, like the three bells in the open bell-cote of the church.” In the two lowest panels there are wavy lines of thin metal, representing the water of Westbere Lakes. In the two central panels the wavy lines are continued in the lower third, being succeeded by wavy lines of a different shape to indicate the hills around, the top being empty for the sky. At the edge of both these panels are some leaves of water plants, with more leaves and two flowers (perhaps Iris) in one panel and a swan swimming in the other. There could hardly be a more intimate relationship of church and nature, with semi-natural nature being clearly delineated and the religious dimension symbolically embracing it.



Figure 2: The village sign of Lyminge, Kent (photo: Roger Smith)

Lyminge sign (Figure 2) is solid, but it undermines the framing effect of merely having an edge through it being wavy in outline and painted blue, its representation of the sky bleeding into the real thing, though a white cloud over the church tower in the upper centre of the image partially reinstates a sense of frame. The lower part of the church, all that remains of what had been the earliest abbey in England, is hidden by symbolic green foliage, with two white sheep in the centre at the bottom. To one side is St Ethelburga, who founded the abbey, and to the other a steam engine, representing the local railway that ran from 1899 to 1947, which enabled the development of the village. Beneath the village name are carved wavy lines to indicate the local stream. Apart from the steam engine, in simple perspective, travelling off to the left, all the rest is presented flat to the viewer and in bold colours. Kress and van Leeuwen (1990:31ff) claim that a lack of frame and perspective do not impose a point-of-view. The image is thereby much more integral to the whole scene, much as a pre-Renaissance mural; and this village sign has a good deal of primitiveness about it. Similarly, all but the train are in frontal angle, which proclaims that what you see is part of our world (1990:36) that we share with you: You are part of this natural world and are under the protection of what the church represents, as it occupies the space of the ideal at the top of the image (1990:99).



Figure 3: The village sign of Boxley, Kent (photo: Roger Smith)

The third example, Boxley (Figure 3), is strongly framed in wood. Unusually, it has an image only on one side, so it is much more like a normal picture. The image itself is more painterly too. It is strongly gestured through a white horse (the emblem of Kent) on the right (as one views the sign), that takes up about a quarter of the space. It is looking down, over the village name-board, into the centre of the village which is approximately at the golden ratio on the vertical axis. At the very centre of this (the central focus) lies an old house, with the parish church on the left and, to the right past some trees, a pair of oasthouses. In approximately horizontal bands across the picture are crops, fields, trees and woods, with the horizon at the upper golden ratio. Apart from the horse, none is in perspective, except that the church reveals two adjacent sides, north and east. This sign can be interpreted as explaining that the humans dwell at the centre of things, supported by sociality on each side, the spirits of both faith and alcohol (there are frequent references to pubs in village signs), and all embedded and embraced by a natural world that provides essential nourishment and beauty. It is the animal, the horse, that points out these truths to the village visitor by the gesture of its look.

These three examples demonstrate that there is much to read in village signs and, often, this will reveal a good deal of what the local people value about their home. A more numerical analysis of some of these iconographic images would indicate their proportional importance and value, but the statistics presented above indicate likely tendencies. The high proportion of natural images included in signs, relative to alternative image domains, indicates that village contexts of nature and farming are highly valued, as is the parish church – much more so than other buildings in the parish. The near-ubiquity of trees in the signs demonstrates their particular importance. The living elements are not directly correlated with the values of nature conservationists, but there is likely to be much shared common ground. The significance of the parish church may be as much about village identity, distinctiveness (each church building is different in detail) and sense-of-place as about spirituality as often conceived, let alone Christianity. Yet, having a collective identity around a shared focus of worth is more appropriately categorised as ‘spiritual’ than under any other of the MA’s categories of CES.

