1.0   Introduction

Between 1995 and 2008 the Republic of Ireland experienced considerable economic, demographic and urban growth. During this period, land use governance struggled to negotiate the complex planning and environmental policy issues associated with unprecedented pressures for urban and infrastructural development (Davies, 2008). While growth rates significantly reduced post-2008, policy issues associated with over a decade of intense development demands remain (Kitchin et al., 2012). Keeping pace with such growth, and subsequently addressing its consequences, have preoccupied planning policy activity in Ireland for almost two decades. It is against this backdrop that new policy solutions have been sought to remedy multiple complex and pressing land use governance issues. To the fore of such endeavours has been the emergence of the green infrastructure (GI) planning concept. Largely unknown among the planning fraternity prior to November 2008, the GI concept is notable for its meteoric rise in popularity among Irish land use planners and allied professionals. Indeed, in just three years the concept moved from obscurity to frequent reference in Irish land use policy at national, regional and local levels. Nevertheless, the concept still lacks a unanimously agreed definition. In addition, a review of the concept's short history in Ireland reveals that interpretations of GI's meaning evolved and broadened as it was variously interpreted by different agents. Such interpretations included, *inter alia*, the provision of recreational facilities and sustainable modes of transport (GCC, 2011; KCC, 2011), a means to tackle biodiversity loss (HC, 2010), the construction of more environmentally sensitive waste water treatment technologies, and a less interventionist means of flooding management (UF and IEEM, 2010). Complicating matters, those most enthusiastic in its promotion advocated GI as comprising an amalgamated variety of uses, with the composition of this merger varying between actors (Comhar, 2010b; DCC, 2010; FCC, 2011).

Key to understanding the rapid rise of GI planning in Ireland is the role played by meaning making in reflecting and sustaining shared assumptions on the authority of different forms of evidence in the policy process. The rationale underpinning such assumptions may be ascertained by identifying and examining those elements of GI's meaning shared by different agents advocating its introduction. Such close scrutiny reveals that the diversity of interpretations as to what GI entails is united by a common thread, namely the concept's

applicability to a spectrum of broadly conceived 'green' spaces and its specification as 'infrastructure' – something of necessity that can be planned and delivered in remedying the existing and/or predicted problems of development. Consequently, three linked questions drive this paper: (1) how did the context in which GI emerged influence the forms of evidence employed in its advocacy as planning policy; (2) what practices were initiated by reference to the perceived need for evidence in GI policy formulation; and (3) what affects did these practices have on the location of power within the arena of land use policy development in Ireland. These questions speak to broader theoretical issues regarding the role of meaning making in the policy process. Specifically, they address gaps in our understanding of how perceptions on the legitimacy of knowledge claims influences action and the allocation of power in different policy contexts.

In responding to these questions, this paper addresses lacunae in our understanding on how resonance with certain epistemological suppositions may help suspend open opposition and critical debate regarding a policy's evidence base. Such suppositions concern the verisimilitude of knowledge produced and presented in accordance with the conventions of a technical-rational model of inquiry (Schön, 1988). In addressing these issues, this paper avoids the preoccupation in academia with the uncritical advocacy of GI (Benedict and McMahon, 2006; Kambites and Owen, 2006; Mell, 2013). Instead, it adopts an interpretive approach to critically examine the influence of prevailing professional rationalities in defining the forms of evidence that facilitated GI's currency in planning policy formulation despite vagueness regarding its signification. Such an interpretive approach seeks to challenge the assumption that 'facts speak for themselves' (Rydin, 2003). Through attention to how actors deploy specific forms of rhetoric in particular contexts, this line of research exposes the important role played by 'logics of communication' (Schmidt, 2008; Schmidt, 2010) in 'positioning' actors relative to the information being presented (Adams and Sandbrook, 2013; Bevir and Rhodes, 2010; Epstein, 2008; Hajer, 2003; Horwood, 2011). This paper seeks to complement and enhance such work by deepening our understanding of how actors advance their claims through employing modes of presentation that reflect and reinforce tacit assumptions on what may count as evidence in a particular context. Although no academic literature has been identified regarding the interpretive analysis of Irish GI policy discourses, the emergence and evolution of GI in Ireland provides a fitting

case in which to examine such dynamics. This results from the relatively short period of just three years in which GI emerged from obscurity to widespread statutory representation in policy documentation at multiple levels of planning governance. Furthermore, Ireland's relatively small population of just 4.6 million (CSO, 2011) is reflected in the limited number of actors with the power to institutionalise GI policy as an element of statutory land use governance. This comparatively narrow temporal and administrative frame renders it feasible to chart the path of GI's rise and placement on the policy agenda with a degree of comprehensiveness. It also makes it possible to confidently identify the roles played by different agents in advancing varying conceptions of 'evidence'. Accordingly, this paper draws upon the analysis of semi-structured interviews with fifty-two participants from the Irish public, private and voluntary sectors. Central to the purpose of the interviews and their subsequent analysis was close attention to unearthing the underlying principles that determine what was perceived to constitute legitimate evidence in policy deliberations regarding GI. This information was supplemented by the scrutiny of information obtained from participant observation at two GI related planning workshops and the detailed examination of one hundred and thirty-one land use policy documents.

The paper argues that effectively understanding policy process dynamics necessitates close attention to how agents advance their policy objectives through the strategic use of language, objects and acts to resonate with prevailing views on the relative authority of different forms of evidence in policy discussions. It is contended that agents may achieve this through careful management of their relationship with the presentation of evidence. In so doing, it is shown how agents may exploit existing practices and initiate new ones that manoeuvre them into positions of power from which they can produce what are deemed valid forms of evidence and thereby advance their policy objectives.

The paper is structured in six sections. Following this introduction, the second section outlines and justifies the research design and methods adopted. The third section then describes and discusses the theoretical perspectives informing the analysis. The fourth section details how different practices were initiated, deployed and validated as the GI policy concept emerged and evolved in Ireland. The fifth section then employs this case study material to address gaps in our knowledge of how meaning making influences the

content and currency of the evidence used to shape and support policy proposals. The concluding section offers guidance on how to investigate the role of meaning making in the production and presentation of evidence in policy practice.

2.0   Description of Methods

This paper focuses on the entanglement of contextually embedded forms of communication with the meaning of evidence. In this sense, 'the phenomenon under study is not readily distinguishable from its context' (Yin, 1993, 3). Consequently, a 'descriptive-explanatory' case study design is employed. This context sensitive approach assists in unpacking the 'blackbox' (Latour, 1999) that effaces the interpretive processes governing the perceived validity of evidence in a particular context (Fischer, 2003; Glynos and Howarth, 2007; Yanow and Schwartz-Shea, 2006).

