



Barclay, G. J. and Brophy, K. (2021) 'A veritable chauvinism of prehistory': nationalist prehistories and the 'British' late Neolithic mythos. *Archaeological Journal*, 178(2), pp. 330-360.

(doi: [10.1080/00665983.2020.1769399](https://doi.org/10.1080/00665983.2020.1769399))

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Deposited on: 24 June 2020

## 'A veritable chauvinism of prehistory': nationalist prehistories and the 'British' late Neolithic mythos

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### Abstract

This article examines the interpretation and public presentation of a particular view of the supposedly 'national' role of monuments in a geographically restricted part of southern England – what we have termed the British late Neolithic mythos: that monuments in the Stonehenge area had a 'national', 'unifying' role for 'Britain' at a time when 'Britain' had a 'unified culture' and was isolated from continental Europe, and that as part of that process, animals for feasting were transported from as far as 'Scotland'. We explore the trajectory of interpretative inflation, 'possible' > 'probable' > 'certain' > 'sensational' through academic and popular accounts, media releases, social media, newspaper articles, TV programmes, Research Excellence Framework impact reports, and the publications of the Arts & Humanities Research Council. We critically examine the evidence claimed to underpin this far-reaching re-interpretation of British prehistory. We examine the extent to which *a priori* assumptions can shape the interpretation of complex datasets and how unacknowledged nationalist and neo-colonialist thinking underpin its interpretation. We consider the way in which researchers have linked their work with contemporary politics – Brexit, a 'united Britain' isolated from Europe, perhaps to demonstrate 'relevance, 'impact' and 'reach' to funding bodies. We conclude with some suggestions on ways forward including further research, and mitigating strategies.

*'Error is an occupational hazard of the literary life. As soon as a man sets pen to paper he sets himself open to error: one, his own, which is bad enough; and, two, the misunderstanding of those who read him, which is infinite'. (Allan 1952, ix)*

### Introduction

In his iconic paper on the 'invasion hypothesis' and associated 'neurosis', Clark (1966, 172) contrasted a 'veritable chauvinism of prehistory', in late nineteenth and early twentieth century Germany, with a less nationalistic British variety. Despite the suggestion by Parkins (1997, 457) that archaeology towards the end of the twentieth century was at last 'beginning to understand its role in nationalistic discourse whether voluntary or not', it seems that there continues to be a complacent view of the construct of 'nationalism' in relation to writing 'British' prehistory from a Wessex-centred perspective. In this paper, we will argue that this, combined with a new wave of scientific thinking in archaeology, has played a part in the emergence of deeply problematic interpretations and terminology about relations within the 'British Isles'

and between Britain and mainland Europe in prehistory. ‘Scientism’ is an exaggerated trust in the efficacy of the methods of natural science applied to all areas of investigation, such as in the social sciences and humanities. The ‘British Isles’ is a supposedly neutral geographical expression used to mean ‘Britain and Ireland’ as well as Britain’s smaller islands; many Irish people, however, find it a problematic neo-colonialist term and its use was formally disavowed by the Irish Government in 2005. In this paper we use the term only where referring to its problematic use in the dissemination of the mythos. ‘Neo-colonialism’ is usually defined as the control or domination by a powerful country over weaker ones, especially former colonies, by the use of economic power or cultural dominance. We would argue that it can include perceptions of relative significances between a core and what are taken to be its peripheries (Barclay 2001).

This article is concerned with the late Neolithic period (c3000–2400BCE), a time of significant change. The end of this period in Britain has been the focus of problematic claims related to identity, ethnicity and migration – the debate about Beaker-related ‘population replacement’ based on ancient DNA (aDNA) evidence (e.g. Olalde et al. 2018), and the ways in which aDNA studies are feeding ethno-nationalist politics (Frieman & Hofmann 2019; Hakenbeck 2019). Other researchers have explored isotopic markers of the geographical origins of humans and animals in the Stonehenge landscape in the third millennium BCE (e.g. Madgwick et al. 2019). It is clear that such research, like that on aDNA, does not exist in political isolation either in the interpretation of results or in their reception, although to date interpretations of isotope data have not been subject to the same level of critique. The promoters of some of the research in these areas have either been unengaged in how their work has subsequently been politicised, have been taken aback by its reception, or, in some cases, through the way they promoted their work in a wider sphere, have facilitated this process through the content and tone of institutional press releases and media interviews. We would argue that this has had malign consequences, heightened by the political uncertainty and division caused by Brexit – the process of Britain leaving the European Union (Bonacchi et al. 2018; Brophy 2018a).

Our study concerns the creation of what we have called the *late Neolithic mythos* – the ‘mythos’ for short (‘mythos’ - a set of beliefs or assumptions about something, with its supporting narrative) – focused on the totemic monument, Stonehenge, lying at the heart of an archetypal English landscape (Matless 1998, passim; Pittock 1999, 7, 9; Colls 2002, 296; Barclay 2004, 156–8). The mythos, in summary, is that monuments in the Stonehenge area – mainly Stonehenge itself and the nearby henge-enclosures, especially Durrington Walls – had (using terms which have been associated with the mythos) a ‘national’, ‘unifying’ role for ‘Britain’ at a time when ‘Britain’ had a ‘unified culture’ and was isolated from continental Europe, and that as part of this process of unification, animals to be consumed in feasting were transported from as far as ‘Scotland’. By following a trail of published books and articles, press releases, broadcasts, media interviews, newspaper coverage, Arts and Humanities Research Council (AHRC) publications, a Research Excellence Framework (REF) case-study,

and social media reaction, we have been able to chart the development of this mythos over the last 15 years.

The mythos is not a neutral, objective interpretation of the prehistoric past, either in its creation or in its wider consumption. It appears to rely on thinking, approaches and even geography (cf Monmonier 2018) that can be characterised as nationalistic and neo-colonialist and it has also been picked up and given further nationalist ‘spin’ in the right-wing press and in the public propagation of the mythos by some individuals and interest groups. The promotion of Stonehenge and the monuments associated with it as the location for the origin for British identity, for British character traits, and for British political unity is the explicit revival of the English origin myth of Stonehenge as ‘omphalos [navel] of Britain’ proposed by Geoffrey of Monmouth in the twelfth century (Parker Pearson 2012, 331; Tolstoy 2016).

These problematic readings of the past were foreshadowed almost 20 years ago, when one of us (GJB) wrote about the dominance of the Orkney/Wessex axis in the creation of narratives of a ‘British’ prehistory:

...the long-standing traditions of writing prehistory in Britain, based on outmoded concepts of “luminous centres”, are still with us, to the detriment of our understanding of the richness and variety of the prehistoric past of much of the island of Britain (Barclay 2001, 16).

He also described ‘the apparent lack of self-awareness of how political (albeit unconsciously) is much of the practice of archaeology in the UK’ (Barclay 2001, 15) and asked ‘to what extent were Orkney and Wessex *centres* in prehistory, or are now merely *central* to the thinking of prehistorians?’ (Barclay 2004, 152). Neil Oliver’s parallel mythos, that Orkney was ‘Britain’s Ancient Capital’, ignoring everywhere between Orkney and Stonehenge, the Isengard and Barad-dûr of British prehistory, suggests that in some quarters self-awareness has not grown (BBC TV 2017; critique, Brophy 2017); fortunately, an online search seems to suggest that the ‘ancient capital’ myth has sunk without trace.

One of us (KB) has argued that Brexit has had a deleterious effect on the quality of public discourse in the UK, in particular in the distortion of research into prehistory, and the way the outcomes of the research are consumed: this has been termed the Brexit Hypothesis, ‘the proposition that any archaeological discovery in Europe can – and probably will – be exploited to argue in support of, or against Brexit’ (Brophy 2018a, 1650). In this case, the mythos has been recruited to support the idea of a ‘prehistoric Brexit’ – a united Britain isolated from Europe, of which more below.

The continued promotion of Wessex-centred prehistory through the aggrandising ‘national’ role for the Stonehenge area, is not only a problem for those working in the archaeology of Scotland. Frodsham (1996) explored it from the point of view of northern England; Harding (1991) wrote about it from the perspective of Yorkshire. Jones (2011, 1), writing from the south-west of England, expressed the frustration of many people, ‘who felt that the archaeological narratives of their regions were being subsumed by the

evidence from a relatively small geographical area...the chalk uplands of Wessex'. And as Cooney has written from an Irish perspective (2001, 170):

Nationalism has been seen as a problem for society (and the practice of archaeology) in Ireland, and in Britain for Scotland and Wales, but not for England. In reality, English nationalism, invoking the rhetoric of Britishness, has for long been the most pervasive ideology on the islands of Ireland and Britain.

In what we write below, what has been described as 'British' will very often turn out in fact to be, in Cooney's words, 'English nationalism, invoking the rhetoric of Britishness'.

We found it troubling therefore when, in March 2019, a paper was published which exemplified a number of these previously identified long-standing problems about the writing of prehistory in 'Britain', 'the British Isles', 'the UK', 'England', 'Scotland'. The paper was titled, 'Multi-isotope analysis reveals that feasts in the Stonehenge environs and across Wessex drew people and animals from *throughout Britain*' (our emphasis, Madgwick et al. 2019). It was the latest in a series of books, papers, and more ephemeral media that promoted a particular (widely disseminated, influential) view of the nature of late Neolithic society in Britain. It represented the late Neolithic mythos in its most developed form to date. We decided that a formal academic response was required, which is the paper you are now reading, a paper that it should be noted has been considered by a large and varied group of colleagues (see acknowledgements) even before peer-review for this journal.