### Street names

These have proved less productive. So far it has not been possible to get a digital record of street names that one could interrogate with a concordancing package or a spreadsheet. There is also the difficulty of dating street names. Almost certainly there are changing fashions in street names and relatively recent names would reveal most about contemporary attitudes, at least what those who market new houses think appealing to potential buyers. With disproportionate labour, one could go to streets and date the buildings on it, or search record offices for evidence of planning permissions and such like. With a greater degree of error, one could estimate a date of a housing estate through its street pattern and its location with respect to earlier streets in the street atlas. A housing estate at the edge of a town with very winding main thoroughfares and lots of even more windy small cul-de-sacs is likely to have been constructed since 1980, for instance. Yet even this, with all its uncertainties, is time consuming and only justified if the results were promising.

Using the *Philip’s Street Atlas* for Cambridgeshire (2001), a preliminary examination of the index for entries of streets beginning with A or B indicated that there were about 2,030 entries. See Table 2 for a schedule of results.

Street names, for the most part, are binomials (in the reverse order to scientific names of species) with a ‘descriptive’ specific epithet (usually a noun in apposition rather than an adjective, e.g. ‘Bramble’) and a generic name, such as ‘Street’, ‘Road’ or ‘Lane’. I term the two together as a ‘headword’ street name and these are in bold in the index on separate lines. Some popular epithets are applied to many different generic words (12 in the case of ‘Bramble’ and its allies); the average is to about two generic words, but the distribution is highly skewed, so most are only applied to one. The great majority of headwords were used in just a single location within the area covered by the atlas; some street names had been used in two or three different towns and villages (the average being about three per epithet); a few were very common and used in many locations (21 in the case of ‘Bramble’).

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| --- | --- | --- | --- |
| Table 2: Counts of street names in the Philip’s Cambridgeshire Street Atlas (2001) | | | |
| Specific descriptor/epithet, normally the first word | Generic street word, normally the second word | Number of headwords, i.e. generic words described by the specific word | Total number of streets across all settlements with the specific descriptor |
| TREES |  |  |  |
| Acacia | Avenue, Grove | 2 | 5 |
| Acer | Road | 1 | 1 |
| Acorn | Avenue | 1 | 1 |
| Alder | Close, Drive, Road | 3 | 4 |
| Almond | Close, Drive, Grove, Road | 4 | 5 |
| Apple/ Appletree | Close, Green, Grove, Orchard, Yard, none | 7 | 8 |
| Ash | e.g. Close, Court, Green, Grove, Park, Road; Also combinations: Ashbeach, Ashburn, Ashbury, Ashcroft, Ashdale, Ashfield, Asjlea, Ashmead, Ashtree, Ashvale | 28 | 39 |
| Aspen | Close, Green | 2 | 3 |
| Beech/Beeches | e.g. Avenue, Close, Croft, Drive, End, Grove, Lane, Road, Way, none; Also combinations: Beechside, Beechwood, | 16 | 28 |
| Birch | e.g. Avenue, Close, Drive, Grove; Also combinations: Birches, Birch Trees, Birchen, Birchwood | 10 | 13 |
| Blackthorn | Close, court | 2 | 4 |
| Bramley/Bramleys | Avenue, Close, Court, Drive, Grove, Road, Way, none | 8 | 13 |
| Buckthorn | None | 1 | 1 |
| OTHERS | (as examples) |  |  |
| Bramble | Close, Court, End, Lane and Walk, as well as The Brambles; Also Blackberry Way; Briars End, Way etc | 12 | 21 |
| Church | e.g. Close, Causeway, End, Hill, Lane, Meadows, Road, Street, View, Walk; Also combinations: Churchfield, Churchgate, Churchyard | 20 | 229  (73 for Church Lane alone; 55 for Church Street) |
| Orchard | Avenue, Close, Crescent, Court, Drive, End, Estate, Gate, Gardens, Lane, Mews, Pightle, Road, Row, Street, Terrace, View, Way, and none (singular and plural) | 20 | 76 |
| TOTAL for names beginning with the letters A or B: | | | |
| Total number of specific descriptors |  | Total number of headwords | Total number of streets |
| About 650 |  | About 1250 | About 2030 |
|  |  | Average number of headwords per specific descriptor | Average number of streets per descriptor |
|  |  | About 2 | About 3 |

Of the total number of street names under the letters A and B (and this alphabetic sample may not be representative), several use ‘natural’ epithets. By far the most common are tree names (13). These are set out in Table 2. There were very few animal names: *Blackbird, Bream, Buck, Buzzard*; and a few wild-flower names: *Bilberry, Bramble, Briar* and *Broom*. There were slightly more names that are associated with countryside features: *Acre, Bank, Barn, Breckland, Brook, Bush*. This is a total of 27 specific descriptors, about 4% of the sampled descriptors, which might indicate a low saliency for evocations of the natural by those marketing new houses.