This paper draws upon the detailed examination of one hundred and thirty-one policy documents identified as potentially pertinent to the study and collated as an 'archive'[1] (Foucault, 1972). 'Initial coding' of this archive was conducted. This form of analysis was employed to: (a) explore 'theoretical possibilities' (Charmaz, 2006, 47) in the collated documentation; (b) facilitate discernment of recurring 'themes' from it (Rapley, 2007); (c) aid in the identification of interviewees and; (d) inform the production of a master interview guide. Working iteratively between the themes suggested by this initial coding process and a review of extant theory, a master interview guide was generated. This guide was designed so as to facilitate an investigation of 'what' forms of evidence were deemed most appropriate by 'whom'. In particular, it supplied an aid to examine the forms of evidence employed by those advancing the GI concept, and the perceived reliability of such evidence by their target audience. In this sense, the guide was drawn on to help explore 'why' certain forms of evidence were favoured over others and 'how' those advancing a GI planning approach sought to deploy such favoured forms of evidence in advancing both their arguments and their position as a locus of knowledge. Achieving this involved structuring the content of the master interview guide around a series of standard 'essential questions' (Berg, 2004) geared to elicit opinions in respect of the 'what', 'why', 'to whom' and 'how' questions outlined above. While additional specific questions were carefully tailored and asked to reflect the particular position and potential insight of each interviewee, all

questions on the master interview guide were posed. Use of this guide thereby provided 'consistency' (Bryman, 2008) in the interviewing process.

Consequent of the initial documentary analysis it was possible to devise a 'purposive sample' (Hennink et al., 2011; Patton, 2002) of relevant interviewees drawn from a cross-section of national, regional and local government, as well as from the voluntary and private sectors. A semi-structured interview format was adopted as it enabled 'openness to change of sequence and forms of questions in order to follow up the answers given and the stories told by the subjects' (Kvale, 1996, 124). In this way, the interview format invited interviewees to 'express themselves openly and freely and to define the world from their own perspective' (Hancock and Algozzine, 2006, 40). Care was taken to balance the desire for response to the questions of the interview guide with openness to novelty and the unexpected in those stories relayed by interviewees. Digressions from the interview guide into new and interesting avenues were welcomed and probed as the interviewer remained adaptive to pursing potential insights as they emerged during the interview process. This flexibility in allowing the exploration of issues both directly related to GI, and broader matters concerning the interviewee's perspectives and experiences, facilitated a deeper understanding of meaning making in context. As such, this approach enabled a nuanced appreciation of how the opinions of those interviewed were influenced by epistemological viewpoints kindled by the contingencies of their professional position and personal dispositions.

At the closing of all interviews, interviewees were asked to suggest others who they thought pertinent to the advocacy of GI in Ireland. This form of 'snowball sampling' (Flick, 2007) was used as it was considered unlikely that the purposive sample of interviewees would have comprehensively identified all agents pertinent to the advancement of the GI policy approach.   Such snowball sampling thereby permitted both the expansion of the interviewee sample and the identification of those involved in the emergence and evolution of the GI concept in Ireland. However, care was taken to avoid 'enmeshing the researcher in the network of the initial participant interviewed...leading to or reinforcing the silencing of other voices' (Schwartz-Shea and Yanow, 2012, 87). This risk was countered by ensuring an adequate variety of non-associated and professionally diverse interviewees in the initial

purposive sample. These processes of interviewee identification and contact continued until 'saturation' (Rubin and Rubin, 2005) was reached wherein it was determined that additional interviews would not add any new insights or perspectives significant to an understanding of the 'what', 'why', 'to whom' and 'how' questions outlined above.

The research process collated a substantial archive of documents, notes and interview transcripts. From this, a broadly representative selection of interview material and documentary citations are employed in this paper. Such references have been carefully chosen to speak for views shared by the majority of interviewees and commonly detailed in various documents. Hence, all references employed are an endeavour to negotiate the limitations of space by remaining vigilant to the need to appropriately represent shared interpretations without eclipsing individuality or diverse viewpoints. Building upon this brief description of methods, the next section outlines and discusses the theoretical perspectives informing the interpretive analysis of this archive. Upon this foundation, the subsequent section presents an analysis of the role played by meaning making in supplying the evidence base for the emergence of GI planning policy in Ireland.

3.0   Relationship Management

The policy process is conventionally understood as 'applied problem-solving' (Howlett et al., 2009, 4). From this position, policy making is conceived as a progression from problem identification to solution specification. Central to this positivist understanding of policy process dynamics is the conception of evidence as grounded in disinterested modes of scientific assessment (Sanderson, 2002). However, attention to the role of meaning making in policy formulation activity suggests a more complex picture in which the persuasiveness of evidence is predicated on the epistemological suppositions of those producing and using it. Consequently, meaning making may be understood as a form of 'reality making', wherein the attributes of a seemingly objective reality are constituted through the particular perspective on it (Hacking, 2002). One way in which to investigate how such reality making occurs is by focusing on the role of discourse in constructing a 'shared way of apprehending the world' (Dryzek, 2005, 9). Here discourse is conceived as a specific and cohesive ensemble of ideas, concepts and categorisations that are produced, reproduced and transformed in a particular set of practices and against the background of a specific context

(Hajer, 1993). Such discourses have formative power in configuring shared understandings and human interactions with both the social and physical worlds. Hence, realities are never understood simply through familiarity with facts alone. Rather, they are conceived to involve a 'perceptual interpretive element' (Kingdon, 1984, 115) which is organised by particular discourses that transmit context specific meaning which both constitute, and are constituted by, systems of knowledge (Foucault, 1972). Accordingly, studying the role played by discourse in the constitution, deployment and reception of different knowledge claims assists an understanding of what renders some forms of evidence more persuasive than others in policy formulation.

In this way, the analysis of discourse shifts the focus from objective truths to a 'will to truth' (Foucault, 1976, 55). Thus, attending to meaning making in the policy process does not seek to evaluate whether the evidence marshalled to support a policy is true or false in the empirical sense. Rather, the task of the analyst is to investigate how such 'truths' are mobilised as persuasive arguments in policy discussions (Epstein, 2008). One limitation on the mobilisation of such 'truths' is the capacity to present arguments grounded in what are perceived as valid forms of knowledge. Because professional disciplines prescribe what can be counted as 'truths' within a particular subject area (Foucault, 1977; Mills, 2004), a significant part of the persuasive work done by disciplinary discourses is the generation of forms of evidence considered legitimate by allied professional disciplines. As the perceived legitimacy of land use planning generally relies on reference to a 'technical-rational model' (Owens et al., 2004, 1945) of evidence production[2], the capacity of a proposed planning policy concept to resonate with such a technical-rational premise is likely to exert significant influence on its adoption by those positioned within planning and allied professional disciplines (Freidson, 1986). A fundamental assumption of this view of land use planning is that its authority is founded on 'the neutrality of scientific rationality as an objective path to knowledge' (Rydin, 2003, 112). Consequently, the persuasiveness of evidence in planning policy debates is significantly influenced by the ability of those presenting it to advance knowledge claims as impartially derived.

Central to this appearance of impartiality is the relationship between the identity of those referencing an evidence claim, those identified as producing such a claim, and that upon

which the claim is made. These relationships were explored by Erving Goffman (1979) and elucidated in his theory of 'footing'. Goffman's hypothesis refines assumptions on the simple distinction between addresser and addressee. This is achieved by proposing a threefold typology of reference (Tannen, 1993). Focused on 'the production or reception of an utterance' (Goffman, 1981, 128), he theorises three discrete roles available in all forms of reference, be they explicitly or implicitly delivered. These are namely the *principal*, whose position the piece of speech is supposed to represent; the *author*, who does the scripting; and the *animator*, who says the words. These distinctions may be employed to connote the impartiality of evidence claims by exerting influence on the appearance of neutrality by positioning the *animator* as *'just passing something on'* (Potter, 1996, 143). Instances where the theory of 'footing' has been applied in examining the processes of evidence production and legitimation are rare in policy analysis, with such use largely confined to media studies (Goodwin, 2006; Tolson, 2006). Thus, this paper innovatively employs the theory of footing to investigate how advocates of GI favourably positioned themselves within debates concerning planning policy formulation in Ireland.