Our paper is intended solely to examine, in context, the evidential base for an influential and widely promoted version of the past, which seems to us to be problematic in several ways. We consider how (probably unconscious) nationalist and neo-colonial thinking underpins some of the mythos; we look at the way that dissemination has emphasised these and how the ideas have been taken up in more conscious nationalist discourse. There is more to this than we have room to cover in this paper. However, we would argue strongly that the role of the UK Research Excellence Framework (REF) and UKRI funding bodies in tacitly encouraging over-claiming research significance and impact within academic archaeology requires urgent consideration and research. 'REF-ing' research, and ensuring the tone of associated outputs are REF-ready, are part and parcel of academic practice in the UK today.

We have made every effort to make our case dispassionately. In dissecting the mythos, it has never been our intention to criticise individuals, but we also understand that our paper will cause some discomfort. It is inevitable that the names of the key architects of what we have called the 'late Neolithic mythos' will appear frequently, as they authored, co-authored or contributed to the various documents we refer to, an extensive and almost wholly admirable body of work. If anyone feels that we have unfairly picked upon them, that was not our intention; this paper is intended as a cautionary tale for those who write prehistory. The mythos, it should be stressed, is not just any old case study of the problematic effects of the REF process. It is constructed

around the ‘omphalos of Britain’, the best-known and most-visited prehistoric site in the country, a monument at the core of English identity; the mythos appropriates the whole of ‘British’ prehistory to aggrandise the locus of that origin myth, and that has far-reaching implications.

### The late Neolithic mythos

On 14 March, the *Daily Telegraph* published an article, based on the aforementioned academic article by Madgwick et al. (2019), with the headline: “‘Neolithic Brexit’ unearthed at Stonehenge shows British identity began 5,000 years ago, archaeologists say’ (Knapton 2019). The piece included what seemed to be direct quotations from the lead author to the effect that isotope analysis of pig teeth found at four henge-enclosures in southern England demonstrated ‘the birth of a British identity’ through ‘the first united cultural events of our island, with people from all corners of Britain descending on areas around Stonehenge to feast on food that had been specially reared and transported from their homes’.

This article included a quotation directly attributed to the lead author in this study saying this constituted a ‘late Neolithic Brexit’, which in turn led to the clickbait headline. This phrase quickly became contested, a tacit acknowledgement of its power and problematic nature. On social media the academic involved denied saying this; however, the journalist in question asserted that ‘these are direct quotes. I have the shorthand note’ (Sarah Knapton, @sarahknapton Twitter 16 March 2019). The same academic was also quoted in *Haaretz* (Israel) on 13 March (Schuster 2019) and *The Times* on 14 March (Blakely 2019) in similar terms, respectively: ‘This is a time of a very clear Neolithic Brexit. Before that, they had great contact with the Continent’ and ‘This does seem to be a period of late-Neolithic Brexit’.

We will return to this academic paper and its promotion across the media in more detail later. However, the mythos has been in the making for at least fifteen years, and Brexit is only a topical event with which the research has recently been associated, perhaps to achieve greater ‘reach’.

We want first to examine the limited evidential base for the mythos. A range of assumptions and assertions underpin the late Neolithic mythos (some elements appearing in more than one publication – we do not reference all occurrences):

- ‘the same styles of houses, pottery and other material forms were used from Orkney to the south coast’ (quoted in press release (University of Sheffield 2012); also ‘from Wessex to Orkney to Wales’ (Parker Pearson 2012, 330))
- that sites in the Stonehenge area acted as ‘pan-British centres’ and that people travelled to Stonehenge for ‘pan-British events’; the ‘first united cultural events of our island’; and / or to help build Stonehenge (e.g. University of Cardiff 2019; quoted in the *Daily Express* 14 March 2019)

- that people travelled from (apparently interchangeably) ‘across Britain’, or ‘across the British Isles’, or ‘all corners of Britain’; from ‘Scotland’; ‘south-west Scotland’, ‘highland Scotland’; ‘the far corners of Scotland’; ‘North East Scotland’, and ‘North West/North East England’, or that the ‘catchment’ of Stonehenge was island-wide; that people from ‘all over Britain wanted to be involved, in a widespread expression of group identity and unity’ (variously Parker Pearson 2015, 89; quoted in Channel 4 press release, March 2013; Madgwick et al. 2019; quoted in the *Guardian* 13 March 2019 (Morris 2019); Cardiff & Sheffield University press releases; the *Independent* (Keys 2019), , *Haaretz*, March 2019 (Schuster 2019).)
- these gatherings were politically motivated, and served ‘to unify Britain’, and promote ‘the birth of a pan-British identity’ (quoted in *The Times* 14 March 2019 (Blakely 2019); Arts and Humanities Research Council, 2015)
- that ‘key people...were also playing roles on a much broader country-wide canvas’, or had ‘societal roles that were “national” in nature’ (quoted in the *Independent* 13 March 2019 (Keys 2019)).
- (after the Brexit referendum in 2016) that ‘Britain’ closing itself off, with ‘little contact with Europe’ represented ‘a late Neolithic Brexit’ (quoted in *Haaretz* 13 March 2019 (Schuster 2019) and *Daily Telegraph* 14 March 2019 (Knapton 2019)); ‘a period of cultural isolation from the Continent’ (Parker Pearson 2012, 342).

One of the features of the development of this mythos is what we have termed interpretative inflation, a trajectory of ‘possible’ > ‘probable’ > ‘certain’ > ‘sensational’, as one follows the argument from the basic data of an academic paper, to its conclusions, to the university press release, to the media handling, and finally, in some cases, into overtly nationalist discourse.

### Neo-colonialist geography

This ‘possible-to-sensational’ trajectory intersects with another where ‘the Stonehenge area’ > ‘southern England’ > ‘England’ > ‘Britain’ > ‘the British Isles’. Stonehenge as synecdoche is nothing new in British Neolithic studies (cf Barclay 2000, 2001, 2004). As noted already the term ‘British Isles’ when used interchangeably with ‘Britain’ can, at best, reflect lazy geographical thinking, at worst, a neo-colonialist viewpoint.

The ‘Scotland’ and indeed much of the ‘Britain’ of the mythos do not seem to be real places, with topographical and archaeological diversity, but are mere placeholders for somewhere ‘far away and long ago’, a vaguely defined ‘other’ from which distant, but crucially not mainland European, people and goods came to enhance the importance of the ‘luminous centre’. For example, ‘Britain’ and ‘Scotland’ seem to have no fixed meaning in the publications under consideration, the terms ‘Scotland’, ‘highland Scotland’ and ‘northeast Scotland’ apparently being interchangeable. One might also note the way in which a reference to the Lake District, in North West England (in Madgwick et al. 2019, 8–9), seems to be replaced in both the related Sheffield and

Cardiff University press releases with references to North East England (University of Sheffield 2019; University of Cardiff 2019), as though it does not really matter which it is – distance from the core, albeit only within Britain, appears to be the sole significant attribute.

### The archaeological basis of the mythos

The late Neolithic mythos is erected on three pillars of argument: the unity of culture and society across late Neolithic Britain; the insularity of Britain at this time; and the pivotal role of Stonehenge within Britain. The construction of these pillars can be observed in a wide range of publications associated with the Stonehenge Riverside Project and its post-excavation successor *Feeding Stonehenge* (duration 2006–2013; total AHRC funding £1.29M [Research Excellence Framework, 2015; UK Research and Innovation, NDa, NDb]) and publications, exhibitions, press releases, newspaper reports, and broadcast media flowing from them. The Project has included isotopic studies, some of which have been interpreted to suggest a very wide geographical range for the origins of humans and animals found in the Stonehenge area. These projects have made significant contributions to understanding Stonehenge and its environs, and to the examination of longer-distance relationships, for example with parts of Wales and the Mendip Hills. Our concern is not with this valuable work, but with the extension of the social and even political reach of this part of southern England across the whole of ‘Britain’ or even ‘the British Isles’.

### Unity of culture

After 3000BC, people across Britain became ever more uniform in their tastes for pottery styles, funerary practices, domestic architecture and the new monumental forms of henges. Houses were now small and square rather than rectangular, and almost identical in form *from Wessex to Orkney to Wales*. (Parker Pearson 2012, 330. Our emphasis).

The mythos takes no account of the variability of life in late Neolithic Britain. This is evident in clear regional variation in monumental styles, funerary practices, and aspects of the economy. The mythos is based largely on the southern English evidence, and on perceived similarities with Orcadian evidence, ironically, as many aspects of the Orcadian Neolithic are wholly distinctive (Bayliss et al. 2017, 1171–2). Furthermore, what happens in the spaces in between is left sketchy.