Further analysis of the street names might indicate that alternative descriptors, particularly in older developments, are not real comparators for relative value, such as streets named after towns and people. To test this it would be important to establish an efficient method to date the naming of each street. This might confirm that natural features were used in a much higher proportion of recent street names than in the past. It would also be useful to make a comparison of these types of street names with other categories. Thus there are very many headwords incorporating *church*: *Church Lane, Road, Street* etc (see Table 2), but it would not be reasonable to infer from this a high level of contemporary Christian observance. It is likely that many of these streets with ‘church’ in the name are not recent. For instance, *Lane* is not a common generic in modern housing estates (it occurs just the once in the sample of tree-street names) and yet it makes up 32% of all the *church* streets; similarly, *Street* also indicates an old street name and is found in 24% of cases. Clearly, this evidence requires intelligent discernment in its interpretation. Further work might confirm that housing developers (the evaluating group), in their marketing strategy, do frequently attempt to appeal to buyers’ aspirations to live in a rural setting, if only in the image evoked by the street name. The high proportion of natural specific epithets shows they are positively appraised. Sadly, sometimes the street name reveals what was lost to build the houses. One street in Cambridge, built on the water meadows, is named *Misty Meadows*. One can also think of all the streets called *The Orchard* or something similar, where generics like *Lane* and *Street* may indicate old streets that led to an orchard, yet the majority of the generics, like *Close, Drive* and *Gardens*, suggest modern developments on land that was once an orchard, but is no longer.

### Tree stories

The Woodland Trust, in 2015, invited all sorts of organisations to join them in calling for a Charter for Trees, Woods and People and over seventy organisations took part, as well as many local Charter branches established by the trust. Through these organisations, social media and events all around the country members of the public were encouraged to support the call for a charter by writing ‘stories’ about why they loved trees. These stories are to be used in drafting the Charter that will be launched in November 2017 and they have informed the ten principles that will underpin the Charter (see https://treecharter.uk/). The invitation was worded in diverse ways and the invitations were issued in various contexts, and the responses could be on paper, online or in other imaginative formats such as paper ‘leaves’ put on ‘trees’. As a result, different prompts and circumstances can be detected among the stories. The ‘stories’ may be narrations of happenings, but many are statements about the value of trees and woods. Most are quite short, a sentence or two, some are longer, and some are in verse. The database/corpus examined had 30,358 stories. On inspection a few of these are duplicates, one duplicate appearing in one of the searches of the data.

Using *Voyant* and the principles described above, two types of searches were conducted (Baker, 2006). The first looked for short phrases leading with signalling words for ‘force’: *very, extremely, awfully*. ‘Awfully’ was not used in the corpus. The counts for the other two words are set out in Table 3.

|  |  |
| --- | --- |
| Phrase | Count |
| very important | 38 |
| extremely important | 10 |
| very relaxing | 22 |
| extremely relaxing | 2 |
| very calming | 16 |
| very beautiful | 11 |
| extremely beautiful | 2 |
| very old | 11 |
| extremely old | 4 |
| very special | 10 |
| very nice | 9 |
| very sad | 7 |
| extremely sad | 2 |
| very peaceful | 6 |
| very concerned | 5 |
| extremely concerned | 4 |
| very fond | 5 |
| very interesting | 5 |
| very young | 5 |
| very few | 4 |
| very good | 4 |
| very large | 4 |
| very quiet | 4 |
| very therapeutic | 4 |
| very well | 4 |
| very close | 3 |
| very different | 3 |
| very often | 3 |
| very pretty | 3 |
| very stressed | 3 |
| very tall | 3 |
| very happy | 2 |
| very imposing | 2 |
| very keen | 2 |
| very long | 2 |
| very lucky | 2 |
| very much | 2 |
| very poor | 2 |
| very refreshing | 2 |
| very small | 2 |
| very soothing | 2 |
| very stressful | 2 |
| very strong | 2 |
| very things | 2 |
| very upset | 2 |
| very upsetting | 2 |
| very valuable | 2 |
| very worried | 2 |