In examining how footing was used by agents to endow their evidence claims with legitimacy as a consequence of perceived impartiality, it is important to remain attentive to the role of language, objects and acts as 'carriers of meaning' (Yanow, 2000, 17) in connoting agent neutrality regarding a proposed policy concept. Such 'artefacts' comprise symbols that weave a web of signification in structuring the reality both constituted by, and addressed in policy work. Investigating how agents deploy particular forms of symbolic artefacts (language, objects, acts) to assist 'footing' thereby offers a way to understand how the presentation of evidence in particular discursive formats influences the traction of new policy concepts in debates among parties committed to a view of planning as a technical-rational process. This can be seen to reinforce Schmidt's (2012) contention that the ideas in a discourse must not only 'make sense' within a particular meaning context, but that the discourse itself must be patterned according to a given 'logic of communication,' following rules and expressing ideas that are transmitted in accordance with the standards of authentication prevalent in that discursive setting.

These concepts of 'footing' and 'symbolic artefacts' are drawn upon in the remainder of this paper to examine how forms of presentation influenced the persuasive potential of the evidence deployed in policy debates regarding GI planning in Ireland. It is demonstrated that certain practices were initiated and validated by reference to particular perspectives on evidence credibility. It is also shown how these views influenced the allocation of power among policy actors in discussions regarding GI.

4.0   Meaning Making and Evidence in Irish GI Policy

In November 2008, Fingal County Council in association with the Irish Planning and Irish Landscape Institutes, and the Institute of Ecological and Environmental Management, hosted an international conference on GI in Malahide, North County Dublin. This event was well attended by an array of agents from across Ireland and included a cross-section of land use planning and design professionals from the public, voluntary and private sectors. Prior to this conference, reference to GI in Irish planning advocacy and guidance documentation had been limited (Tubridy and O Riain, 2002; UCD et al., 2008). However, in the wake of this event, mention of GI in such documentation increased significantly. By November 2011, the GI planning approach had achieved representation in statutory guidance at national, regional and local levels. By this date, GI was also widely referenced in non-statutory planning policy and advocacy documents.

4.1   Symbolic Language

The initial impetus for introducing GI into the Irish planning policy context stemmed from a desire to address ongoing issues of ecosystem degradation. Prior to the introduction of the GI concept, planning activities concerning biodiversity conservation had focused on protecting specific habitats from development and linking these sites by way of 'ecological networks' to facilitate species movement, dispersal and genetic exchange. However, it was widely held among those concerned with nature conservation that existing practices 'weren't working in the planning process' (Interviewee C3) as 'biodiversity continues to decline because its value is not reflected in decision making by business and Government' (Comhar, 2010b, 5). In response to this, many of those seeking to promote nature conservation in policy development sought to establish a means to give it 'greater

prominence, greater priority, greater focus and one of the ways in which you do that is to carve out a particular identity and conceptual framework for it and promote it on that basis' (Interviewee C10).

The term 'GI' was seen to offer a solution to the perceived problem of nature's low profile in policy debates as it was considered that 'the term 'infrastructure' is quite useful, local authority planners and so on get it, and they can sell it a lot better...It certainly is a big improvement on ecological network[s] which doesn't get them, doesn't grasp them as much' (Interviewee A4). Here, resonance of the word 'infrastructure' with the familiar lexicon of planning activity was considered to assist garnering greater attention for biodiversity in land use policy formulation. However, by virtue of the word 'green', the term GI quickly evolved from its initial reference to nature conservation and assumed associations with a multitude of broadly conceived green space formats, 'so when you're talking about 'green' you could be talking about golf courses, you could be talking about park lands, you could be talking about the open countryside...it gives you broad scope to examine the area that you want to' (Interviewee B2).

Such an expanding scope for the application of the GI concept allowed other agents similarly troubled by the lack of attention afforded their concerns to employ the term in an effort to improve the level of consideration given their objectives in policy discussions. These agents sought to transform the perception of green spaces from 'the left over space...the stuff you haven't zoned' (Interviewee E4), into a policy issue that is 'plan-led in some way and not something that's accidental, that just falls out of a plan when all the hard construction is put in place' (Interviewee C5).Consequently, employing the term GI in policy discussion was perceived as 'elevating the importance of green space and open areas, natural areas, to be seen as infrastructure rather than as just land to be developed' (Interviewee B17). However, conceiving green spaces as infrastructure served as a carrier of connotative meaning for a broader series of presumptions on how green spaces should be addressed in land use policy. Thus, the symbolic use of language had effects.

These effects resulted from the assessment that although clearly connoting something necessary, the term GI was initially 'a bit ambiguous' (Interviewee C4). This attribute of 'ambiguous signification' meant that determining meaning necessitated reasoning what the expression represented by exploring its connotations. However, by virtue of widespread familiarity with the word 'infrastructure', GI was most commonly interpreted as conveying 'the idea of services...because we are able to make that direct link between our waste water systems...even things like our hospitals, our schools...things that we need' (Interviewee B1). As the term came into more frequent use, the potency of connotations related to the word 'infrastructure', and the common familiarity with such connotations, elicited a literal sense of the expression that partially concealed the process of association required in its interpretation. Consequently, the GI concept was perceived to advance the view that careful attention to policy for green space planning 'isn't just a potential discretionary or stylistic approach' (Interviewee A7), but rather is 'something you have to have' (Interviewee C3).

However, forging the metaphor of GI influenced the configuration of specific interpretations as to the nature of green spaces, their appropriate functions, and how these areas can be planned. This occurred as associations from commonly conceived notions of 'infrastructure' were transferred onto comprehensions of what GI planning might entail 'in that infrastructure suggests systems and mechanics and planning and all of those things; it's kind of scientific in its nature' (Interviewee A2). In following from such metaphorical reasoning, a GI approach to green space planning was widely discussed as a technical process such that 'you're doing it in some methodical way; there's an evidence base underpinning what you're trying to achieve...you're doing this rationally' (Interviewee E4). Accordingly, GI policy formulation was viewed to entail 'a typical rational planning methodology' (Comhar, 2010b, 61) comprising 'the old processes of survey, analysis, plan' (Interviewee B17). This prompted assumptions regarding the forms of evidence most appropriate for GI planning activities and who was best placed to provide such evidence. Specifically, the interpretation of GI as something that 'involves the planning, management and engineering of green spaces and ecosystems in order to provide specific benefits to society' (UF and IEEM, 2010, 2) implied a capacity to discuss versions of the world construed as objective, factual and impersonal. Thus, the perceived authority of GI evidence claims required the apparent

evacuation of ostensible interest-motivation from the production and dissemination of information ascertained in analysing this independent reality. As a result, those best able to produce an effect of apparent objectivity in the information they presented were seen as the most trustworthy enunciators of GI knowledge claims. This concern surrounding the appearance of neutrality initiated a number of 'footing' practices. These were employed to convey agent impartiality in the production and presentation of information. Central among these was the use of cartography.