It has been suggested since the early 2000s that changes that happened in the early third millennium BCE in Britain and Ireland were attributable to what has become known as the Grooved Ware ‘complex’ (e.g. Sheridan 2004; Thomas 2010). Is this the unified culture which frames the mythos? Thomas has argued that the traits that define this complex – materials, monuments, mortuary practice – could be characterised as the products of an ‘imaginary community’ ‘composed of people who for the most part will never actually meet one another’ (2010, 1; after Anderson 1983). It is also worth noting that Bayesian analysis of the Orcadian Neolithic sequence suggests that cultural unification was not the case *even within the Orkney islands*. Bayliss et al. (2017, 1182),

instead contend that there was a ‘more complex picture of extensive and overlapping activities, concurrences and discontinuities occurring at different sites throughout Orkney during the fourth and third millennia cal BC.’ This seems to us to be a fair assessment of the complexity of the late Neolithic record across Britain, although here is not the place to survey this in detail. However, we will briefly examine the categories identified in the quotation above as underpinning the mythos: pottery, funerary practices, domestic architecture and henges.

### Grooved Ware

Grooved Ware pottery is widely distributed across Britain. While there are indeed stylistic similarities, Thomas (2010) notes a good deal of variability in the ways that Grooved Ware was used. It seems to us a rather old-fashioned culture-historical interpretation that this material must indicate a ‘unified culture’ across Britain; are we back to ‘pots=people’? Grooved Ware in Ireland has been interpreted as part of a pattern of acquisition of ‘exotic ideas and items’ (Sheridan 2004, 32); this interpretation could be equally valid in parts of Britain. We note that earlier Neolithic Carinated Bowls and Impressed Wares are also widely distributed across Britain, without, apparently, implying a unified ‘national’ culture, while round-bottomed pots and Grooved Ware pots were in use on Orkney at the same time for several centuries (Bayliss et al. 2017, 1182). We would therefore suggest that there is much work left to be done to try to understand the varied meanings over time and distance of Grooved Ware and that it is inappropriate and unjustifiable to force a simplistic narrative of ‘British unity’ on this material.

### House plans

Late Neolithic house plans across Britain are more diverse and difficult to interpret than those for houses in the fourth millennium BCE (cf Brophy 2015). Bradley (2007, 94ff) has noted a trend towards circular and oval domestic structures in the third millennium BCE, but these types of buildings remain relatively rare (Brophy 2015). A key underpinning piece of evidence in the mythos is the perceived similarity between the roughly square sturdy stone-built Skara Brae houses and the remains of floor plans of flimsier structures at Durrington Walls and a limited number of other sites (e.g. Thomas 2010, 5; Parker Pearson 2012, 330; Gibson 2019a, 2019b). However, these remain a geographically restricted phenomenon, not ‘between Orkney and the south coast’ but only *in Orkney and* the south coast, perhaps in Wales and with a possible outlier in Ireland (Thomas 2010, 5; Gibson 2019a, 2019b). Another late Neolithic trend, the ‘square-in-circle’ continuum of structures and enclosures (Darvill 2016) has been interpreted by some as an indication of high-status four-post houses at the smaller end of the scale (e.g. Bradley 2007, 119; Noble et al. 2012). However, many of these structures are clearly not domestic spaces (Darvill 2016; Bradley 2019, 134), and the currency of this architectural form is patchy across Britain and Ireland with none, for example, recognised in Orkney (Greaney et al. forthcoming, Figure 17). In Ireland they are not interpreted as domestic (Carlin and Cooney 2017, 41). Houses therefore remain

a limited and elusive aspect of the late Neolithic record, with interpretation and identification problematic, and regional variation evident.

### Burial Practices

The ‘unifying’ burial practice referred to in the mythos is the practice of cremation and the deposit of cremation human bone in simple pits, often accompanied by (also simple) bone pins. These deposits occur in groups (‘cemeteries’) and singly. Noble and Brophy (2017, Figure 18) have mapped the distribution of the 11 dated ‘major Neolithic cremation cemeteries’ sites in Britain; it is sparse. There are only three in Scotland, none further north than Perth and Kinross. This seems like a limited evidential base for a ‘unified culture across Britain’; cremation as a practice may have been widespread in the late Neolithic but we have no evidence to sustain this, notably in places like Orkney. Orcadian late Neolithic burial practice involved the construction of passage tombs, unlike what was happening in mainland Britain. Indeed, the late Neolithic appears to be a time of diverse and even experimental burial practice, ranging from cremations to inhumations (sometime under round barrows [Gibson et al. 2009]) to more unusual treatments of the dead (Thomas 2003); there is nothing that could be described as typical or a norm that we can currently see in the archaeological record.

### Henges

The fourth of the characteristic features of this ‘unified culture’ – henges – is most problematic of all. The idea that henges are sites of a fixed character and function dating only from the late Neolithic is no longer tenable (Barclay 2005; Bradley 2011, 183). For example, we note that the majority of ‘hengens’ so far dated in the mainland north of Carlisle belong to the second half of the third millennium BCE or later and are built around a range of pre-existing features, rather than being built *de novo* as an expression of a single purpose or a unified culture (Barclay 2005, *passim*; Gibson 2010; Brophy and Noble 2012). The distribution of ‘hengiform’ sites is also regionally restricted: it is claimed as part of the mythos (below) that pigs were imported to Stonehenge from ‘north east Scotland’, but that particular area (Aberdeenshire, Kincardineshire and Banffshire) famously has, in contrast to the area immediately to the south-west, only a very sparse distribution of this supposedly key indicator of a ‘unified culture’ (Barclay 2005, fig 8.4; Bradley 2011, xx, illus 0.4). Variations in the morphology of henges are also evident at this time, with massive henge-enclosures (pivotal sites in the mythos as we shall see below) entirely restricted to Wessex.

Two of the anonymous referees implied that the possible role in social aggregation and social cohesion played by monuments in the late Neolithic provided the context for the mythos. We would resist any suggestion, on the basis of current evidence, that this possible explanation of the role of individual monuments and groups of monuments could somehow be hyper-extended to mean that one site or group of sites was a conduit for social aggregation over ‘Britain’.

In summary then, we would argue that the supposedly characteristic features of a ‘unified culture across Britain’ – pottery, house plans, burial practices and henges – are present only patchily across the territory between Stonehenge and Orkney (and not always even evident in the latter), are of debateable function, date or meaning, and cannot bear the heavy burden of interpretation placed on them as key supports of the late Neolithic mythos. Here too we note that emergent avenues of research indicate variation within the late Neolithic of Britain, for instance in relation to cereal-based subsistence strategies in mainland Scotland and the Isles which may diverge from practices in southern England (Bishop 2015).

## Isolation

The ‘importance of being insular’ – the claim that Britain went through a period of isolation from the rest of Europe in the late Neolithic – was expressed by Vander Linden (2012) and this has subsequently become the main reference for this concept in later papers (e.g. Madgwick et al. 2019). The ‘isolated Britain’ aspect of the mythos relies on the problematic assumption that ‘human contact = the movement of people = the deposition of distinctive material traces’; so that if people do not break pottery, build houses and bury their dead in distinctive ways, they were never here. As Hakenbeck (2019) puts it, in relation to the place of ‘migration’ in ethno-nationalist narratives: ‘The movement of these material attributes then becomes a proxy for the movement of people’ – or in this case, the lack of identifiable material culture is taken to prove not only the lack of movement but also of any form of contact between people. The curious lack of connections between southern England and Ireland in the mythos is all the more surprising when we consider the clear monumental and material connections evident in the 3<sup>rd</sup> millennium across the Irish Sea (Sheridan 2004; Bradley 2007, 116ff). Absence of evidence does not demonstrate evidence of absence; we suggest no more than that this pillar of the mythos is insufficiently strong to bear the interpretative weight being placed upon it.

The last pillar upon which the mythos is based, the centrality of Stonehenge and the monuments around it to the Neolithic of ‘Britain’, is dealt with in more detail below.

## The evolution of the mythos

It is clear from the publications we reference that, from 2010 onwards, the mythos has been increasingly presented as an unchallengeable certainty and some data have been interpreted to fit the pre-existing framework of the mythos. In some cases, evidence that undermines the mythos has been downplayed. The demonstrable link between central-south England and south-west Wales has been extended to cover ‘Britain’ or even ‘the British Isles’ (which includes Ireland). We will explore the evolution of this mythos in this section in granular detail and chronological order, following a chain of evidence over a decade, an approach that necessitates moving between a range of different media as and when they were published.

The mythos has grown in symbiosis with developments in the study of the origins of human and animal populations, especially using isotope analysis. The results of strontium measurements, using datasets from sites in southern England, have played a particular part in underpinning the ambitious geographical reach of the mythos. We look in more detail at the strontium dataset and its interpretation below, but, in summary, the ratio between two isotopes of strontium (expressed  $^{87}\text{Sr}/^{86}\text{Sr}$ ) in a sample of biological material (e.g. a tooth) can be compared to the baseline ratio measured for ‘biologically available strontium’ from different sampling sites (Evans et al. 2009, 2010). Initial archaeological studies into this material in the Stonehenge area presented conservative interpretations of the origins of the animals and people whose teeth were tested. For instance, Montgomery et al. (2000) explored the residence history of four Neolithic human individuals found in the area, one of whom had a strontium (Sr) ratio of 0.71, implying a childhood spent off the chalk on which she was buried. The restrained conclusion, proportionate to the evidence under consideration, (ibid., 75) is in contrast with some of the later papers discussed below: ‘Although there are a number of localities with the UK with the combination of Pb [lead] and Sr isotopes, the nearest...is...about 80km to the northwest’. This was considered a ‘more reasonable’ origin for this person than the next-nearest identifiable location, 350 km away in the north Pennines (ibid, 75).

