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Understanding Responses To A UK High-Voltage Powerline Proposal: The Role Of Place And Project-Based Social Representations

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ABSTRACT

In going beyond the NIMBY (Not In My Backyard) concept, Devine-Wright (2009) posited a place-based approach highlighting the role of social representations of place for understanding responses to energy infrastructure projects. Existing studies (Devine-Wright & Howes, 2010; Anderson, 2013) have investigated the ways in which representations of diverse forms of place change are anchored and objectified symbolically based on existing social representations of place. These studies have shown that the degree of fit between representations of place and proposed place change can be seen to inform community responses to different developments. There is however, a dearth of research investigating the symbolic fit of power line projects amongst existing representations of the English countryside, despite the fact that such projects are both highly controversial and key to ensuring delivery of low-carbon energy policy targets. This paper thus sought to explore social representations of a proposed power line development in Southwest England and their symbolic fit with representations of nearby countryside areas, given the increased deployment of low-carbon energy infrastructure in this locale. Five focus groups were conducted with residents of a town in North Somerset,

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to highlight residents' co-constructed place and project-based social representations. Findings from thematic data analysis suggest that those representing the nearby countryside as replete with existing grid infrastructure objectified the power line proposal as an acceptable and 'familiar' form of place change. Conversely, those representing the countryside as 'natural' tended to objectify the proposal as industrialising this locale, objecting to it on this basis. This study reveals the utility of adopting Social Representations Theory to understand responses to proposed energy infrastructure developments given the UK low carbon transition, and suggests that grid companies could enhance acceptance by seeking to minimise the 'industrial' nature of such projects.

Keywords: power lines; NIMBYism; symbolic fit; social representations; focus group interviews

In view of the threat of human-induced climate change, the UK government has established a series of policy measures to reduce greenhouse gas emissions and mitigate human-led global warming (Climate Change Act, 2008; UK Low Carbon Transition Plan, 2009; Carbon Plan, 2011). The development of low-carbon energy technologies is seen as an important step towards achieving UK carbon reduction goals and committing to a sustainable development pathway. With a resultant surge in low-carbon energy developments throughout the UK, the increased deployment and expansion of the existing transmission electricity network is also foreseeable (DECC, 2013). However, the siting of low-carbon energy projects and new transmission power lines has at times proven controversial, resulting in vehement localised public opposition and planning delays (Jay, 2005; National Grid, 2014). Local opposition to such projects has often been cast pejoratively using the NIMBY (Not In My Backyard) concept, where objectors are labelled as selfish, ignorant and irrational individuals (Dear, 1992; Burningham et al., 2006; Cotton & Devine-Wright, 2010, 2011), and where locally-affected areas are reduced to mere 'coordinates in universal space' (Drenthen, 2010:322) or controversial backyards (Devine-Wright, 2011c). Despite its prominence, the NIMBY concept has been widely criticised for overlooking the varied motivations feeding opposition and for discounting the subjective emotional and symbolic associations people form with places (Wolsink, 2000; Ellis et al, 2007; Devine-Wright, 2009, 2011c).

In response to these critiques, Devine-Wright (2009) has posited a place-based approach, highlighting the roles of place attachment and place-related symbolic meanings, in shaping

individual and collective responses to place change. NIMBY-type opposition is re-cast as 'place-protective action' with locally affected communities seen to actively resist place change due to threat or disruption to existing place relations. In particular, an emerging body of literature has explored the role of energy infrastructure development proposals in leading to place disruption amongst members of local communities, resulting in negative attitudes and place-protective actions toward such projects (Devine-Wright, 2009, 2011a, 2013; Devine-Wright & Howes, 2010). To date, studies in this area have tended to examine associations between intensity or varieties of place attachment and levels of social acceptance toward various infrastructure proposals, including renewable energy technologies and associated powerline connections, (Vorkinn & Riese, 2011; Devine-Wright, 2011a, 2011b, 2013), as well as congruence between social representations of place and energy projects (Devine-Wright & Howes, 2010; Devine-Wright, 2011a, b; Anderson, 2013; Batel et al., 2015).

In general, research on people-place relations within Environmental and Social psychology has tended toward a socio-cognitive epistemological approach, where individual cognitive 'structures', attitudes and behaviour become the sole focus of analysis. This overlooks the socio-cultural level of analysis and subsequent approaches that typically foreground the process-oriented elaboration of co-constructed social objects. This has particularly been the case with the study and conceptualisation of 'place identity', conceived by Proshansky (1978, 1983) as a cognitive sub-component of individuals' self-identities. A study by Stedman (2002), for example, examined the role of place meanings in understanding behavioural responses to a proposed housing development in a lakeshore area of Wisconsin. Whilst the study suggested that oppositional 'place-protective action' was based on the elaboration of particular place-related meanings, it was limited in its inability to account for the source of these meanings, which are presented in the paper as cognitive constructs situated and observed in the minds of individuals (Devine-Wright, 2009). As proposed by Devine-Wright, moving toward a research approach that attempts to investigate the source of *co-constructed* place-meanings '…requires a shift in analytic gaze away from the individual as the sole point of reference towards a multi-level approach, premised on the assumption that knowledge is collectively constructed through interactions among individuals…' (2009:429).