4.2   Symbolic Objects

Consequent on reasoning that GI is similar to conventionally conceived infrastructure, a significant element of the evidence base for GI planning was perceived to rest on conducting analyses and presenting conclusions in a fashion analogous to that of 'grey infrastructure' (roads, sewage, drainage etc). This involved a prioritisation of cartography, as it was generally assumed that GI 'Strategies are evidence-based and generally use Geographical Information Systems (GIS)[3] to collate, map and analyse information' (HC, 2010, 24). Such foregrounding of cartography in GI discourses may be traced to what MacEachren (1995) distinguishes as connotations of 'veracity' and 'integrity'. These are specified as the implications of temporal and attributive precision commonly associated with impressions of accuracy in mapping and the presumption of impartiality in the activities of scientifically schooled cartographers (Monmonier, 1991). Consequently, maps served as important symbolic objects in assisting 'footing' practices. Thus, those seeking to employ GI discourses in advancing their concerns on the policy agenda (*animators*) were able to legitimate their arguments via suppositions on the fidelity of cartographically presented evidence (*authors*) with an objective reality. This enabled such *animators* to convey a sense of neutrality on topics of analysis (*principal*) frequently dogged by accusations of partisanism, such as amenity space allocation, sustainable transport routes, flood management provision and nature conservation initiatives. As GI policy discourses evolved and the diversity of issues to which the concept was applied expanded, the legitimising functions of cartography became more significant. By mapping areas to facilitate the planning and provision of this widening range of functions, the persuasive force of scientific veracity afforded to cartographic activities enabled GI advocates to employ maps as evidence in constructing a reality of

functional coexistence within shared spaces by encompassing multiple land uses beneath the rubric of GI. This involved the disbanding of fixed conceptual categories defining what GI 'is', and by corollary, 'is not'. Ultimately, such activity entailed the dissolution of traditional unifunctional land use categories (conservation, recreation, transport etc). This activity was illustrated by the work of the consultant team employed by Comhar (the Irish Sustainable Development Council) in formulating the document titled, 'Creating Green Infrastructure for Ireland: enhancing natural capital for human well being', published in August 2010.

As part of the document production process, Comhar and its consultant team organised a GI workshop, which was attended by an invited selection of identified stakeholders drawn from central state institutions, local and regional planning authorities, as well as various other public, private and voluntary organisations (Comhar, 8th February 2010). At this event a number of GI maps were produced on the basis of variously sourced data sets[4]. These maps were then presented by the consultant team to the audience and feedback was requested. The function of these maps was to demonstrate the workings and benefits of a potential methodology for the collation of data, its cartographic expression, analysis and use for GI planning. Whereas the 'rational methodology' (Interviewee A2) was favourably received by the audience, the content of the maps were questioned by a number an ecologists working for Dublin City Council. This was due to the designation on the GI maps as 'recreational & quality of life', lands[5] popularly used for recreational purposes but designated for nature conservation as both a Special Protection Area and a Special Area of Conservation under the provisions of European Union Directives[6]. Whereas 'recreational & quality of life' appeared an appropriate categorisation for the consultant team (Interviewee A4), it was feared by the Council ecologists that categorising these lands as 'recreational & quality of life' on these GI maps would result in a sanctioned intensification of their use for recreation and thereby threaten their ecological integrity (Interviewee B5). Hence, this instance of disagreement in the fixing of land uses by way of cartographic labels indicates the perceived power of maps, and map categories in particular, in constructing the meanings that are believed to embody the authority to shape reality (Wood, 1992). Resolving this issue in a manner that maintained the perceived integrity of the GI concept involved the dissolution of unifuntional land use categories. Here the specification of land

use categories for single land use purposes was revised to facilitate multiple land uses on the same site. This was achieved through the inclusion of the same land use function (e.g. recreation) within multiple land use categories on the maps. Subsequent to this, the previous disagreement regarding spatial functions did not materialise.

As such, in responding to contentions provoked by the perceived authority of map categories, new spatial typologies were produced. Within these new typologies multiple land uses previously deemed incompatible were reconstituted as concordant via the presentational techniques, perceived scientific legitimacy, and assumed impartiality of cartography. In this way, mapping methods 'effected actualization' (Corner, 1999, 225) of new spatial realities so as to facilitate consensus and dispel potential disagreement surrounding GI's signification and consequent latitude for application. In doing so, maps acted persuasively in steering perceptions of such areas and productively in furnishing the evidence base on how they should be planned. This powerful function of maps to shape how the world is comprehended and acted upon was consequent on their perceived neutrality in accordance with a technical-rational model of land use planning. Accordingly, with regard to GI policy formulation it was assumed that,

> *Evidence in this case is obviously proper mapping, proper survey, proper mapping of the various elements which go into the resource, the natural biodiversity, the amenity, the cultural aspects all of those things, now that's very important as the evidence base, surveying it, mapping it and capturing it, and then on that basis you proceed forward and make decisions. So it shouldn't be policy or ideas that come basically shooting from the hip, it needs to be chased back into proper planning process.* (Interviewee A10)

Such condensation of 'scientific' legitimacy in cartography involved shaping that which was presented in the context of the map audience's expectations of how knowledge can and should be obtained (Kitchin et al., 2009). Thus, the focus on mapping in GI planning activities reflected suppositions regarding valid forms of knowledge in the technical-rational process of land use policy formulation. In so doing, it also structured perceptions of the reality it claimed to represent. Consequently, the 'will to truth' (Foucault, 1976) channelled through cartography enabled those employing maps in GI discourses (*animators*) to expound 'an' interpretation of GI (*principal*) as 'the' interpretation via reference to an

apparent objective reality. Thus, it allowed certain agents to persuasively proclaim the 'facts' of a situation from an advantageous position via appeal to the seeming impartiality of variously sourced data sets (*authors*) that were assembled and cartographically presented as evidence. Consolidating such positions of power in policy formulation were footing practices focused on the symbolic acts of comparison and quantification.

4.3   Symbolic Acts

Comparison

The symbolic act of comparison constituted a prominent footing practice deployed by agents seeking to furnish a persuasive evidence base for the advancement of their own policy concerns via GI discourses. Here, a salient feature of such practice was an evaluation of the perceived condition of Irish GI planning relative to that of other jurisdictions. Such comparisons were employed as a means to provoke action on the *principal* of innovative green space planning by the seemingly objective identification of progressive planning practices identified as widespread in other jurisdictions (*authors*), yet absent in Ireland. These practices were subsequently referenced as models for how GI planning should be conducted in Ireland. Thus, comparison was used as a way of generating an apparent distance between the potentially perceived biased agendas of GI advocates (*animators*) and the 'facts' of GI policy as stated by those *authors* deemed non-partisan to Irish planning debates. Accordingly, it was perceived that 'one advantage...in trying to do something new or different is if you can show that another county has done it and what they've used the information for, then it can be very valuable' (Interviewee B3). Therefore, many advocates of GI (*animators*) stressed the long history and widespread adoption of approaches to green space planning (*principal*) in countries thought to possess advanced land use planning systems (*authors*). In doing so, those promoting GI policy discourses implied that Irish practitioners could consult the efforts of foreign planning practice in devising indigenous GI planning approaches. Listing the progress made by other planning systems with regards to GI planning also provided 'evidence' that Irish planning practice was falling behind that of other progressive systems.