We can trace one origin of the mythos back to an influential study of cattle teeth from Durrington Walls published a few years later (Viner et al. 2010, referencing Chenery et al. 2010). Isotope analysis of about a dozen cattle teeth from midden deposits showed that, for the most part, the beasts had not lived on chalkland and consequently had come to that site from some distance. A small number of teeth produced measurements over 0.7131 (Viner et al. 2010, table 2). The paper does not push the evidence of these few teeth too far: in all instances there are more local, southern origin points, although the possibility is raised (and dismissed) that these cattle originated in Cumbria and Scotland. Viner et al.’s overall conclusion, which the reader should bear in mind through what follows below, was that Chenery et al. 2010 identified suitable areas of origin in the Malvern Hills, and that all the cattle probably came from Gloucestershire (Viner et al. 2010, 2817–19), some 100km from Durrington Walls.

The next major point in the development of the mythos was the popular book *Stonehenge: exploring the greatest Stone Age mystery*, which appeared in 2012. This contained what we believe is the first conflation of two aspects of the mythos: Britain’s supposed isolation and the notion of a Neolithic unified by and at Stonehenge. It was argued that Stonehenge was:

constructed during *a period of cultural isolation* from the Continent, when the people of Britain *were increasingly unified* by sharing pan-island styles of material culture (pots, houses, burial practices)...*Stonehenge can be understood as a monument of unification*, integrating the cosmological aspects of earth, sun and moon into a single entity which also united the ancestors of *the people of Britain* in the form of *Welsh* bluestones and *English* sarsens. (Parker Pearson 2012, 342; our emphasis; ‘Scotland’ does not feature at this stage in this vision of ‘Britain’).

The University of Sheffield distributed a press release to mark the book's publication. It set out some of the key beliefs underpinning the mythos and foregrounded certain of the ideas in it, for example, that 'researchers have concluded that Stonehenge was built as a monument to unify the peoples of Britain, after a long period of conflict and regional difference between eastern and western Britain.' It is instructive in the context of the mythos to note that in the book 'Britain' is restricted to 'areas such as Gloucestershire and Dorset', described as 'war zones', based on geographically restricted occurrences of inter-personal violence recorded on skeletal remains (ibid 328–9). This is not a phenomenon recorded across 'Britain'.

The story was enthusiastically taken up by several British newspapers. The *Daily Mail* headlined their story 'Stonehenge was built to unify Britain's warring tribes it is claimed after decade long study into the megalith's origins'. Similarly, the *Daily Telegraph* claimed that, 'Stonehenge was a 'symbol of unification' at the centre of Ancient Britain' (Collins 2012), emphasising the idea of a 'growing island-wide culture'.

The mythos appeared in another iteration in a Channel 4 documentary in 2013, about cremated human burials from Stonehenge. The accompanying press release claimed that 'a substantial proportion of the British population' attended the feasts, from as far afield as 'highland Scotland' (Channel 4 2013). Subsequently however, Snoeck et al. (2018) explicitly stated, in relation to the Stonehenge cremated human remains:

Those with the highest values ( $>0.7110$ ) point to a region with considerably older and more radiogenic lithologies, which would include parts of southwest England (Devon) and Wales (parsimony making *locations further afield* – including parts of Scotland, Ireland and continental Europe – *less probable*). (Snoeck et al. 2018, 3; our emphasis)

Subsequent publications repeated and augmented the claims of the mythos. These included a second popular book, *Stonehenge: making sense of a prehistoric mystery* in which it is stated (Parker Pearson 2015, 88) that:

...some of these [cows] were raised on geology that is *found only in highland Scotland*, 400 miles (650km) to the north. Similar results are being obtained from analysis of the pig teeth.' (our emphasis)

The phrase in italics is particularly problematic, because, as noted already, Viner et al. (2010, 2817) explicitly noted that suitable geology to explain the origins of the cattle was located in the Malvern Hills. And the same is true of the pig teeth (see below). It might be argued that, because data relating to the location of areas producing high Sr measurements was relatively sparse until recently, that a more distant source for animals was a reasonable conclusion to draw. It is clear, however, that adequate information has been available to since 2010, and that it has been known that highland Scotland was not the only geology where high Sr values are found. High Sr measurements recorded in the Malvern Hills a decade ago (Chenery et al. 2010), were used in the cattle-origins study published around the same time based on Chenery et al's work (Viner et al. 2010).

Johnson (2018) has recently recorded 36 measurements  $>0.714$  in England and Wales, with areas known to produce radiogenic biosphere values up to 0.716 as including: ‘the Precambrian Malvern Complex of the Malvern Hills; the Silurian Ludlow sedimentary rocks along the Welsh Border, from the village of Boughrood (Powys, Wales) to the outskirts of the Precambrian Longmyndian bedrock near Church Stretton; the Lower Palaeozoic mudstones and shales in central Wales’ (Johnson 2018. 262, referencing Montgomery et al. 2007; Chenery 2010 and Evans et al. 2010).

Also in 2015, research was published on aspects of diet at Durrington Walls (Craig et al. 2015), which also developed the ‘British unity’ strand of the mythos. The article and a related press release (University College London, October 2015) re-imagined Viner et al.’s (2010) conservative interpretation of the isotope evidence but did not argue why this work should be reinterpreted in this way; thus (the reference to Viner et al. being part of the quotation), ‘The fact that animals were brought on the hoof to Durrington Walls from many different and distant parts of Britain (Viner et al. 2010)’ and ‘perhaps including ... north Britain’, and ‘communities gathered from far and wide across Britain’ (Craig et al. 2015, 1102, 1107).

The press release accompanying the 2015 *Stonehenge* book includes a quotation from the author noting, ‘Animals were *brought from all over Britain* to be barbecued and cooked in open-air mass gatherings’ (our emphasis; University College London 2015). The media coverage reinforced the notion that people travelled from far and wide to get to Stonehenge: a *National Geographic* feature about this research began with the words ‘Stonehenge’s construction crew came together from across Britain for some epic barbecues’ (Becker 2015).

An English Heritage exhibition at the Stonehenge visitor centre in 2017 called *Feast! Food at Stonehenge*, was based on Craig et al. 2015, on the early stages of the work published in Madgwick et al. 2019, and on contributions of other Stonehenge Riverside Project members (Susan Greaney personal communication, 2 July 2019). The exhibition was accompanied by an English Heritage press release and webpage, and was given extensive media coverage. The press release emphasised that the ‘builders’ of Stonehenge might have come from ‘as far away as north-east Scotland’ (English Heritage, 2017). The term ‘north-east Scotland’ was used in the draft of the paper that would become Madgwick et al. 2019 provided to those writing the exhibition text and was the source of that claim in the exhibition text (Susan Greaney personal communication, 2 July 2019).

The Stonehenge Riverside Project was ‘a flagship for the AHRC’ (Research Excellence Framework, 2014). The work presented in the *Feast!* exhibition was also AHRC-funded, ‘Feeding Stonehenge’ (UK Research and Innovation, n.d.b). The AHRC also funded the project ‘Consuming Stonehenge: feeding Stonehenge follow-on-fund’ explicitly to engage new audiences about, inter alia, the provisioning of Stonehenge (AHRC 2015, 2019; UK Research and Innovation, n.d.c).

The *Feast!* exhibition was also the first airing of these ideas in a post-Brexit referendum context, which was alluded to in some of the media coverage of the exhibition launch. The pan-British dimension of the research was emphasised, with claims made that are, as noted already, contradicted by some of the research on which the exhibition was based (notably Viner et al. 2010). Much was made, for instance, of pigs / pork being brought from Scotland and even Orkney. (In passing, it should be noted that strontium isotope measurements in Orkney would not support the ‘distant’ pigs at Durrington coming from there – see Figure 2 below.) The *Daily Mail* newspaper claimed that (our emphasis), ‘food from all over Britain fed Stonehenge: Prehistoric people brought animals from as far afield as Scotland to eat during lavish banquets and feed the site's army of builders’. The *Guardian*'s coverage of the exhibition was unequivocal: ‘Stonehenge builders feasted on animals brought from Scotland’ (Morris 2017). Complex explanations of societal structure and physical practicality were developed to show that this was somehow possible. For example, a quotation from English Heritage suggested that animals came from north-east Scotland by boat (incidentally, around 1000 km hugging the coast, a journey of several weeks).

The idea of the late Neolithic being a period during which Britain was united in its isolation – surely the ideal of many supporters of Brexit? – was reinforced by another English Heritage exhibition at Stonehenge in late 2018 – *Making Connections* – which highlighted the absence of contacts between Britain and continental Europe in the late Neolithic. Most media outlets ran variations of the *Daily Express* coverage: their headline was ‘How Brexit already happened in the Neolithic era’, tacitly encouraged by the press release to accompany this exhibition (Brophy 2018c). The *Guardian*, in an article in February 2019 about the interminable wrangling over Stonehenge's future, appeared to quote one of the proponents of the mythos, in referring to both the ‘political unification’ of Britain and a ‘Neolithic Brexit’ (Higgins 2019).