Table 3. Counts of short phrases in the tree story corpus

This preliminary analysis does not reveal what elements the contributors were assessing; the phrases imply that some follow a negative impact on trees and others express positive aspects about trees. The top pair qualify ‘*important’* and further inspection would reveal what was important. Next in frequency are affects, expressing emotional states, ‘*relaxing’/’calming’*, and also *peaceful, therapeutic; sad/stressed*. Third are appreciations, ‘*beautiful’/’pretty’*, and also *imposing, special*. Expressions of judgement are likely to be of damaging human actions, e.g. *concerned, upset(ting).* This provides evidence that contributors to the corpus positively and strongly (they use *very*) value the relaxing and beautiful aspects of nature. The next step would be to examine the collocations of these phrases to discover what features were being evaluated with such strength. Because of the nature of the corpus, most of these features are likely to be about trees and nature.

|  |  |  |
| --- | --- | --- |
| Word analysed | Count of occurrences | Description of the range of meaning(s) |
| Spiritual(ly) | 10 | 4 about spiritual contentment; 5 about spiritual connection to something bigger; 1 listing spiritual value |
| Spirit | 4 | about feeding the spirit |
| Spirits | 9 | (being lifted) |
| Religion | 4 | about religious teaching on trees |
| Feeling part | 2 | (of something bigger) |
| Memorial | 15 | (of a relative or friend) |
| Death/dead | 6/33 | 6 where the reference was to a dead person or death as something more than biological; the rest were about dead trees and the decay process. |

Table 4: Counts of words linked to spirituality in the corpus

To discover if the spiritual dimension was an important feature a search was made for words associated with spirituality, see Table 4. At first sight, these seem rather low numbers for such a large corpus. However, if one compares the 10 occurrences of *spiritual(ly)* with the 38 occurrences of *very important*, which one might naïvely presume to be much used in the context of tree stories, perhaps the evidence is that the diversity of people’s language and thought is so great that even in a large corpus there is not much repetition. A simple inspection of these occurrences indicates a positive appraisal of the spiritual, but the sample is too small to make use of signalling words for force.

The third examination was for the rhetorical trope of the simile. Words signalling similes, such as *like*, can be used for purposes other than figurative ones, and so these have to be separated out by inspection. Searches were made, using the *Voyant* context tool, for *just like* (5/11), *just as* (0/9) and *as if* (10/2) – (where the first number is the number of similes, and the second the number of occurrences of the phrase in the corpus that were not used to introduce a simile).

|  |  |
| --- | --- |
| Concepts evoked by the similes | Count of occurrences of the concepts |
| Trees as living beings like us | 4 |
| Trees as maintainers the world | 3 |
| Trees as protectors | 2 |
| Trees as the location of ‘magic’ | 2 |
| Trees as home | 1 |
| “I” as part of nature | 3 |

Table 5: Counts of the concepts evoked in similes in the corpus

The concepts evoked by the similes are varied and set out in Table 5. The first three of these all imply that trees do not merely have a biological function, but have some human-like role in the world. The last three are evidence of a spirituality of being part of something bigger (Bryce et al. 2016; Kenter et al., 2016). That the contributors have chosen to construct a simile is evidence of the high value they put on the feature they elaborate in this way.