Furthermore, a recurring feature of Irish GI policy discourses was that they referenced a variety of readings as to both what land use functions GI refers to, and the spatial applicability of the concept. This polysemy was facilitated by the latitude for interpretation consequent of GI's ambiguous signification and was reflected in the diversity of identified and referenced GI activities promoted as offering models for green space planning in Ireland (Comhar, 2010b; UF and IEEM, 2010). In seeking to advance their specific policy concerns, those advocating GI discourses (*animators*) thus cited as evidence of policy success particular examples (*authors*) that served their agenda-setting objectives. Consequently, many advocates of GI assumed that '...if you have to justify different measures you're taking, then you can say; this is in line with the green infrastructure developments as reflected in Holland, wherever the hell it is, the States...you know the way like no man is a prophet in their own town' (Interviewee C7). Such footing practices enabled the simultaneous advocacy by multiple parties of different understandings of what GI means. These assorted interpretations facilitated, and were facilitated by, reference to a variety of diverse examples of activities seen to constitute progressive GI practices. In referencing these exemplars (*authors*), the promoters of GI planning policy (*animators*) offered an interpretation of what they deemed to be its relevance for specific forms of green space planning (*principal*). These approaches by and large resonated with their personal and/or professional biases, be that for 'recreation, tourism, visual amenities, sense of place, sustainable mobility, food, timber, other primary products, regulation of microclimates' (Interviewee B12).

Quantification

Acts of quantification were also used to convey a sense of impartiality by those seeking to advocate particular interpretations of what GI entails. Underpinning the employment of such symbolic methods was the connotatively reasoned comparability of GI with conventionally conceived infrastructure wherein quantitative methodologies are thought inherent to its delivery. In this way, GI planning was reasoned to involve 'looking at open space resources as we would grey infrastructure. We have a piece of land, a resource, what do we want it to do? How much of that do we want it to do? So you plan and design for that and then you can measure its performance' (Interviewee A2).

Aronowitz (1988) outlines how the authority usually endowed by the scientific semblance of quantification is predicated on the conflation of 'knowledge' with 'truth'. This influence on the production of 'truth effects' is characterised by deference to the assumed integrity of quantification as a means by which to accurately represent reality. Consequently, quantification was employed as a footing practice in Irish policy discussions to legitimise evidence claims that conveyed meanings seemingly independent of those who employed them (Stone, 2002). It was in this sense that some advocates of GI planning sought that it be discussed 'on the basis of cost benefit as opposed to on the basis of some sort of feel good approach' (Interviewee B21). Here it was held that 'until you can come up with a method of actually quantifying it...and making it real, then they're just concepts, they're not that meaningful for people' (Interviewee C8). Accordingly, acts of quantification were deployed as persuasive strategies that assumed a symbolic quality conveying both the perceived importance of something and the objectivity of its assessment (Throgmorton, 1993).

These legitimating and issue highlighting functions of counting were ardently forwarded by certain parties to the GI advocacy discourse and may be observed in the endeavours of Comhar (Irish Sustainable Development Council) to present GI as an objectively assessed economic benefit. Playing a central role in the advocacy of a GI planning approach in Ireland, arguments for GI advanced by Comhar were frequently characterised by a discourse focused on the 'monetarisation' of 'natural assets'. For example, the director of Comhar presented an economics centred argument for the introduction of multifunctional GI planning at the Irish Planning Institute's Annual Conference in April 2010 (Comhar, 2010c). Comhar's (*animator*) presentation at this event employed references to initiatives by the United National Environmental Program, the New Economics Foundation and the Grantham Research Institute (*authors*) to present GI as a multifaceted environmentally sensitive approach that can help reverse the costly loss of ecosystems services (*principal*). This endorsement of a cost-benefit argument for the adoption GI planning was sustained by Comhar in its presentation at the Parks Professional Network Seminar Day in June 2010 (Comhar, 2010d), when it was announced that the estimated worth to Ireland of the ecosystems services delivered by GI was €2.6 billion. In the same month, Comhar organised a workshop on The Economics of Ecosystems and Biodiversity (Comhar, 2010a). This

workshop involved a plenary session wherein a series of presentations (*animators*) were provided outlining the economic worth of biodiversity (*principal*) and the array of independently devised methodologies (*authors*) that may be employed in its valuation. The workshop may be seen to as a means to help legitimise assertions on GI by connecting them to international movements towards the framing of conservation advocacy within a discourse centred on the calculation of ecosystems services (Lennon, 2014). This numerical assessment of GI was reflected in August 2010, when Comhar published a report promoting the integration of the GI concept into planning policy formulation (Comhar, 2010b). With a focus on an economic assessment of GI's value, the report recommended as a priority the,

> *Identification, quantitatively and qualitatively of the economic and social benefits of ecosystem services delivered by Green Infrastructure in monetary terms and also the social gains to health and quality of life.*
> (Comhar, 2010b, 23)

While the report advances the need to 'qualitatively' identify the services delivered by GI, such qualitative identification is suppressed by conflating it with monetary assessment. In this sense, counting the value of GI may be understood as a means to remove it from possible associations with ex-ante value rationalities and foreground a mathematically determined instrumental rationality for its introduction. Here, footing practices were initiated to produce a positivist repertoire grounded in numeracy that was seen to present persuasive arguments as founded on objective evidence by 'divesting agency from fact constructors and investing it in facts' (Potter, 1997, 158). This was achieved simultaneous to conveying the important story about which the 'facts speak for themselves' (Rydin, 2003). The particular 'facts' of the GI approach advanced by those who advocated its adoption was that GI planning policy was a scientifically identified cost effective means to address a multitude of complex policy issues and deliver numerous benefits to society. It was under such circumstances that normatively rooted perspectives on what was believed to be requisite action were presented as unbiased facts scientifically legitimated by an objective evidence base. This apparently neutral evidence base concealed normative imperatives centred on the perceived need to give greater weight to a widening spectrum of green space issues in planning policy formulation. In this sense, the presentation of economic evidence in support of GI planning policy functioned independently of the would-be

meaning of the numbers. In addition to framing arguments for GI policy as impartial, here the process of quantification itself also served as a tacit message signifying that GI policy was of sufficient importance to merit numerical examination, and thus should be taken seriously (Fischer, 2003).

5.0   Meaning Making and Evidence in Policy Practice

Examining how the GI concept was advocated in Ireland is insightful to how the context in which knowledge is being produced and the purposes for which it is used affects the persuasive potential of different forms of evidence in policy formulation. This is particularly pertinent for modern western democracies where the perceived legitimacy of governing initiatives is generally premised on a 'knowledge dependence' (Gottweis, 2003, 256) that supposes an evidence base produced via the impartial acquisition of objective information (Flyvbjerg, 1998). In this context, the successful advocacy of new policy ideas is predicated on the aptitude to present arguments in a format that resonates with such suppositions. Consequently, those who initiate evidence-making practices and present their policy proposals in accordance with such suppositions may assume the ability to identify, control, legitimise and mobilise the very issues taken to be the subjects of deliberation (Richardson, 1996; Rydin, 2003). Hence, the capacity to substantiate policy concepts by what are perceived as 'valid' forms of evidence greatly enhances one's ability to legitimise the issues that ought and can be addressed in policy practice.