The final aspect of the mythos was now in place, and the assertions developed over the past decade or so came together in their most developed form in the spring of 2019 with the publication of another set of isotope studies and the intense media and public responses to that piece of research.

#### ‘Pan-British’ identity and late Neolithic ‘Brexit’

As noted above, the paper which prompted our response here was published in March 2019 (Madgwick et al. 2019). This paper reported on isotopic research on pig teeth from four large henge-enclosures in Wessex. Press releases were issued by the Universities of Cardiff and Sheffield which rather inflated aspects of this story. These were picked up by a large number of media outlets throughout the world, underpinned in some cases by interviews with a lead author of the paper. We have analysed in detail only a sample of the extensive media coverage: the *Daily Express*, the *Daily Mail*, the *Daily Telegraph*, the *Guardian*, *Haaretz* (Israel), the *Independent*, *National Geographic* (USA), *Smithsonian* (USA), *The Times*.

The article and press releases exemplify the contentious issues we have identified already, if not ‘pots=people’, then ‘pigs=people’, and these were further elaborated in media coverage:

- core/periphery issues – the persistence of an interpretative ‘grand narrative’ for late Neolithic Britain, based on interpretations of material relevant only to a limited area;
- the over-interpretation of limited evidence to reinforce grand narratives;
- subsequent promotion of these overstated interpretations by university media offices keen to demonstrate the ‘reach’, ‘relevance’ and ‘impact’ of externally funded, overhead-bearing research, particularly to funding bodies and mindful of the REF process;
- anachronistic and inappropriate references to modern politics, especially Brexit, actively promoted in press releases and interviews;
- a scientific rewriting of the past poorly related to existing models of the prehistory of Britain.

In the following section, we explore the origins of these elements and their trajectories, through academic papers, more general texts, press releases, interviews, social media, and media outlets.

In the context of the problematic linking of the results to ‘Brexit’, it is interesting to note that the boundaries of the isotope study are drawn entirely to exclude non-British areas. As noted already, the mythos in general assumes that a lack of shared material culture with Europe must mean that there was no contact of any kind, and consequently that ‘the presence of participants from mainland Europe can be excluded’ (Madgwick et al. 2019, 1). Thus, the study was constrained by an untested presumption, and no evidence from Ireland or the adjacent continent was considered. It is worth noting that much of the northern coast of the Cotentin Peninsula of Normandy, less than 100km across the Channel, closer than West Wales, and a tenth of the distance by sea from north-east Scotland, provides Sr measurements that would allow for animals to have originated there (Figure 2). Viner et al. 2010 had already noted that two cattle teeth they analysed could have originated in France, but this is not referred to in most subsequent narratives (but see Johnson 2018). Maps of Britain used in the *Feast!* exhibition and spin-off media coverage to illustrate the sources of cattle and pigs float in an empty ocean, without Ireland and the near continent (e.g. Figure 3).

### Interpretative inflation

The interpretative inflation we have already mentioned occurs in distinct stages in this suite of publications and promotions:

- the data and relatively restrained preliminary interpretation in the first part of the original academic paper;

- then, less tentatively, in the later part of the paper (and in the Abstract) more far-reaching interpretation, with less support offered;
- even more ambitious claims in media releases prepared by the universities, incorporating direct quotations from the authors;
- in the media, working from the press releases, to create attention-grabbing headlines and soundbites, further amplified through some interviews with the lead authors; and affected by the media outlet's own political angle.

The weight given to interpretation of the strontium (Sr) data in the 2019 paper which prompted this response is in our view too great. The article's contribution to the mythos' version of British prehistory is based on the analysis of eight pig teeth, out of a group of 131 analysed. These eight produced Sr measurements greater than 0.7131; a subset of five produced Sr measurements greater than 0.7141. The Sr results were compared with the map of biologically accessible strontium in Britain (Evans et al. 2010), the nature of which we discuss below. As already noted, the earlier part of the 2019 paper contains disclaimers which make the results seem quite tentative: 'On the basis of current mapping data, it is not possible to define origins with confidence...' (Madgwick et al. 2019, 9).

Within a few pages such tentative interpretations of the subsets of eight and five pig teeth which have higher strontium measurements have changed from '...it is plausible that these animals could also come from other locations (potentially southern Scotland or southwestern England)' to demonstrating that (our emphasis) 'the Late Neolithic was the first phase of *pan-British connectivity*' and '...clear evidence for a *great volume and scale of intercommunity mobility* in Late Neolithic Britain...' and 'These centres were lynchpins for a much greater scale of connection, involving disparate groups *from across Britain*' and 'All four sites...drew people and animals *across Britain*'. These statements are familiar to those following this narrative, as set out above. Some of our anonymous referees raised issues about the apparent failures of the peer-review and editorial process that passed these inconsistencies.

The authors (Madgwick et al. 2019) justify their preference for a Scottish source for the pigs thus: 'On the basis of the current mapping, the other five animals, with values ranging from 0.7141 to 0.7172, are likely to derive from Scotland *where much larger areas of radiogenic geology exist*.' (our emphasis). The size of the area of suitable geology is irrelevant; an extensive but far distant source of highly radiogenic rock is surely less likely to be the source than a nearer one of more restricted size. Viner et al. 2010 explicitly rejected a distant source for the cattle teeth, a view that, although subsequently downplayed, has not been disproved. Similar values have been found in Neolithic humans at Ty Isaf, south east Wales (Neil et al. 2017) and in Roman cattle in Worcester (Gan et al. 2018), without the authors feeling it necessary to look to distant places for origins. As Snoeck et al. (2018) suggest, economy of hypothesis should surely give weight to the less complex, less radical and less unlikely solution.

## Press releases

The interpretative inflation continued in two press releases from the lead authors' institutions, the universities of Cardiff and Sheffield. Statements and quotations attributed to the main author in both releases, going beyond what was claimed in the article; reinforce the mythos:

- the 'first pan-British feasts';
- the 'first united cultural events of our island';
- 'people and animals from throughout/across Britain' (Cardiff/Sheffield releases respectively);
- from 'animals raised as far away as Scotland, NE England and West Wales';
- 'numerous locations across the British Isles' (thus including, perhaps inadvertently, Ireland);
- 'These gatherings could be seen as the first united cultural events of our island, with people from all corners of Britain'.

The claims are not based on evidence provided in the 2019 article but restate a developed version of the late Neolithic mythos. There is no mention of any Brexit parallels in the press releases.

It may be contended that the contents of university media releases are on occasion beyond the control of academic staff on whose behalf they are issued. However, the releases referenced in this paper include direct quotations from academic staff, and some of these staff repeated or even extended some of the more inflated claims in interviews with the media.

## Media coverage and reaction

As noted, there was wide international media coverage of this story. The 'united British culture' aspect of the press releases was highlighted and given particular emphasis by some outlets to promote their own political agenda. Direct quotations attributed to the lead author about Brexit were published in three of the nine media reports we analysed in detail. In order of publication: *Haaretz* (13 March) (Schuster 2019): 'This is a time of a very clear Neolithic Brexit. Before that, they had great contact with the Continent'; *The Times* (14 March. 12.01am (Blakely 2019)) 'This does seem to be a period of late-Neolithic Brexit'; finally, the pro-Brexit *Daily Telegraph* of 14 March (online at 07.45am (Knapton 2019)) 'This was a late Neolithic Brexit'. The *Telegraph* also described the study as demonstrating the 'birth of British identity' at a time of isolation from continental Europe.

Some consumers of this media coverage clearly saw this as marking not just a unified British culture but also the origin of 'British' character traits: a US commentator, in a piece titled 'Can Stonehenge offer a lesson for Brexit?', identified indicators of 'stony British steadfastness' (Simon 2019). Perhaps the most problematic claim is that

attributed to a lead author in the *Independent* (13 March 2019 (Keys 2019)) that the ‘unexpectedly large scale of geographical interconnectedness’:

strongly suggests that key people were not merely functioning politically, ideologically or ceremonially at a local or regional level, but were also playing roles on a much broader country-wide canvas.

There is little doubt that the framing of news coverage of this research impacted on the way that it was consumed by readers. The *Daily Telegraph* story of 14 March 2019 (Schuster 2019) had 90 ‘below the line comments’ by readers (as of 3 February 2020), of which fewer than 25% restrict themselves to comments on the archaeological discovery. The remaining contributions are almost all concerned with political identity, immigration, pro- and anti-Brexit point-scoring, and / or arguments about Britishness (‘the way things are going British identity will die in the next 50 years’; ‘it reminds me too much on [sic] the Nazi propaganda of the 1930s’). Racist responses were evident too.

The 2019 academic paper was widely shared internationally on social media, including tweets focusing on the ‘pan-British feasts’ angle from official accounts of researchers involved in the research. On 13 March 2019 the English Heritage Stonehenge Twitter account (@EH\_Stonehenge, a virtual repeat of a tweet on 19 October 2017) tweeted, ‘Isotope analysis on excavated animal teeth show that pigs & cattle were brought from all over the UK and slaughtered at Durrington Walls’. (The ‘UK’ is the United Kingdom of Great Britain and Northern Ireland, but we believe that the inclusion of part of Ireland was accidental, and ‘Britain’ may have been meant. Another indication perhaps of the imprecise treatment of distant geography.) Many ‘shares’ and responses on Twitter of the media outlets’ promotion of their own versions of the story focused on issues of identity, Brexit, and immigration, although for the most part these were critical of the use of terms like ‘British’ and ‘Brexit’ in relation to media coverage of the research. In short, the way that the story was told became the story, rather than the archaeological narrative that underpinned it.