In response to this required 'shift in analytic gaze', academics have more recently adopted socio-cultural perspectives to the study of people-place relations, namely through the use of a discursive approach or the adoption of Social Representations Theory. Both approaches are critical

of socio-cognitive epistemological and theoretical standpoints that position place-related phenomena solely at the individual socio-cognitive level of analysis. With regards the discursive approach, Dixon & Durrheim (2000:32) dispute the notion that place identities be viewed as individual level mental cognitions, or as cognitive structures 'discovered in the heads of individuals'. Their discursive approach re-casts place identity 'as something that people create together through talk: a social construction that allows them to make sense of their connectivity to place…' and which 'acknowledges the relevance of places to (people's) collective senses of self'. Implicit in this discursive formulation is the idea that rhetorical constructions of place are 'oriented to the performance of a range of social actions', which are seen to legitimise and sustain particular relations of domination (see also Di Masso, Dixon & Pol, 2011; Batel et al., 2015).

Social Representations Theory (SRT) addresses aspects of content and process in the collective social construction (or 'representation') of novel or unfamiliar social objects into everyday 'common-sense' forms of knowledge – a process otherwise known as symbolic coping (Moscovici, 1981; Wagner et al., 1999). The initial sub-process of symbolic coping is called '*anchoring*' and this refers to the naming and attribution of characteristics to novel or unfamiliar social objects, enabling a social group to interpret, understand and communicate with one another about the object in familiar terms. The second sub-process termed 'objectification', refers to the process whereby the anchored social object becomes a concrete property of a group's social reality, in the form of an image, metaphor or symbol (Devine-Wright & Devine-Wright, 2009). Otherwise stated, objectification is 'a mechanism by which socially represented knowledge attains its specific form…an icon, metaphor or trope which comes to stand for the new phenomenon or idea' (Wagner et al, 1999:97). The process of symbolic coping can arise due to novel events, such as new scientific discoveries (Moscovici, 1984) or proposed changes to a place (Devine-Wright, 2009), whereby a novel or potentially unfamiliar event triggers attempts by social groups to assimilate the unfamiliar into existing sets of institutional, socio-cultural, and relational-contextual meanings (Batel & Devine-Wright, 2015). Given the neglect of SRT to account for the possibility that the formation and acquisition of groups' social representations may be grounded in relationships with place, the theory has been fruitfully applied to the study of *place-related symbolic meanings* (or social representations of place) in contexts of proposed and actual place change (Devine-Wright & Howes, 2010; Anderson, 2013).

Devine-Wright and Howes (2010), for instance, used a mixed-methods approach to investigate public acceptance of a proposed offshore wind farm amongst residents of two coastal towns in North Wales. The study showed that in the town of Llandudno positive place-related symbolic meanings (including 'aesthetic beauty' and 'pleasant living') were incongruent with representations of the proposed wind farm (seen as industrialising the area and fencing in the bay), corresponding with negative emotions and attitudes toward the project. Conversely, residents of Colwyn Bay represented the proposed wind farm as enhancing a place that was characterised symbolically as rundown or as having little local impact. Adopting an SRT perspective, Anderson (2013) employed semi-structured interviews and a questionnaire survey amongst residents of North-West Tasmania, Australia, to investigate the symbolic fit between representations of the area's rural landscape and those of plantation forestry (a more recent landscape change in the area). Findings showed that those attributing a range of lifestyle and amenity related meanings to the rural landscape were more likely to oppose plantation forestry on the grounds that it posed an unacceptable risk or threat to these activities, whereas those attributing meanings of production were likely to represent plantation forestry as both risk and benefit and hold slightly more favourable views. These studies suggest that existing and varied social representations of place are likely to result in the elaboration of divergent symbolic interpretations of place change, resulting in greater or lesser congruence between the two and differing responses toward place alterations.

It is important to point out that the term 'symbolic logic of fit' (McLachlan, 2009), which designates the ways in which place and project-related symbolic meanings (or social representations) are deemed congruent or incongruent with one another, relates to the processes inherent in Social Representations Theory. Proposed or actual forms of place change can be seen to be anchored and objectified symbolically based on existing divergent social representations of place, and are thereby likely to be socially and symbolically elaborated in different ways, leading to diverse 'symbolic logics of fit', whereby proposed place change may be portrayed as being in place or out of place - in harmony or in conflict with place-related symbolic meanings (Cresswell, 2004).