As suggested by the case of GI in Ireland, central to garnering such power is careful attention to managing one's perceived relationship with the presentation of information employed to support a policy argument. Shown is how this attention may focus on the strategic deployment of symbolic artefacts (language, objects and acts). Where such artefacts are perceived to connote an evidence claim legitimated in accordance with prevailing rationalities concerning knowledge validity, they may be conceived as representing factual statements and thereby meet approval. Seen in this light, symbolic artefacts may function as 'carriers of meaning' (Yanow, 2000, 17) facilitating the 'collective centring' (Hajer and Laws, 2006, 260) that allows constellations of actors to coalesce around, and subscribe to, a particular series of assumptions concerning the persuasiveness of evidence in policy formulation. Hence, symbolic artefacts can furnish the connotations

that 'will to truth' (Foucault, 1976, 55) interpretations of evidence credibility and the legitimacy of those providing it. Accordingly, attending to the role of meaning making in the presentation of evidence reveals that privileging the 'objectivity' of apparent scientific knowlege only guarantees that 'objectivity' means we converse with people who agree with our standards of comparison (Fischer, 2003, 153). For example, in the case of GI in Ireland, the persuasive power of strong resonance with the epistemological suppositions of a 'technical-rational model' (Owens et al., 2004, 1945) of planning activity left virtually unchallenged the motives of those advocating GI planning policy and suspended open critical debate regarding the evidence base upon which they grounded their assertions.

In this sense, 'All our talk of 'making' public policy, of 'choosing' and 'deciding', loses track of the home truth...that politics and policy making is mostly a matter of persuasion' (Goodin et al., 2006, 5). Therefore, comprehending the 'the messy realities of the public policy process' (Howlett et al., 2009, 29) involves attending to the ways different forms of evidence are deployed in different contexts to persuade certain audiences of the validity and viability of policy proposals (Cowell, 2003). As shown in the case of Ireland, it was not irrefutable noumena that gave force to arguments for GI planning policy. Rather, the persuasiveness of the evidence used was consequent of its presentation in formats strongly resonant with the epistemological commitments and policy objectives of the professional fraternity to whom it was introduced. The deployment of such formats created an apparent impartiality in the communication of 'facts'. This then gave currency to the concept through generating a reality amenable to manipulation by existing planning practices. Accordingly, in the context of policy studies, it may be conjectured that 'representation is not a mirror of reality, but reality is an attribute of representation' (Wagenaar, 2011, 59). By envisaging the policy process from this perspective, 'Policy work, then, has to do with making meaning, and, in particular, with managing a variety of meanings' (Colebatch, 2009, 129). Consequently, enhancing knowledge of the policy process necessitates an understanding of how the reality addressed by policy is 'produced' by the ways evidence is presentated in policy practice.

6.0   Conclusion

This paper addresses gaps in our understanding of how suppositions concerning the verisimilitude of knowledge presented in accordance with the conventions of a technical-

rational model of inquiry may help suspend open opposition and critical debate regarding a policy's evidence base.

Firstly, the paper highlights the need for careful attention to how agents negotiate the constraints posed by implicit 'hierarchies of evidence' (Pawson, 2006). Such hierarchies encourage simplistic framings of 'evidence-based policy' by privileging forms of knowledge produced in accordance with what are perceived as objective methods (Cartwright and Hardie, 2012). This tacit grading of evidence resonates with a broader assumption on the superiority of those methods conventionally employed by the natural sciences (Haynes et al., 2012; Mulgan and Puttick, 2013), with 'low credit rating afforded to qualitative research, and the virtual detestation of local, tacit knowledge' (Pawson, 2013, 10). This paper contends that a more nuanced understanding of policy process dynamics may be reached by placing greater focus on how agents judiciously manage their relationship with such implicit 'hierarchies of evidence'. In particular, it argues for more attention to how agents seek to advance their policy initiatives by presenting evidence in formats that resonate with contextually determined expectations of veracity and accuracy.

Secondly, this paper stresses the importance of analysing how the foregrounding of specific practices in policy discourses allocates power to certain agents to affect interpretations of a concept's signification, significance and applicability. The paper also highlights the need to closely scrutinise how agents use such practices to create and consolidate advantageous positions from which to advance their own policy objectives. In this sense, the paper supports the call for greater attention to how such 'positioning' entails 'routinizing a particular 'parlance of governance', of excluding or marginalizing alternate ways of seeing' (Hajer, 2003, 107).

Thirdly, this paper emphasises the value of attending to how agents employ such positions of power to forward particular strategies for issue advancement on policy agendas. The paper identifies how this may reinforce existing perspectives on the validity of evidence claims and thereby recursively buttress the position of those most adept at resonating with the prevailing rationalities of policy practice.

Finally, this paper presents a novel means to engage such research. It does so by innovatively employing Goffman's theory of 'footing practices'. As an approach generally restricted to media studies (Goodwin, 2006; Tolson, 2006), this paper demonstrates the illuminating potential of Goffman's theory for the study of policy. It shows how careful application of this theory may complement and expand the family of interpretive methods drawn on to deepen our understanding of the role played by presentation in weaving together evidence and identity in the policy process. Through case study analysis, this paper supplies an example of how structuring an investigation of 'footing practices' within an examination of the symbolic uses of language, objects and acts may enable the interpretive analyst to ascertain the meaning making processes that give persuasive force to the policy supporting functions of evidence.

References

ADAMS, W. M. & SANDBROOK, C. (2013) 'Conservation, evidence and policy', *ORYX,* 47(3): 329-335.

ARONOWITZ, S. (1988) *Science as Power: discourse and ideology in modern society,* Minneapolis, Minnesota, U.S.A., University of Minnesota Press.

BENEDICT, M. & MCMAHON, E. (2006) *Green Infrastructure: linking landscapes and communities,* London, England, U.K., Island Press.

BERG, B. L. (2004) *Qualitative Research Methods,* London, England, U.K., Pearson Education Inc.

BEVIR, M. & RHODES, R. A. W. (2010) *The State as Cultural Practice,* Oxford, England, U.K., Oxford University Press.

BRYMAN, A. (2008) *Social Research Methods,* Oxford, England, UK, Oxford University Press.

CARTWRIGHT, N. & HARDIE, J. (2012) *Evidence-Based Policy: A Practical Guide to Doing It Better,* Oxford, England, U.K., Oxford University Press.

CHARMAZ, K. (2006) *Constructing Grounded Theory: a practical guide through qualitative analysis,* London, England, U.K., Sage Publications Ltd.

COLEBATCH, H. K. (2009) *Policy,* Berkshire, England, U.K., Open University Press.

COMHAR (8th February 2010). *Workshop on a Green Infrastructure Strategy for Ireland.* Dublin, Ireland.