### The strontium data

*Isotope analysis is an exclusive technique. It can only rule out places of origin...Occam’s Razor may dictate the nearest overland route may be the most likely place of origin... (Montgomery 2010, 336; our emphasis)*

We turn now to the strontium isotope data. The methodology for the sampling and the creation of the Sr map was described in two main papers (Evans et al. 2009, 2010). The extent to which the map published in those papers is ‘currently based on a limited and non-systematic coverage of Britain’ is shown by comparison between Figs 1 and 2: as is clear, sampling sites are very unevenly spread across Britain. The British Geological Survey (BGS) website provides a number of tools based on this research ‘aimed at

archaeologists using skeletal analysis to study the geographic origins, movements and diet of past people and populations' (British Geological Survey, n.d.).

The version of the BGS map (Figure 1), also published in Madgwick et al. 2019, is an extrapolation based on around 850 sampling sites. Although its creators (Evans et al. 2010, 3) warned that, 'Users should be aware of the limitations', we began to wonder if the 'finished' appearance of the published map had resulted in its limitations being lost sight of. More problematically, the relatively small area of highly radiogenic geology in the Malvern Hills (noted by Chenery et al. 2010; Viner et al. 2010) only 100km from Stonehenge, effectively disappears at the scale at which it was published. This omission is carried over into the problematic map used in the English Heritage *Feast!*, exhibition as well as in variants used by media outlets (Fig. 3). Monmonier (2018, passim) has discussed the problems that arise from the presentation of maps that suggest area=significance. We determined to look below the generalisation, using the raw data made available by BGS. On Fig 2 we have plotted 857 samples, highlighting 21 which provided readings of between 0.7131 and 0.7140, and 46 which were over 0.7141.

The cartography presented by Evans et al. 2010 does not show altitude or land-use – and it does not convey the impact of topography on the interpretation of results. It does not, for example, show whether areas with a particular Sr signature were of a kind likely to be suitable for human settlement and the rearing of pigs to be transported. We have therefore plotted the sampling sites and the subset of higher Sr readings against a simplified land-use map based on data from the 1998 Land Use Survey (Barr et al. 2016). The land use classes have been sorted into four generalised groups which express modern land-use and broad topographical classes: 'upland' (mainly areas with little or no modern agricultural activity, including the Grampian Mountains); 'marginal-upland' (areas used for modern hill farming); 'pastoral' (mainly improved pasture); and 'arable' (ploughlands).

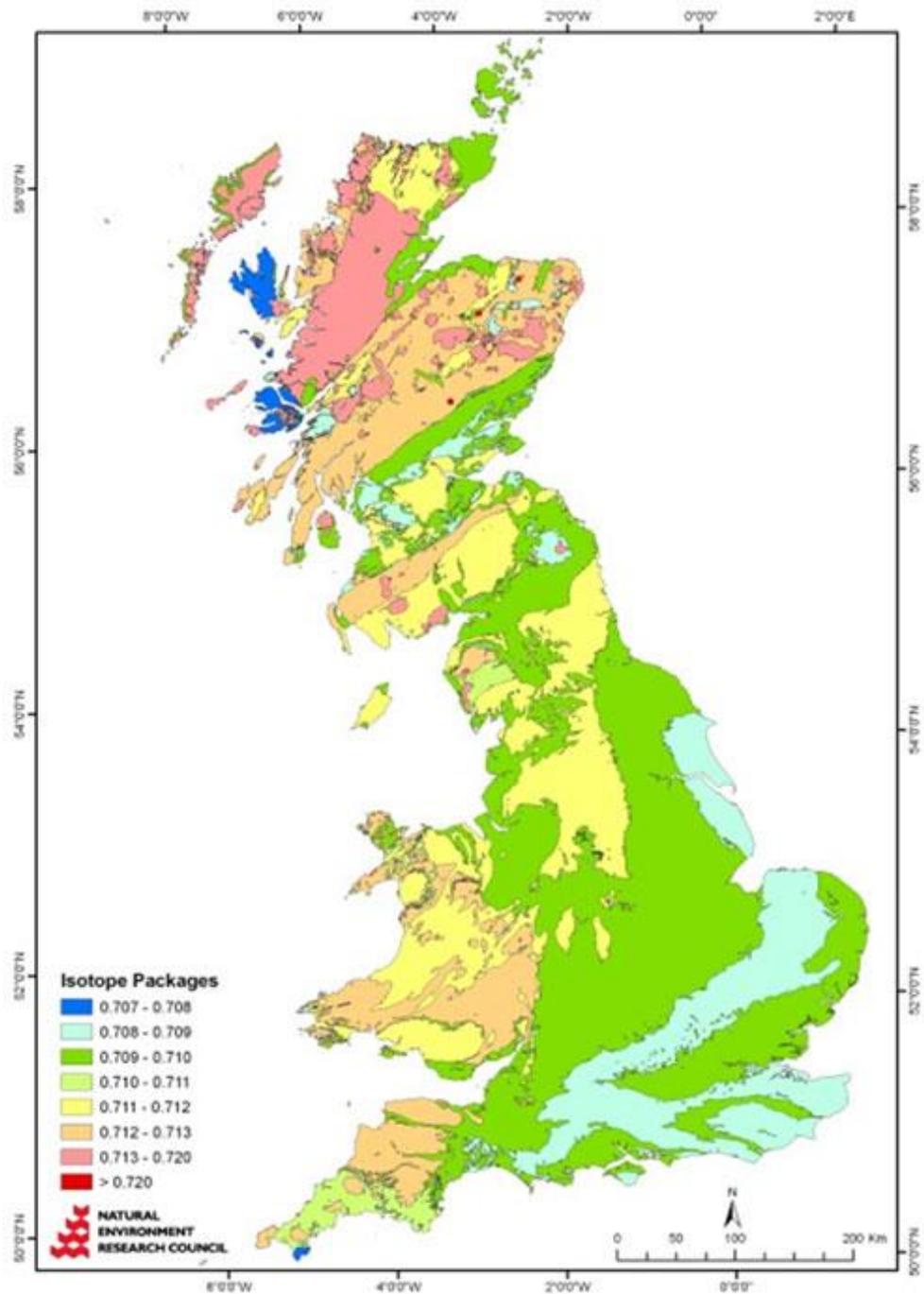


Figure 1. Map of biosphere strontium variation across Britain, originally published in Evans et al. 2010, and subsequently in Madgwick et al. 2019. National Environmental Research Council.

Figure 2 clarifies two things. First, that biosphere measurements of strontium from 0.7131 to 0.7141, and over 0.7141 (those associated with the animals sourced from more highly radiogenic areas) are found around 100 km from Stonehenge, in the Malvern Hills (as noted by Chenery et al. 2010 and Viner et al. 2010) and that further measurements in the range 0.7131 to 0.7141 and above 0.7141 are found less than 200km away, in south-west England, and west and central Wales (see also Johnson