As with street names, comparative data on all three analyses need further examination. Although the tree stories corpus is hardly representative of the population as a whole, it does provide good evidence of the passion and care held by a significant number of people for trees and woodland (the evaluating group). This coincides with the widespread campaign protesting against the proposed sell-off of the public forest estate in 2011 (Irvine et al., 2016). Evidence such as this puts down a marker that those making decisions must attend to the strength of feeling of people to protect nature (in a wide sense), even if they are in a minority in the population.

## Discussion

### Limitations in these methods

This has been a scoping study, a preliminary trial to discover if an investment in developing any of these methods would be worthwhile. They all necessarily suffer from the weaknesses of this, though the analysis of village signs has been particularly rich.

CDA is insistent on understanding the contexts of discourse and not merely examining the discourses themselves (Richardson, 2007). This study has relied largely on assumptions about the evaluative communities that have produced the discourses it has analysed. For village signs, for instance, the group of people most responsible for the iconology will have varied from commission to commission. It would be important to discover the relative importance of the artisan who constructed the sign (a limited number of such people have constructed a high proportion of signs), the commissioning committee, and any public consultation they conducted. House builders should be interviewed about their marketing strategies in naming streets. The data base of the tree stories may have demographic data associated with it.

Critics of CDA exist, e.g. Toolan (1997) (Machin and Mayr, 2012). Of particular importance is its prior socially-critical stance. Is it possible to use its methods in a more neutral way to produce evidence on non-hegemonic patterns of thought? This study has attempted to use the low-level, close-to-text methods of CDA without drawing on its political presuppositions – and yet this this study does advocate the virtue of sustainability (which is not universally agreed by any means) and uses CDA to build an evidence base to persuade the ambivalent of the socially held values of nature to set against what such people might feel to be financial imperatives.

Other analytical methods to CDA would reveal further insights, particularly those not rooted in Halliday’s Systemic Functional Linguistics, and the relatively simplistic nature of the three evidential bases cannot show off the complexities of CDA to full advantage. More time would allow further analyses, of course, particularly comparative ones to assess the relative prominence of natural and spiritual features and forcefulness of the evaluations. Decision-makers need to weigh up conflicting priorities and evidence of the relative strengths of feelings in the population is needed for this. This scoping study has not attempted to develop the narrative reporting of the values it has uncovered; that is work still to be done. In developing this it would need to investigate whether such decision-makers would appreciate the evidence it has produced or how they might wish it presented for their purposes. It is not alone in this. Much work in CES studies is conducted in the hope of being influential. Yet, finding the best way to communicate the results of such studies is critical to their effectiveness.

### The contribution these methods make to ecosystem services studies

Despite (or because of) laments over the difficulties of addressing CES values (e.g. Winthrop, 2014; Hirons et al., 2016; Baveye, 2017; Chan et al.2016; De Vreese et al. 2016; La Rosa et al.,2016), there is much activity in the field. Hernández-Morcillo et al. (2013) provided a review of indicators of CES, finding no methodological consistency. Although they found only 23% of studies represented CES spatially on a map, mapping CES is a growing trend (Burkhard and Maes, 2017), often through interviewing individuals or groups about places that are important for them (Brown et al. 2012; Brown and Fagerholm, 2015; Willemen et al. 2015; Kenter, 2016). There have been several studies of proxy mapping by examining the density of uploaded pictures of landscapes and other natural features on geographical internet sites such as Google Earth (van Zanten et al. 2016; Figueroa-Alfaro & Tang, 2017; Gliozzo et al. 2016). Mapping can also be done by simply overlaying in a GIS (geographical information system) existing data sets, such as designated sites for nature conservation, species locations, or cultural features (e.g. Vorstius and Spray, 2015; Swetnam et al. 2016; Tratalos et al. 2016). The study closest to this one is that of Bieling and Plieninger (2013). These researchers examined ‘cultural productions’ in the Swabian Alps, interpreting and mapping artefacts such as benches, hiking signs, hunting blinds and memorials. Unlike the current study, their main aim was to map the density of these artefacts rather than to explore their interpretation in depth.