COMHAR (2010a). *Workshop on The Economics of Ecosystems and Biodiversity.* Dublin, Ireland.

COMHAR (2010b) *Creating Green Infrastructure for Ireland: enhancing natural capital for human well being,* Dublin, Ireland, Comhar SDC.

COMHAR (2010c). Green New Deal & Green Infrastructure. *Irish Planning Institute Annual Conference.* Tullamore, Offaly, Ireland.

COMHAR (2010d). PPN Presentation: Green Infrastructure Enhancing Natural Capital for Human Wellbeing. *Parks Professional Network Seminar Day.* Dublin, Ireland.

CORNER, J. (1999) 'The agency of mapping: speculation, critique and invention'. *In:* COSGROVE, D. (ed.) *Mappings.* London, England, U.K.: Reaktion Books:

COWELL, R. (2003) 'Substitution and scalar politics: Negotiating environmental compensation in Cardiff Bay', *Geoforum,* 34(3): 343-358.

CSO. 2011. *2011 Census of Population: This is Ireland - Highlights from the Census, Part 1* [Online]. Dublin, Ireland: Central Statistics Office. Available: http://www.cso.ie/en/census/census2011reports/census2011thisisirelandpart1/ [Accessed 18 June 2012].

DAVIES, A. (2008) *The Geographies of Garbage Governance in Ireland: interventions, interactions and outcomes,* Aldershot, England, U.K., Ashgate Publishing Limited.

DCC (2010) *Dublin City Development Plan 2011-2017,* Dublin, Ireland, Dublin City Council.

DRYZEK, J. S. (2005) *The Politics of the Earth: environmental discourses,* Oxford, U.K., Oxford University Press.

EPSTEIN, C. (2008) *The power of words in international relations: birth of an anti-whaling discourse,* London, U.K., The MIT Press.

FCC (2011). Fingal County Development Plan 2011-2017. Dublin, Ireland: Fingal County Council.

FISCHER, F. (2003) *Reframing Public Policy: discursive politics and deliberative practices,* Oxford, U.K., Oxford University Press.

FLICK, U. (2007) *Designing Qualitative Research,* London, England, UK, SAGE Publications Ltd.

FLYVBJERG, B. (1998) *Rationality and power: democracy in practice,* London, UK., The University of Chicago Press Ltd.

FOUCAULT, M. (1972) *The Archaeology of Knowledge,* London, U.K., Routledge.

FOUCAULT, M. (1976) *The Will to Knowledge: the history of sexuality: Volume 1,* London, England, U.K., Penguin Books Ltd.

FOUCAULT, M. (1977) *Power/Knowledge: selected interviews and other writings, 1972-1977,* New York City, New York, U.S.A., Randon House Inc.

FREIDSON, E. (1986) *Professional Powers: a study of the institutionalization of formal knowledge,* Chicago, Illinois, U.S.A., The University of Chicago Press

GCC (2011). Galway City Development Plan 2011-2017. Galway, Ireland: Galway City Council.

GLYNOS, J. & HOWARTH, D. (2007) *Logics of critical explanation in social and political theory,* Oxford, England, U.K., Routledge.

GOFFMAN, E. (1979) 'Footing', *Semiotica,* 251-29.

GOFFMAN, E. (1981) *Forms of Talk,* Oxford, England, U.K., Basil Blackwell.

GOODIN, R. E., REIN, M. & MORAN, M. (2006) 'The Public and its Policies'. *In:* GOODIN, R. E., REIN, M. & MORAN, M. (eds.) *The Oxford Handbook of Public Policy.* Oxford, Oxfordshire, U.K.: Oxford University Press: 3-35

GOODWIN, C. (2006) 'Interactive Footing'. *In:* HOLT, E. & CLIFT, R. (eds.) *Reporting Talk: Reported Speech in Interaction.* Cambridge, England, U.K.: Cambridge University Press: 16-46

GOTTWEIS, H. (2003) 'Strategies of Postcultural Policy Analysis'. *In:* HAJER, M. & WAGENAAR, H. (eds.) *Deliberative Policy Analysis: understanding governance in the network society.* Cambridge, U.K.: Cambridge University Press: 247-265

H.C. (2010). Proposals for Ireland's Landscapes. Kilkenny, Co. Kilkenny, Ireland: The Heritage Council.

HACKING, I. (2002) *Historical Ontology,* Cambridge, Massachusetts, U.S.A., Harvard University Press.

HAJER, M. (1993) 'Discourse Coalitions and Institutionalization of Practice: the case of acid rain in Britain'. *In:* FISCHER, F. & FORREST, J. (eds.) *The Argumentative Turn in Policy Analysis and Planning.* London, England, U.K.: Duke University Press: 43-76

HAJER, M. (2003) 'A frame in the fields: policymaking and the reinvention of politics'. *In:* HAJER, M. & WAGENAAR, H. (eds.) *Deliverative Policy Analysis: understanding governance in the network society.* Cambridge, U.K.: Cambridge University Press: 88-110

HAJER, M. & LAWS, D. (2006) 'Ordering through discourse'. *In:* MORAN, M., REIN, M. & GOODIN, R. E. (eds.) *The Oxford Handbook of Public Policy.* Oxford, England, U.K.: Oxford University Press: 251-268

HAYNES, L., SERVICE, O., GOLDACRE, B. & TORGERSON, D. (2012) *Test, Learn, Adapt: Developing Public Policy with Randomised Controlled Trials,* London, England, U.K., Cabinet Office Behavioural Insights Team (UK).

HC (2010). Proposals for Ireland's Landscapes. Kilkenny, Co. Kilkenny, Ireland: The Heritage Council.

HENNINK, M., HUTTER, I. & BAILEY, A. (2011) *Qualitative Research Methods,* London, England, U.K., SAGE Publications Ltd.

HORWOOD, K. (2011) 'Green infrastructure: reconciling urban green space and regional economic development: lessons learnt from experience in England's north-west region', *Local Environment,* 16(10): 963-975.

HOWLETT, M., RAMESH, M. & PERL, A. (2009) *Studying Public Policy: policy cycles & policy subsystems,* Ontario, Canada, Oxford University Press.

KAMBITES, C. & OWEN, S. (2006) 'Renewed prospects for green infrastructure in the UK', *Planning Practice and Research,* 21(4): 483-496.

KCC (2011). Kildare County Development Plan 2011-2017. Naas, Co. Kildare, Ireland: Kildare County Council.

KINGDON, J. W. (1984) *Agendas, alternatives and public politics,* New York City, New York, USA, Harper Collins.

KITCHIN, R., O'CALLAGHAN, C., BOYLE, M., GLEESON, J. & KEAVENEY, K. (2012) 'Placing neoliberalism: the rise and fall of Ireland's Celtic Tiger', *Environment and Planning A,* 44(6): 1302-1326.

KITCHIN, R., PERKINS, C. & DODGE, M. (eds.) (2009). *Rethinking maps: new frontiers in cartography,* Oxford, England, U.K.: Routledge.

KVALE, S. (1996) *InterViews: an introduction to qualitative research interviewing,* London, England, U.K., SAGE Publications Ltd.

LATOUR, B. (1999) *Pandora's Hope: essays in the reality of science studies,* Cambridge, Massachusetts, U.S.A., Harvard University Press.