Most recently, Batel et al. (2015) employed a series of fifteen focus groups (8 in the UK and 7 in Norway) with local residents affected by high-voltage power line proposals in Southwest England and mid-Wales, and the Ørskoge Sogndal and Sydvestlink connections in Norway. The study sought to investigate the role of landscape (de)essentialisation in shaping people's responses

to these projects. Essentialisation is taken as a representational and political process whereby people re-present things as having particular essences, deploying rhetorical constructions and discourses in order to strategically negotiate and legitimize particular relations with place and associated responses to forms of place change. The study found that re-presentations of rural landscapes and pylon projects with divergent essences (i.e. natural versus industrial) were deployed to justify opposition amongst local residents. In other contexts, participants re-presented nearby rural landscapes as more 'rural' than other parts of the country, allowing them to legitimize claims that power lines are particularly 'out of place' near to where they live. This paper is novel in showing that essentialisation can be deployed as a representational tool by people to oppose power lines and defend the place where they live, and that this process is not neutral but wrapped up in social, economic and political power relations. Whilst this study is highly instructive, the research looked across fifteen groups in two countries and across several power line case studies, and was thus less well suited to providing an in-depth analysis of social representations held by residents of one place concerning a local siting proposal.

Notwithstanding the recent paper by Batel et al (2015), there is to date a dearth of research that has applied a Social Representations Theory framework to investigate, in a social constructionist manner, the degree of fit between place and project-related symbolic meanings (or social representations) within the context of a high-voltage overhead power line proposal. It is significant to undertake such research, firstly to depart from the limitations of individualistic socio-cognitive approaches to the study of place meanings, and secondly to advance our understanding of the role of place-based social representations, and namely local ones, in shaping responses to increasingly vital power line connections (Batel & Devine-Wright, 2015).

This study thus aims to explore divergent social representations of the North Somerset countryside, and their congruence with objectified social representations of the Hinckley Point C (HPC) power line project, Southwest England. The study departs from the following research questions: (1) What divergent social representations of the North Somerset countryside are mobilized by locally affected residents and in what ways do these fit, or not, with subsequent representations of the power line project? (2) In what ways do these place-related symbolic logics of fit inform participants' responses to the HPC power line proposal?

METHODOLOGY

The Focus Group Method

The focus group interview has become particularly popular for researchers who are interested in the ways in which people in groups construct particular topics and social meanings together. Thus, this method is well suited to research agendas that are interested in the ways in which people 'collectively make sense of a phenomenon and construct meanings around it' (Bryman, 2008:476).

Since social representations are seen to be constructed within and across social groups via social interaction (Moscovici, 1984; Flick, 1994; Wagner et al., 1999), focus group interviews are deemed well-suited to researching the elaboration of divergent social representations of a given topic or theme(s) of research. Focus group interviews were deemed well-suited to the research aims of this study, since they allow for better emphasis to be placed upon opening up the socio-cultural level of analysis and to therefore access group-based social representations of the nearby countryside and the HPC power line proposal. As Lauri (2009:650) states: 'The focus group is the thinking society in miniature and therefore it is ideal for bringing out the social representations held by participants on complex issues…'.

The Study Context

The Hinckley Point C electricity grid connection project in South-West England is a proposal put forward by the UK transmission network operator National Grid to construct a new 60km 400kV over-head power line to connect a proposed new nuclear power station at Hinckley Point in Somerset, to the existing electricity network near Bristol (National Grid, 2014). The project will be pivotal to connecting electricity generated at the recently approved Hinckley Point C nuclear power plant, enabling the UK to meet growing electricity demand and assisting toward achieving national carbon reduction targets. The proposal proved instantly controversial in the town of Nailsea, North Somerset, where a local action group called 'Save Our Valley' (Save Our Valley, 2009), now 'Nailsea Against Pylons', was set up to oppose the project and push for alternative siting options (Devine-Wright, 2013).

As the primary site for data collection, Nailsea is a small town in the Somerset County approximately 8 miles from the City of Bristol, Southwest England, with a population of 17, 649 people (UK Census Data, mid-201). The town was formerly a major glass-making centre, and

following substantial residential development over the 1960s and 1970s became a semi-rural commuter town for those working in Bristol City. Despite its designation as a town, Nailsea retains architectural features of its village past, and remains surrounded by countryside and farmland (Nailsea Town Council, 2011).

Following phases of public consultation from 2009-2014, the proposed power line will be sited in rural countryside areas of Devon and Somerset Counties and involve the construction of 46.5 metre tall towers (Somerset County Council, 2015). In response to public objections, siting concessions announced by National Grid in 2013 include the removal of an existing 132kV in the area, the undergrounding of a second 132kV line, and the undergrounding of approximately 5 miles of the proposed power line through an area of outstanding natural beauty (AONB) called the Mendip Hills.