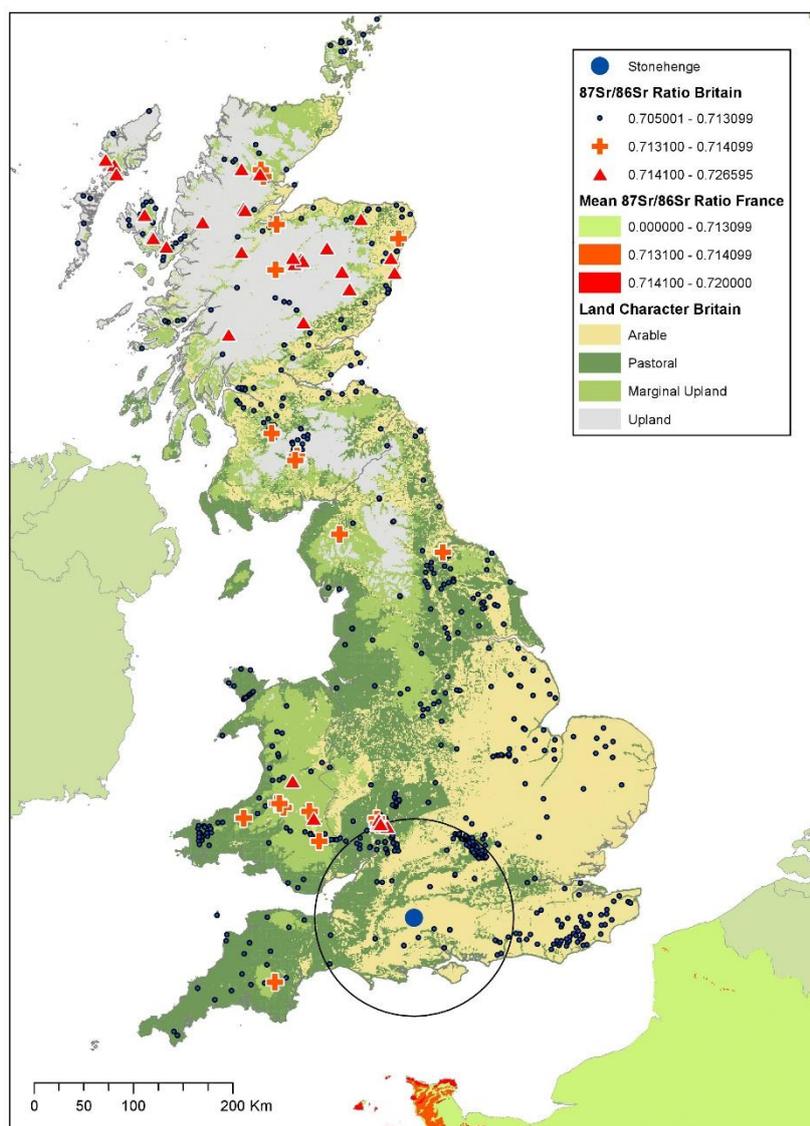


Figure 2. Map of Britain (omitting Shetland, which does not feature in the myths), Ireland and the adjacent continent. The background for Britain is a simplified version of the 1988 Land Use Survey data (Barr et al. 2016: this Countryside Survey data is owned by NERC Centre for Ecology & Hydrology). The land-use data are projected to maximise 'marginal upland' over 'upland' (which includes mountainous land). Against this background we have projected 857 Strontium isotope sampling sites (downloaded from British Geological Survey, 24 March 2019). Samples producing Sr ratios less than 0.7131 are shown to illustrate the locations of all samples. Sample locations which produced higher ratios are marked by more prominent symbols. The Sr ratio data for France is presented as a mean for a lithology (that is, the same sort of extrapolation used in Fig 1) (Willmes 2015). The circle around Stonehenge has a radius of 100km. The area of highly radiogenic rock in the Malvern Hills lies on the circumference a little west of north from Stonehenge.

2018). These high readings are mainly on pasture and marginal upland ground, nowadays suitable for farming activity. Second, that comparable readings in northern England and southern Scotland (in the range 0.7131 to 0.7141) are between 370km and

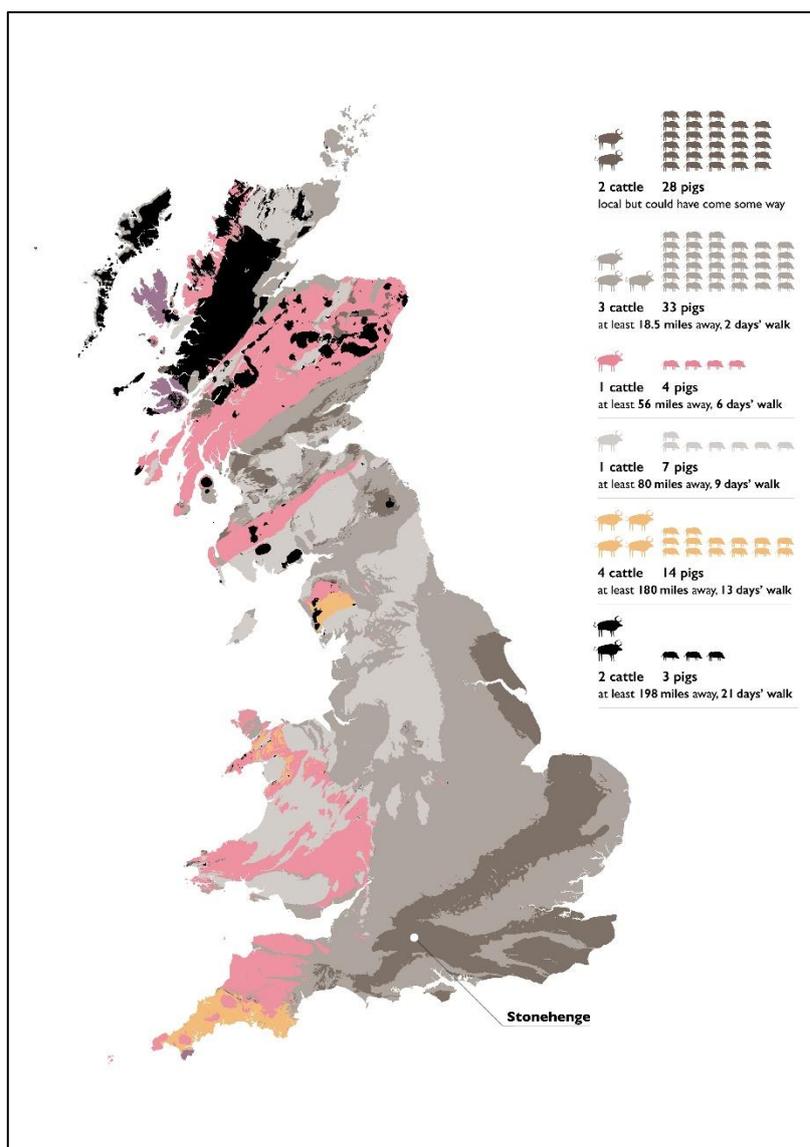


Figure 3. One of the versions of the map used in the *Feast!* exhibition and in original and redrawn versions in subsequent press coverage, purporting to show the distances from which cattle and pigs were coming. As in other contexts, the area of highly radiogenic geology (e.g. in the Malvern Hills, c.100km from Stonehenge (see Figure 2)) are invisible or too small to register. The extensive areas of highly radiogenic rock in the north have been used to suggest that animals were more likely to come from greater distances, based on the non-sequitur area=significance (cf Monmonier 2018). The isolation of 'Britain' in an empty ocean, divided even from Northern Ireland, seems somehow appropriate. The map used in the *Mail Online* article is a simplified version of this (<https://www.dailymail.co.uk/sciencetech/article-4995768/Stonehengebuilders-diet-habits-revealed-exhibition.html>). © English Heritage, created using data from the British Geological Survey (Permit No. CP17/032 © NERC 2017).

520km away; and with a reading of over 0.7141, 620km away; most of these highly radiogenic areas are also on upland and mountainous ground, unsuitable for pig farming in any period, with little or no evidence for Neolithic occupation, and consequently unlikely sources for the pigs at Durrington.

Critically examining these data in this way, we must ask again why the authors of the books and articles referenced have chosen to emphasise more distant areas as potential, likely or even certain sources for these animals, especially given the existing links with Wales, demonstrated by the origin of the Stonehenge bluestones in the Preseli Hills (e.g.. Darvill and Wainwright 2014; Parker Pearson et al. 2015).

Are strontium measurements from five pig teeth a sufficiently significant contribution to bolster the fundamental reinterpretation of the structure of society in the late Neolithic in these islands? We would suggest not. The quotation at the head of this section (Montgomery 2010, 336) reminds us that isotope analysis can only rule out a source, not identify one and the same author comments that this work ‘presumes that we know exactly what isotopes characterise what regions in the Neolithic/Bronze Age but much of this is still unknown’ (Janet Montgomery, personal communication 5 December 2019). One of the anonymous referees informs us that as yet unpublished information confirms that there are indeed more areas producing biosphere measurements  $>0.714$  than hitherto realised.

A further paper by five of the six authors of Madgwick et al. 2019 appeared on 6 June 2019 (formally accepted 25 April 2019, over a month after Madgwick et al. 2019) on cattle movement to Durrington Walls (Evans et al. 2019). It appears to reflect a partial stepping back from the widely criticised (on social media) ‘pan-British’ position of the earlier paper, perhaps in response to that criticism (see also Greaney et al. forthcoming). The possibility is highlighted of as-yet unrecognised areas of highly radiogenic rocks in England and Wales, which might provide origins for the ‘distant’ animals, whose strontium isotope ratios were greater than 0.7131. Unfortunately, the article continues to promote distant origins for animals consumed in the Stonehenge area. Internal inconsistencies, however, survive in the published version that hint at issues with both peer review and editorial oversight of the kind we have already mentioned. Within a few pages, a source for some animals in Scotland is:

- ‘unlikely...on archaeological grounds’ (p12),
- ‘potentially including Scotland’ (p12),
- ‘cannot be excluded from a Scottish origin’ (p13)
- ‘probably not represented’ (p15),
- and finally, ‘seem likely’ (p15).

#### [Discussion: prehistoric mythmaking, contemporary politics](#)

We hope that we have demonstrated that the mythos has been developed on a sparse evidential base to reinforce what we would see as an outdated vision of a prehistory based on ‘luminous centres’, indeed a particular ‘luminous centre’ – the Stonehenge environs (Barclay 2001, 16, 2009, 3). It is based on claims about the nature of society and assumptions about the meaning of shared material culture spanning the gap between the two ‘centres’ – Wessex and Orkney - which we would argue have not been demonstrated.

The mythos has explicitly revived the medieval myth of English origins, that Stonehenge was the ‘omphalos of Britain’ (Parker Pearson 2012, 331). Nikolai Tolstoy, in his vast study of the mythology of Stonehenge has fixed very firmly onto the output of the Stonehenge Riverside Project to underpin his argument claiming that Parker Pearson ‘...argues on *purely archaeological grounds* [his emphasis] that Stonehenge was the umbilical centre of Britain’ (Tolstoy 2016, 55, 2018).