LENNON, M. (2014) 'Green infrastructure and planning policy: a critical assessment', *Local Environment,* 1-24.

MACEACHREN, A. M. (1995) *How Maps Work: representations, visulaizations and design,* New York, U.S.A., Guildford Press.

MELL, I. C. (2013) 'Can you tell a green field from a cold steel rail? Examining the "green" of Green Infrastructure development', *Local Environment,* 18(2): 152-166.

MILLS, S. (2004) *Discourse,* Oxford, England, U.K., Routledge.

MONMONIER, M. (1991) *How To Lie Wth Maps,* Chicago, U.S.A., University of Chicago Press.

MULGAN, G. & PUTTICK, R. (2013) *Making Evidence Useful: the case for new institutions,* London, England, U.K., Nesta.

OWENS, S., RAYNER, T. & BINA, O. (2004) 'New agendas for appraisal: Reflections on theory, practice, and research', *Environment and Planning A,* 36(11): 1943-1959.

PATTON, M. Q. (2002) *Qualitiative Research and Evaluation Methods,* London, England, U.K., SAGE Publications Ltd.

PAWSON, R. (2006) *Evidence-Based Policy: A Realist Perspective,* London, England, U.K., SAGE Publications.

PAWSON, R. (2013) *The Science of Evaluation: A Realist Manifesto,* London, England, U.K., SAGE Publications.

RAPLEY, T. (2007) *Doing Conversation, Discourse and Document Analysis,* London, England, U.K., SAGE Publications Ltd.

RICHARDSON, T. (1996) 'Foucauldian Discourse: Power and Truth in Urban and Regional Policy Making', *European Planning Studies,* 4(3): 279-292.

RUBIN, H. J. & RUBIN, I. S. (2005) *Qualitative Interviewing: the art of hearing data,* London, England, U.K., SAGE Publications Ltd.

RYDIN, Y. (2003) *Conflict, Consensus, and Rationality in Environmental Planning: An Institutional Discourse Approach,* Oxford, England, U.K., Oxford University Press.

SANDERSON, I. (2002) 'Making Sense of 'What Works': Evidence Based Policy Making as Instrumental Rationality', *Public Policy and Administration,* 17(3): 61-75.

SCHMIDT, V. A. (2008) 'Discursive Institutionalism: the explanatory power of ideas and discourse', *Annual review of Political Science,* 11303-326.

SCHMIDT, V. A. (2010) 'Taking ideas and discourse seriously: explaining change through discursive institutionalism as the fourth 'new institutionalism'', *European Political Science Review* 2(1): 1-25.

SCHMIDT, V. A. (2012) 'Discursive Institutionalism: scope, dynamics, and philosophical underpinnings'. *In:* FISCHER, F. & GOTTWEIS, H. (eds.) *The Argumentative Turn Revisited: public policy as communicative practice.* London, England, U.K.: Duke University Press: 85-113

SCHÖN, D. A. (1988) 'From Technical-Rationality to Reflection-In-Action'. *In:* DOWIE, J. & ELSTEIN, A. (eds.) *Professional Judgment: A Reader in Clinical Decision Making.* Cambridge, England, U.K.: Cambridge University Press:

SCHWARTZ-SHEA, P. & YANOW, D. (2012) *Interpretive Research Design,* New York City, New York, U.S.A., Routledge.

STONE, D. (2002) *Policy Paradox: the art of political decision making* New York City, New York, U.S.A . W.W. Norton.

TANNEN, D. (ed.) (1993). *Framing in Discourse,* Oxford, England, U.K.: Oxford University Press.

THROGMORTON, J. A. (1993) 'Survey research as rhetorical trope: electric power planning arguements in Chicago'. *In:* FISCHER, F. & FORESTER, J. (eds.) *The arguementative turn in policy analysis and planning.* London, England, U.K.: Duke University Press: 117-144

TOLSON, A. (2006) *Media Talk: Spoken Discourse on TV and Radio,* Edinburgh, Scotland, U.K., Edinburgh University Press.

TUBRIDY, M. & O RIAIN, G. (2002). Preliminary study of the needs associated with a National Ecological Network. Wexford, Ireland: Environmental Protection Agency.

UCD, DLRCC, FCC & NATURA (2008). Green City Guidelines. Dublin, Ireland: UCD Urban Institute.

UF & IEEM (2010). Green Infrastructure: a quality of life issue. Dublin, Ireland: Urban Forum and the Institute of Ecology and Environmental Management.

WAGENAAR, H. (2011) *Meaning in Action: interpretation and dialogue in policy analysis,* Armonk, New York, U.S.A., M.E. Sharpe.

WOOD, D. (1992) *The Power of Maps,* New York, U.S.A., The Guildford Press.

YANOW, D. (2000) *Conducting Interpretive Policy Analysis,* London, England, U.K., Sage Publications.

YANOW, D. & SCHWARTZ-SHEA, P. (eds.) (2006). *Interpretation and Method: Empirical Research Methods and the Interpretive Turn,* London, England, UK: M.E. Sharpe Inc.

YIN, R. (1993) *Application of Case Study Research,* London, England, UK, SAGE Publications Ltd.

---

[1] These documents were identified through three rounds of review. The initial review entailed inspection of two hundred and three documents identified as potentially pertinent to the study. Of this number, a total of one hundred and seventy Irish planning related documents were deemed relevant and collated to form a preliminary 'archive'. This included all development plans for the twenty-nine county councils, five city councils and five borough councils in Ireland, in addition to the guidelines produced and/or operative within the eight Irish regional authorities between November 2008 and November 2011. Each document was subsequently reviewed several times so as to determine its potential relevance to the emergence and evolution of the GI story in Ireland. This facilitated the reduction of the archive to one hundred and twenty seven items prior to commencement of interviewing. The 'initial' coding process was conducted here. Due to the ongoing collation of pertinent material as it became available, the archive increased to one hundred and thirty-one items by conclusion of the interviewing period in November 2011. It is not considered that the content of the additional four items added to the archive following the initial coding would have influenced the design of the master interview guide.

---

[2] Flyvbjerg (1998) extends this idea by showing that it is the 'appearance' of such rationalities rather than a genuine concern with their use that is important in power imbued governing activity.

[3] Geographic Information Systems are computer software systems designed to store, manage, analyse and present geographic data.

[4] Identified as:

   (I)   CORINE Landcover 2006 with 1990 data used for Northern Ireland (Environmental Protection Agency): http://www.epa.ie/whatwedo/assessment/land/corine

   (II)   Designated Sites:

          a.   Special Areas of Conservation [EU Habitats Directive](European Commission): http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

          b.   Special Protection Areas [EU Birds Directive](European Commission): http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

          c.   Natural Heritage Areas [Wildlife Act, 1976](National Parks and Wildlife Service): http://www.npws.ie/en/WildlifePlanningtheLaw/Legislation/WildlifeAct1976

   (III)   Watercourses [EU Water Framework Directive] (Environmental Protection Agency and Ordnance Survey Ireland): http://www.wfdireland.ie/

[5] Bull Island, Dublin City, Ireland

[6] The European Birds Directive and Habitats Directive respectively.