The Focus Group Interview Procedure

Sampling procedure and recruitment; Five focus group interviews were conducted each with a representative sample of six to eight Nailsea residents (Census Data, mid-2010). Each interview comprised a near equal mix of males and females, with ages ranging from 18 to 73 years of age. Residential biographies differed greatly, with some having resided in Nailsea most if not all of their lives, others having moved to Nailsea in middle age, and others with very short residence length in the town (in two cases for less than a year). Occupational backgrounds also varied and included retirees, those in permanent or temporary employment, self-employed, unemployed and student participants. Recruitment for the first three focus group interviews was undertaken using an external recruiting agency, with participants offered a monetary incentive to participate. Recruitment for the remaining two focus group interviews was undertaken using snowball sampling with friends and family members from a previous interview-based study (Calder, 1977).

Data Collection; Focus group interviews were conducted during July 2013 in a pre-booked conference room at the Scotch Horn leisure centre situated in the centre of Nailsea. The interviews were arranged for the evening so that all participants were able to attend and were timetabled for a duration of one and a half hours. A second member of academic staff was present during these interviews to aid with time keeping. Each interview was recorded using an audio recording device and verbal recording consent was secured prior to commencing. The interview recordings were

then transcribed following a conventional format (Bryman, 2008; Gerson & Horowitz, 2002), omitting digressions and very minor parts of the interview that were irrelevant to the study's themes or aims.

Data Analysis; Thematic analysis (Bryman, 2008) of focus group interview transcripts was used to elucidate themes relating to social representations of the North Somerset countryside and those of the HPC power line proposal. Whilst main themes and sub-themes were developed using a prescribed coding template (input into NVivo V.10 qualitative data analysis software), the use of open coding was also used to arrive at novel themes relevant to the research aims (Strauss & Corbin, 1990). Examples of main themes emerging from the analysis include representations of the countryside around Nailsea and generally (countryside as replete with existing electricity infrastructure; countryside as natural; countryside as inherently industrial in nature), representations of the HPC power line proposal (powerline proposal as familiar; powerline project as industrial in nature), and stance towards the power line project (project acceptance; project opposition).

FINDINGS AND DISCUSSION

Three different relationships between representations of place (i.e. the countryside around Nailsea) and technology (i.e. the power line proposal) were found. These are described in turn below.

Nearby Countryside Replete With Existing Electricity Infrastructure

The first relationship found between representations of place and technology tended to represent the surrounding countryside as being replete with existing and familiar electricity infrastructure. This was prevalent amongst participants that had grown up and lived much of their lives in the town of Nailsea. Symbolic associations with existing electricity infrastructure (two 132kV power lines running through the countryside to the West and North of Nailsea) as 'familiar', as 'part of the countryside', and as infrastructure that 'blends into the landscape', informed participants' objectified representations of the HPC power line proposal as a 'familiar' form of development that was '*not going to have a huge impact on the countryside, on our enjoyment of it*'. The interview extract below conveys the minimal impact that the proposed power line is seen to have on the

character of the surrounding countryside amongst these focus group participants, given project-related symbolic meanings of the power line project as familiar, usual and non-intrusive:

Gary: 'I've grown up with power stations, my father worked in a power station as well and I've seen pylons and it's just part of the countryside, I don't care…it's not something that stands out and makes me think 'Eurgh, it's disgusting and ugly', it's just something that's there, and I don't see this new power line any differently'.

Phil: 'Yeah, I mean the effect on Nailsea is going to be minimal because we're used to them being there already, and as Rachel said, if they were putting in a new line where there hadn't been one before then it would be very different but it's going to go vaguely in the same sort of place as it already is, so I don't think it's going to make much difference personally because we're used to them being there, they're part of our everyday'.

Rachel: 'Yes…you know, having lived here for so long, and having grown up here, the pylons were always there…we'd play under them in the fields, we'd go for family walks and pass by them, so they were always there, and you get used to them being there…so no, it's (HPC power line proposal) not going to have a huge impact on the countryside, on our enjoyment of it'.

This focus group interview extract suggests that representations of the nearby countryside as replete with existing electricity infrastructure tended to result in the power line proposal being objectified symbolically as a 'familiar' form of place change, and thus congruent with interpretations of the proposed power line as being *in place* within this locale. It is possible that those who grew up in Nailsea, especially as children who played '*here, there and everywhere'*, may have become accustomed to the presence of electricity infrastructure in the surrounding countryside and therefore normalised such structures within this setting. The power line proposal was thus seen to fit with co-constructed meanings of the nearby countryside and these participants tended to be accepting of the power line proposal on this basis.