As work on the distribution of high biosphere strontium continues, the more local origin of the animals brought to Stonehenge and its environs will become easier to demonstrate, and more implausible interpretations will become harder to maintain. However, experience elsewhere of the longevity of modern nationalist myths (Barclay 2017; 2019) leads us to believe that this version of the past, spread so very far by traditional and digital media, will persist for a very long time, especially in the memories of people whose world view it confirms. The long-distance transport of pigs from Scotland has begun to appear as a feature in the secondary literature (e.g. Ray and Thomas 2018, 273; Richards 2019, 161), and it is now also finding its way into the popular literature and broadcast media. Recently, for example, Pitts has incorporated parts of the mythos in his popular book *Digging up Britain* (2019, 251–2). While dismissing the press claims of a ‘British nation’, he does nonetheless accept that pigs journeyed from ‘all over Britain’, and he argues that the meaning of Stonehenge tells us about ‘the creation of islands, of generations of people from Land’s End to the Orkneys [sic]. It is a memorial to a defining era of British culture and history...It is a story only archaeology could have told’ (ibid., 143). We have demonstrated, we believe, that it is, rather, only a story that some archaeologists want to tell.

The omphalos mythos in its modern form has been promoted, as part of projects with generous state funding, to aggrandise the status of a particular core area, by extending its influence throughout the whole of ‘Britain’, ‘the UK’, ‘NE/NW England’, ‘Scotland’, ‘the British Isles’, ‘Ireland’, and so on, although these terms appear to be no more than cyphers for distant places from which people and pigs travel to enhance the core; a poorly sketched-in background to the ‘luminous centre’.

The mythos is erected on thinking set very firmly in the historical, cultural and geographical landscape of Wessex. It demonstrates once again that Stonehenge and its wider archaeological landscape are still central to the thinking of many archaeologists, indeed the monument is totemic, but we would argue that the mythos is yet another unsuccessful attempt to demonstrate that Stonehenge was ‘central’ in prehistory.

The builders of the mythos have, by appropriating the prehistory of the whole island (or even ‘the British Isles’), promoted a mythology of ‘English nationalism, invoking the rhetoric of Britishness’ (Cooney 2001, 170), which some proponents have associated in the public sphere with the current expression of British/English nationalism, Brexit.

Despite the fact that ‘Wessex-centrism’ also affects other parts of England to their detriment (see references above) it somehow seems inevitable that our critique of a

nationalist prehistory will be dismissed as itself nationalist (e.g. on Cooney, Thomas 2013, 159; see also Barclay 2004, 159). Indeed, this is what happened during the peer-review process from one of our anonymous referees, in vitriolic language. We are, however, arguing merely that far-reaching reinterpretations of the nature and organisation of Neolithic society in these islands should not be based on an understanding, merely of two ‘luminous centres’ – Wessex and Orkney - over 850km apart, but of the complex evidence in the vast area in between, and in the nearby major land masses. The fact that both ‘centres’ are in competition to be the most central (although the ‘ancient capital’ mythos of Orkney has not been driven by the academy), while engaging in the most superficial way with what lies in between, would be amusing, if it was not so damaging to our understanding of the past of these islands.

This discussion of the problematic nature of the late Neolithic mythos should not be viewed as narrow academic naval gazing. Any unacknowledged nationalist thinking underpinning the study of British prehistory is problematic, amplified within the current contested political scene. Neolithic monuments are frequently used to symbolise ‘Britishness’. The populist-nationalist politician, Jacob Rees-Mogg MP, chose the Stanton Drew stone circle as the backdrop to an impassioned video demand to ‘get Brexit done’ in the run-up to the 2019 General Election – by 13 December 2019 it had been viewed almost three quarters of a million times (Brophy 2019). More worryingly, in the 2000s, the far-right British National Party (BNP) argued in their manifesto (not in a good way) that great megalithic monuments were achievements of the first indigenous Britons (Brophy 2018b), and more recently it has been reported that neo-fascist groups have been using Neolithic sites in the south of England for ethno-nationalist ‘ceremonies’ (Dixon 2019). By lending support to, or even permitting to pass unchallenged, suggestions that the monuments of the Stonehenge area embody ‘Britishness’, ‘British traits’, and ‘British unity’, archaeologists, their institutions and their funding bodies are, in our view, adding fuel to this fire. Richardson and Booth (2017, 2) have noted that, ‘popular and academic articles in the public domain...[are being] used to uphold ultra-racist political beliefs within complex social contexts online’. Ongoing research into the ways that prehistoric research is consumed is therefore vital.

While the mythos reflects nationalist and neo-colonial thinking we do not for a moment suggest that it was created to promote nationalist politics. But this conversation needs to be had, because the results of research, publicly-funded, widely publicised using sensationalist language, employing anachronistic and inappropriate political terms, have been directed at a wide audience without easy access to information that would allow them to examine them critically. There are common-sense precautions that we can take to influence the narrative in relation to prehistoric research. We should take on a ‘pre-empt and pushback’ strategy, showing awareness from project design stage as to how our research should be shaped and disseminated to minimise the emergence of egregious readings (Brophy 2018a) including broader definitions of research ethics. Researchers need to work closely with institutional press teams, proactively vetting

press releases, and taking particular care with direct quotations and headings, and setting boundaries to protect the credibility and reputations of staff and institutions. Media training for archaeologists is now, we would argue, essential.

Problematic interpretations of our research cannot be prevented even with these precautions in place of course, and so it is essential that if we are to disseminate research via newspapers and social media, that we are prepared to pushback, and enter debate where it is personally possible to do so (and it is not advisable or even appropriate in some cases and formats). Even although this may seem futile, adding counterpoints and links to evidence within timelines and discussion fora will change some minds, or at least provide alternative readings. Write letters to newspapers, ask for corrections, clarifications or even headlines to be changed, and release statements on institutional websites and social media, should this be required. There are also broader considerations in relation to education: Bonacchi (2018, 1661) reminds us that, ‘the public will interpret what we say based on their own experience, knowledge and inclinations’. In the short- and long-term, we need to take more care.

## Conclusion

One final point. The late Neolithic mythos did not emerge in a vacuum, and it is clear to us that broader systemic drivers shaped its development. There is increased pressure upon UK academics in relation to the REF process, something identified by two anonymous referees of this paper during peer-review. Research that can be demonstrated, or made to appear, to be transformational and of international significance are the gold standard, and ‘reach’, public dissemination, and impact are all encouraged. We would argue that the development of the late Neolithic mythos should be considered in this context. (It has formed the basis for an Impact Case-study and REF outputs (publications) in previous REF processes.) Such external drivers may well be having a deleterious effect on academic writing and, particularly, on the way that the results of research are disseminated beyond the academy.

There are also issues for researchers, their institutions and their funders, in the way that pressures to demonstrate significant, even transformative, results, are distorting the presentation of results, not only in popular media, but in academic writing. This pressure is especially intense for early career researchers. In any system designed to measure performance tied to significant outcomes for funding and status, there is a danger that the process of measurement will distort the work that is being measured: meeting the target becomes more important than the work being assessed. We note that the Stern Review into the last REF (2015) concluded that ‘there remains a concern that the REF does influence the way researchers design and conduct their work.... Such distortions could be of real significance’ (Stern 2016, 14). If this is the case, then more research into the extent of the problem, the effectiveness of academic refereeing, and the role of editors in maintaining the integrity of academic publishing is essential. We are unaware of any such research having been undertaken within archaeology.

Our paper, through a forensic analysis of a developing prehistoric narrative, its dissemination, and consumption, is at heart about the nature of archaeological interpretation and the archaeologists who make those interpretations. We have presented a narrative that has attempted to expose the kinds of internal and external drivers that shape the interpretation of archaeological material, and the pitfalls that come with this. In this case, it is clear that the mythos has constrained, perhaps even driven, the interpretation of the material associated with it (e.g. the *a priori* exclusion of continental origins) and influenced the way that research results are presented to funding bodies: interpreted to contribute to the mythos, to promote it to a wider audience, to enhance the REF output and to justify funding, not to test it; inconvenient interpretations (e.g. Viner et al. 2010), the fragility of the scientific underpinnings, and potential contributions from ‘foreign parts’ are underplayed. The late Neolithic mythos, we would argue, has largely emerged and evolved due to the way that the academic world and the assessment of its work is currently structured, rather than anything people were doing with pigs on Salisbury Plain millennia ago. The work of all archaeologists is subject to many factors that have little to do with the past, and self-reflection on this is of ongoing significance. We hope we have provided food for thought.

### Acknowledgments

We are grateful to Dr Philippa Ascough, Prof Gabriel Cooney, Dr Alex Gibson, Dr Michael Given, Dr Elizabeth Goring, John Graham, Prof Janet Montgomery, Prof Murray Pittock, Prof Ian Ralston and a colleague who preferred to remain anonymous, for reading and commenting on earlier drafts of the paper. The comments of four anonymous referees have helped to shape the final version of this paper. Our thanks to Dr Susan Greaney of English Heritage for answering questions about the sources used in the *Feast!* Exhibition, for providing Figure 3 and for allowing us to make reference to a forthcoming paper. Thanks also to Dr Jane Evans for Figure 1.

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