These mapping exercises can guide decision-makers on where to locate developments in a way that will minimise their negative impact on CES. It may be that ecosystem services assessments, including cost-benefit analyses, are most useful at a local scale, where the changes, the economic ‘margin’, are easiest to discern (TEEB local policy, 2011) – should a housing estate be built on this wood, or this field, or this brownfield site? None of the three sets of cultural productions has this level of geographical specificity. For instance, it would be unwarranted to presume that village residents with a village sign that referenced history rather than nature was necessarily less concerned about its natural setting than villagers nearby with a nature-based sign.

What they could contribute to is decision-making at national scale, both with policy-making and with protocols for local decision-making. They provide evidence on the intensity with which people value CES and the manner of their valuing. As well as investigating these three data sets more intensively, other cultural productions could be studied, such as planted trees or memorial benches. Cultural productions may not be physical but may be stories about places, or nature more generally. The Native American chief who asked, “If this is your land, where are your stories?” pointed to this (Chamberlin, 2004). The attachment of people to their local setting may be indicated by the number and power of such stories. The collection of stories by Guy (2006, and others in the series) is an example. The annual MENE survey asks people how and how much they engage with the countryside. This could be complemented by investigations of behaviours such as flower festivals and open-gardens visiting. There has been an upsurge in what has been termed New Nature Writing (Cowley, 2008), and this literature is attracting the attention of ecocritics (e.g. Garrard, 2012), but it would also be worth investigating sales data and promotional intensity for this genre. Historical studies into the trajectory of British or European thought about nature, e.g. Schama (2004) and Thomas (1983) are also illuminating.

However, contrary to the desire of environmental economists, the current investigation (and these other suggestions) would not provide figures that could be inserted into a Total Economic Value (see Bateman et al., 2010). TEEB in National Policy (2009) recommends a hierarchy of procedure for each ecosystem service: characterise, quantify, monetise. These investigations contribute to a characterisation of CES, with some quantification that may indicate relative strength of importance. Despite criticisms of ‘narrative’ values (McShane, 2012), there is increasing recognition that mixed methods are needed in the assessment of ecosystem services, especially CES (Daniel et al. 2012; Chan et al. 2012a and 2012b; Heydinger, 2016; Bennett et al. 2017). A fuller investigation of the three cultural productions in this study could contribute to this non-monetary account, either through the academic literature, or by being incorporated into a valuation tool or a commissioned study. It would not be commensurable (i.e. able to be added in to some totalising assessment) but a narrative describing these values will contribute to the characterisation of CES that can provided as evidence to decision-makers that people value nature and their relationship with it in non-obvious ways and may be prepared politically to defend what they value.

## Conclusions

* This study argues for the use of cultural ‘discourses’ in characterising, and partially quantifying, Cultural Ecosystem Services. They have the distinct advantage of being revealed evaluations rather than stated ones, so that their results are less susceptible to being artefacts of either interview or group-work methods. That the study does not readily fall under any of the categories of methods for CES assessment in either Hirons et al. (2016), or La Rosa et al. (2016), is evidence of its originality.
* It is unique in analysing village signs and street names for evidence of the value society places upon nature and its spiritual dimension.
* It also contributes to the available methods for doing analyses, particularly by adapting Critical Discourse Analysis to the distinctive imagery of village signs and the challenges of investigating a large corpus of short ‘stories’ contributed by the public.
* It demonstrates that three constituencies (village communities, house building companies and their customers, and members of the public who care about trees) do value features of nature and the countryside, particularly trees, and they value the spiritual dimension, though somewhat less. The strength of these evaluations is indicated by the relative frequency and extent of these features in these discourses, as well as by the force-level of the verbal texts about trees.
* The combination of readily and cheaply available data with an analytical method that does not use complex mathematics makes this study a good model for student projects.
* With further development of the analytical methods, the same feature of ready and cheap data makes this scoping study a valuable model for further contributions to professional evaluations of the importance of Cultural Ecosystem Services to society. Such accounts may assist decision-makers and, reflected back to the communities that produced them, they may affirm and encourage communities to defend what they value.

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