This finding supports existing studies (McLachlan, 2009; Venables et al., 2012) proposing that when a proposed technology is seen to fit symbolically with place-related meanings – in other words, when a proposed technology is seen to be 'in place' rather than 'out of place' (Cresswell,

2004) - then acceptance or support of proposed place change is likely to ensue. A study by Venables et al (2012) further supports this finding, and showed that attitudes to proposed new nuclear power facilities in the UK were shown to be dependent on the extent to which existing power plants in the area were perceived to contribute symbolically toward the sense of place of nearby local communities. Participants who saw an existing power station as a 'familiar' and 'non-threatening' aspect of the place were more accepting of a new proposed nuclear power facility. Similarly, a study by McLachlan (2009) found that particular symbolic logics of fit between a Wave Hub and the coast of Cornwall – where symbolic interpretations of the technology ("Technology at one with Mother Nature") were seen to fit with place-based meanings ("Place as nature") – was seen to inform technology support.

The industrialisation of a 'natural' locale

The second relationship found between representations of place and technology tended to symbolically represent the countryside around Nailsea as a natural, scenic and restorative locale, as illustrated in the following interview extract:

Claire*: '...part of what made me decide to stay here and bring my kids up here was the greenery surrounding Nailsea, I use it regularly all the time, in school holidays, at least four times a week, take the bikes, take the dog, take the kids, we do picnics, we do a walk through the lake, sometimes along the side of the train track, you know we use it, and then at the other end we've got the woods. We go up there regularly'.*

Matt*:' Yeah, that's the thing I do like about Nailsea is five, ten minutes you're in the middle of nowhere, no one around you, there's green in any direction pretty much, you can go out and be on your own which is one thing I've always loved about Nailsea'.*

These participants, who had moved to Nailsea as adults from similar semi-rural settlement types, objectified and represented the HPC power line proposal negatively as a symbolically '*industrial*' edifice that would '*spoil*' and '*ruin*' the valued '*green bands*' that run past both sides of Nailsea. The proposed power line was seen as a poor fit within a natural, green and 'picturesque' countryside

area – it was deemed as *out of place* in this locale (Cresswell, 2004) – as captured in the following exchange:

Rosalind*: '…a lot of people aesthetically just don't want them. I mean Nailsea is so small compared to the amount of greenery we've got hitting down either side of our green bands…and do we really want that kind of technology, that industry going through our green areas? I certainly don't'.*

Nick: *'I mean I think the countryside around here it's almost like a green channel all the way to the sea, all the way to Clevedon from Bristol and it's pretty much untouched, you've got a few farms and some stately homes sort of dotted through and with Nailsea in the middle, but you're completely surrounded by green hills and open fields and if you've ever seen it from the air it's really like a patchwork quilt and the towns take up a very small amount of the land, now if you put power lines going through it then obviously it'll make a mess of everything, it'll spoil everything…blight the countryside'.*

The perceived lack of symbolic fit between representations of the countryside as natural and the proposed power line as industrial, in addition to concerns relating to visual intrusion – '*it's going to completely ruin the view'* – prompted members of this group to hold a negative oppositional stance toward the proposal. This corroborates with existing research (McLachlan, 2009; Devine-Wright & Howes, 2010; Anderson, 2013; Batel et al, 2015) showing that a lack of congruence between representations of a place and interpretations of place change can engender opposition. McLachlan (2009), for example, found that opposition to a wave hub in Cornwall stemmed from a 'symbolic logic of opposition' where the wave hub was seen as an 'experimental' form of technology in a place constructed as 'natural'. Devine-Wright and Howes (2010) found that negative emotions and attitudes toward a proposed offshore wind farm were associated with a lack of fit between representations of a coastal town as natural and restorative, and the proposed wind farm as 'monstrously damaging' and industrialising in nature. Batel et al. (2015) similarly found that re-presentations of localised rural landscapes as 'natural', fostered by institutional arrangements, were deployed strategically by local residents to oppose transmission power line proposals represented as industrial. Furthermore, Venables et al. (2012) found that participants that

saw an existing power station to sit in contrast to the local landscape perceived as 'rural' and 'largely unspoiled' tended to oppose the siting of a new nuclear power station in the area.

This nature versus industry finding also ties into wider historical discourses around the construction of a 'rural idyll'. Short (2002), for instance, suggests that both rural and urban dwellers in England hold and draw upon a romanticised and nostalgic discourse of a 'natural' English rural landscape, produced and maintained over time by artistic endeavours of the romantic art movement and 'chocolate-box' images of an idyllic English countryside setting, which is distinctly at odds with the increasing presence of modern industrial and technological infrastructure (i.e. wind farms, power lines, motorways) in rural landscapes. Batel et al. (2015) further argue that the essence of the English rural idyll is historically and politically emplaced and defined through the construction of an Other, comprising multicultural urban and industrial landscapes. This suggests that existing representations of 'natural' English countryside areas versus 'industrial' energy infrastructures embody and maintain broader social, historical and political place-based discourses.

The English Countryside As Inherently Industrial In Nature

The third relationship found between place and technology tended to represent the countryside locally around Nailsea and the English countryside more generally as inherently industrial and technological in nature. From this perspective, the countryside is seen as an already industrialised setting, one where 'tractors', 'noise' and various forms of technology (and energy-related) infrastructure are considered acceptable and customary features of a countryside setting. In contrast to the earlier representation of the nearby countryside as replete with electricity infrastructure, this representation firstly encompasses a greater array of technological and industrial features that are aligned more with a functional agricultural portrayal of the countryside, and secondly refers not only to the countryside locally around Nailsea but also to the English countryside more generally. This social representation was expressed by focus group participants that had typically grown up in areas of rural English countryside that were experienced as functional and productive farming environments, and then moved to Nailsea in adulthood.

The following interview extract, where members of a focus group interview are discussing the industrial nature of countryside areas (what they see as the countryside's 'true' nature), suggests

that this particular representation may stem from an up bringing based within 'working' functional rural settings:

Carol: '...my parents lived up in the sticks, they lived up in a house that was miles away from anywhere and it changed my view of the countryside a bit because actually it was really noisy, there was lots of noise from animals and tractors, they lived next door to a saw mill that had radio 1 blaring all day and that was totally alien to me, you know, I thought the sound of sky larks, or distant sheep, but it was quite a noisy environment really.'

Rebecca: 'Yeah because you don't think about that kind of noise when you think of the countryside, do you? You think of birds and things don't you?'

Carol: 'Yes, and around here I've noticed the other day I was taking the dog for a walk and it was dark and you could see the headlights of the tractors, they were ploughing the fields getting the harvest in… so you know actually it is quite an industrialised environment, if you think about industry as being in the countryside… and all the farm machinery was going up and down the road and it was like a commuter belt almost but it was dark and it was the countryside working if you know what I mean?'

The focus group extract above suggests that whilst Carol represents localised countryside locales – including the area in which she grew up and the countryside around Nailsea – as noisy environments that contain modern farming technology, she and Rebecca further apply and extend that representation to countryside areas more generally. For example, when Carol states that '*actually it (the English countryside generally) is quite an industrialised environment, if you think of industry as being in the countryside*' and Rebecca reflects that '*...you don't think about that kind of noise when you think about the countryside*', they are evoking a generalised representation of the countryside [as inherently industrial and technological in nature] that goes spatially beyond, but may very well be enmeshed, with the local level of representation. The way in which localised and generalised representations of the countryside appear to be intertwined, resonates with Massey's (1995) conceptualisation of place(s) (and sense of place) not as bounded and dis-connected from elsewhere, but as enmeshed and inter-connected with other specific places, with

places more generally (i.e. the 'English' countryside), as well as with more generalised notions of place identity. The localised representations of the countryside elaborated by Carol and Rebecca above can, in this light, be seen as interwoven with a broader representation of the English countryside generally. This may indeed evidence the way in which more macro-level representations - for example, with regards to rural landscapes generally - can be appropriated and eventually negotiated in order to make sense of one's locality (i.e. the countryside locally), and the occurrence of place change locally (Batel & Devine-Wright, 2015).

Interestingly, this industrialised representation of the countryside was emphasised by setting it against a romanticised view of this locale, drawing on an existing representation of the countryside as natural and untouched by industry and modern farming technology:

Paul: 'I mean some people have this romanticised version of the countryside which doesn't have the industry in it does it? There's no tractors driving past or anything like that, but the reality is there's still quite a lot of industry going on because life has changed. Life has moved on, the farm machine has moved on and there's just a lot more industrialisation around Nailsea today…so this new power line, it's not going to change anything, it's not going to affect the outlying area because there's already industry and technology there'.

This interview extract is indicative of the interplay between two divergent and generalised representations of the countryside. Paul emphasises a contemporary vision of the English countryside as inherently industrial by comparing it to a nostalgic, romanticised and pastoral version of the English countryside of yesteryear. Interestingly, participants here can be seen to 'de-essentialise' the representation of the countryside as natural, unspoilt and pristine, thereby contesting what can arguably be considered a hegemonic, or dominant, way of representing the English rural landscape (Batel et al., 2015). By contesting this culturally dominant re-presentation, participants re-present the countryside locally and generally as a locale that is inherently techno-industrial in nature, therefore essentialising it, but in a different way. Subsequently, the HPC power line proposal was not objectified symbolically as out of place, but as an acceptable and congruent form of place change. Similarly to those representing the countryside around Nailsea as replete with existing and familiar electricity infrastructure, the view of the English countryside as inherently techno-industrial in nature supports existing studies (McLachlan, 2009; Devine-Wright

& Howes, 2010; Venables et al., 2012) that propose congruence between symbolic place and technology-related meanings can result in technology acceptance. In both of these cases, the power line proposal is not seen as a novel or potentially threatening form of place change, since it has been objectified symbolically as a familiar and acceptable type of development, given associations with pre-existing representations of the local and generalised countryside as inherently techno-industrial in nature.

The following diagram summarises the study findings and the three different relationships found between representations of place (i.e. the countryside around Nailsea) and technology (i.e. the power line proposal).

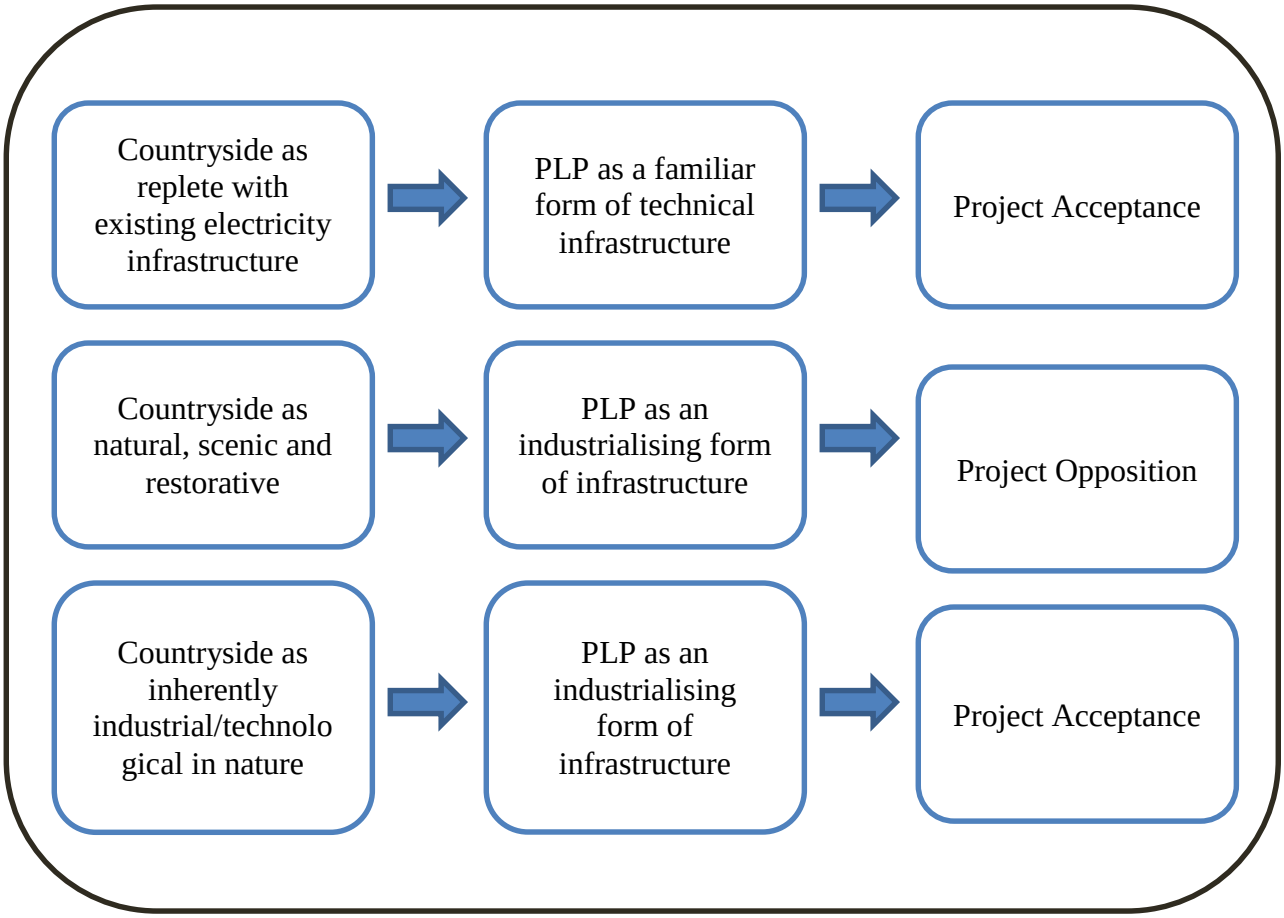

Figure 1: Symbolic logics of fit between social representations of the countryside (both surrounding Nailsea and generally) and objectifications of the HPC power line proposal.

The diagram illustrates the ways in which congruence or incongruence between representations of the countryside around Nailsea (and the English countryside generally) and objectified social representations of the power line proposal result in either acceptance or opposition toward the HPC power line project. Focus group participants' existing representations of the countryside around Nailsea were seen to result in the power line proposal being objectified symbolically in divergent ways, as a metaphorically 'familiar' or 'industrial' form of infrastructure, thus resulting in the project proposal being construed as 'in place' by some, and as unfamiliar, threatening and 'out of place' by others (Cresswell, 2004).

CONCLUSIONS

Whilst social representations theory has been usefully applied to the study of place-related symbolic meanings in contexts of proposed and actual place change (Devine-Wright & Howes, 2010; Anderson, 2013), there has been a dearth of research that adopts a social representations theory approach to the study of place-related meanings within the context of localised power line siting projects. This study thus set out to investigate the ways in which existing and divergent social representations of the countryside around Nailsea, in North-West England, inform the construction of objectified representations and subsequent responses to the Hinckley Point C power line project. Localised acceptance of the project could be pivotal to the eventual transmission of low-carbon electricity generated at the recently approved Hinckley Point C nuclear power plant, enabling the UK to meet growing electricity demand and assist toward achieving national carbon reduction targets and sustainable development more broadly.

The study found that those focus group participants who had grown up in Nailsea tended to objectify the proposed power line as blending into a surrounding countryside locale represented as replete with existing electricity infrastructure. Similarly, those participants having grown up in functional farming environments in England tended to represent local and generalised English countryside as inherently industrial, modern and technological in nature. Subsequently, the proposed power line was objectified as a familiar and acceptable form of industrial infrastructure that was interpreted as being in place, rather than out of place in this locale. This supports existing research (McLachlan, 2009; Devine-Wright & Howes, 2010; Venables et al., 2012) that has shown that symbolic fit between place and project-related symbolic meanings (or social representations) is likely to lead to acceptance of actual and proposed forms of place change. Whilst distinctions

have been made between these two representations, it would be interesting to analyse the extent or ways in which the two might be related. For example, does representing the English countryside generally as a techno-industrial environment inform or in some way interact with localised representations of the countryside? And how might this interaction work to shape representations of localised place change? Is representing the English countryside a way of enabling local residents to cope and thus accommodate localised place change?

In contrast, some focus group participants represented the countryside around Nailsea as a 'natural' locale, objectifying the proposed power line as industrial and as distinctly out of place in the countryside around Nailsea, objecting to it on this basis. This corroborates existing research (McLachlan, 2009; Devine-Wright & Howes, 2010; Anderson, 2013; Batel et al., 2015) showing that a lack of congruence between representations of a place and forms of place change can engender opposition and place-protective action. Importantly, this 'nature versus industry' dichotomy reflects and maintains broader historical, social and political place-based discourses relating to notions of the English rural idyll, promulgated for example by artists of the Romantic movement, and definitions of an urban and industrial Other that have served to legitimise particular societal power relations (Short, 2010; Batel et al., 2015). As Batel et al (2015) demonstrate, such a dichotomy is mobilised to this day in order to strategically resist the siting of energy infrastructure projects. Whilst the recent paper by Batel et al. (2015) responds to a similar gap in the research, it does not provide the in-depth analysis of social representations held by the residents of one particular place concerning local siting proposals that is provided here. Furthermore, Batel et al. (2015) focuses more closely on exploring the processes of (de)essentialisation and specifically the socio-political context of power relations within which representations of the English rural landscape are evoked and legitimised by localised groups of people. This is a perspective lacking in this research paper, but one that is highly instructive of the socio-political contexts within which social representations circulate and should inform future research into representations of place.

This study demonstrates the utility of adopting an SRT framework in attempting to understand the formation of objectified social representations of a power line proposal based on existing and divergent social constructions of local and generalised English countryside. The study shows that particular ways of objectifying and representing the power line project – through the use of metaphor and symbolic tropes – arose through personal interaction and were evoked based on existing social representations of nearby countryside areas. Further research into the role of

people's dwelling histories could also usefully inform our understanding of the formation of place-based social representations, along with subsequent interpretations of energy infrastructure proposals, particularly given the increased deployment of renewable energy technologies and associated grid connections across Europe and the UK.

This paper points to some implications for policy makers and grid developers. Government and industry actors could seek to avoid viewing local residents as a homogenous 'community' of people, but rather tailor engagement activities to heterogeneous groups of people that have distinct ways of relating to and re-presenting their residence place. With this in mind, attempts could be made to minimise the industrial nature and impact of grid infrastructure on countryside areas in and beyond the UK for those that view such areas as natural and pristine. This could be achieved, for example, by avoiding areas of outstanding natural beauty; mitigating through the use of landscaping; adopting alternatives to the conventional A-frame pylon design, and undergrounding of high-voltage power lines. Whilst system operators have, to a greater or lesser degree, already pursued such courses of action, attempts could equally be made to lessen the impact of grid infrastructure by emphasising the industrialised and modernised aspects of contemporary countryside, both generally and locally.

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